SHORT RESEARCH ARTICLE

Mental health and discrimination among migrants from Africa: An Italian cross-sectional study

Gianluca Voglino [ORCID] | Maria Rosaria Gualano [ORCID] |
Giuseppina Lo Moro [ORCID] | Pietro Forghieri | Marco Caprioli |
Heba Safwat Mhmoued Abdo Elhadidy | Fabrizio Bert [ORCID] |
Roberta Siliquini [ORCID]

Department of Public Health Sciences, University of Torino, Italy

Correspondence
Maria Rosaria Gualano, Department of Public Health Sciences, University of Torino, via Santena 5 bis 10126, Torino 10126, Italy.
Email: mariarosaria.gualano@unito.it

Abstract

This study aimed to assess depression, anxiety, posttraumatic stress disorder (PTSD) and discrimination in African migrants and investigate determinants. A cross-sectional study was conducted in Italy (July 2019–February 2020). Inclusion criteria: being a citizen of an African country or having parents who are citizens of an African country. Questionnaires included tests for depression, anxiety, PTSD, discrimination. Multivariable regressions were performed. Participants were 293. The prevalence of depression, anxiety, and PTSD was: 12.1%, 12.1%, and 24.4%. Only 7.2% declared not to be discriminated. Among significantly associated factors, waiting for/being in possession of temporary permits and discrimination were associated with all mental outcomes. Being (or having parents from) Sub-Saharan Africa increased the likelihood of discrimination. A relevant prevalence of mental illnesses was reported. Particularly, Sub-Saharan Africans potentially offer a unique point of view. Migrants' mental health should be a priority for national and international programs of health monitoring.

1 | INTRODUCTION

In the last years, thousands of people migrated to southern Europe. Italy is one of the European countries most involved. To date, 8.7% of total Italian population is composed of migrants who are steadily living in Italy, with increasing rates of migrants from Africa (Caritas e Migrantes, 2018), foremost Nigerians (OECD, 2019). In particular, amongst male migrants, newcomers in Italy are mostly Africans. Moreover, Moroccans are the biggest community holding a staying permit (Caritas e Migrantes, 2020).

Although several studies outlined migrants are exposed to risk factors associated with their country of origin and with the process of migration, some works investigated risk factors associated with acculturation stress and struggle to integrate in the new country (Giacco et al., 2018). The integration process in a new country can be a source of stress and it can be associated with poor mental health (Lindert et al., 2008). Migrants experience a variety of psychiatric symptoms during migration, such as depression, anxiety, or posttraumatic stress disease (PTSD) (Lindert et al., 2008). These issues may last for years (Heeren et al., 2014). Many social determinants can play a role in migrants' mental health status (Hynie, 2018). For instance, legal status has been associated with migrants' wellbeing (Heeren et al., 2014). However, relationships between migrant conditions and mental health are still discussed as national and local policies can play a crucial role in promoting integration and in mitigating acculturative stress.

Among the main determinants of poor mental health, it has been suggested that the extent to which migrants feel welcomed or discriminated can have an important role (Hynie, 2018). In Italy, an analysis from the Italian National Institute for Statistics stated that 15.8% of migrants reported discrimination at work and, in addition, discrimination was linked to poorer mental health (Di Napoli et al., 2017); however, no data was available outside the workplace. Although evidence on the association between migrants' perceived discrimination and poor mental health is emerging in many high-income countries (Brydsten et al., 2019; Qin et al., 2020; Ra et al., 2019; Straiton et al., 2019), in Italy there has not been a significant chance in policies recently and the approach to integration is oriented to the handling of emergencies and short-term residency (Solano & Huddleston, 2020).

Moreover, several other variables have been associated with poor mental health in migrant populations, such as years of resettlement (Bustamante et al., 2017; Giacco et al., 2018), worries for the family left in another country and poor social support (Forte et al., 2018; Giacco et al., 2018), economic situation, working and living condition (Hynie, 2018; Jurado et al., 2017). In addition, migrants may have more difficulties in seeking help for both mental and physical issues as they might access to health services improperly (Norredam et al., 2010) and the lack of information on health care system can be associated with poor mental outcomes (Forte et al., 2018).

Since few studies in the Italian context exist (Cristofalo et al.,2018), this study aimed to assess prevalence of depression, anxiety, and PTSD in African migrants in Italy and to investigate the above-mentioned determinants in this specific subpopulation of migrants. In addition, the present paper aimed to explore level and determinants of perceived discrimination, which is one of the main factors associated with poor mental health in this population (Hynie, 2018).

2 | METHODS

A cross-sectional study was performed amongst a convenience sample of adults living in Piedmont (North-West of Italy) between July 2019 and February 2020. Inclusion criteria were being a citizen of an African country or being an Italian citizen whose parents were citizen of an African country. The Ethics Committee of BLINDED approved

the protocol (BLINDED). Participation was voluntary and anonymous, and participants received no compensation. Written informed consents were obtained. Consents and questionnaires were provided in Italian, English, French, Spanish, and Arabic. The researchers and a cultural mediator, when appropriate, were available to clarify issues.

2.1 | Procedure

The paper questionnaires' distribution was performed by the researchers in public meeting spaces (e.g., university libraries and reading rooms) and in centers that provide integrated reception interventions (*Sistema di protezione per titolari di protezione internazionale e per minori stranieri non accompagnati, SIPROIMI*). Moreover, associations of foreign citizens in Piedmont were contacted by email. Two associations participated and helped the researchers to reach the participants (also in this case paper questionnaires were used). The study was interrupted in February 2020 because of the intercurrent SARS-Cov-2 pandemic, thus limiting the sample size.

2.2 | Measures

Questionnaires were self-administered and composed of two sections (32 items).

The first section investigated socio-demographic characteristics: age, gender, nationality (if Italian nationality: parents' nationality was asked), country of birth, educational level, time spent in Italy (or participants not born in Italy), type of permit, working and study situation, economic, and living condition, and perception of health status. Respondents were asked if their family was living or not in Italy with them, and if they had someone (outside of their family) they can trust in Italy. Information about healthcare access was collected by asking where participants seek help when they have health problems. Most variables entered in this section were selected by the researchers based on their associations with poor mental health outcomes in migrant populations as explained in the Introduction section (Bustamante et al., 2017; Forte et al., 2018; Giacco et al., 2018; Heeren et al., 2014; Hynie, 2018; Jurado et al., 2017; Norredam et al., 2010).

Independent variables were coded from the above-mentioned items. To simplify because of the small sample size, certain questions were recoded as follows. Participants' nationality (if not Italian) and parents' nationality were clustered based on United Nations geographical regions: Northern Africa and Sub-Saharan Africa. Educational level was grouped in "lower than high school diploma," "high school diploma," and "higher than high school diploma." For perceived economic and health situations, "insufficient" was combined with "poor," and "good" was combined with "excellent." For participants without Italian nationality, the type of permit was dichotomized in "waiting for/in possession of temporary permits" (e.g., asylum seeker, refugee/subsidiary protection/political asylum, resident with temporary/short-term residence permit) and "with a permanent permit" (permanent/long-term residents). The healthcare access was dichotomized: "seeking help from the National Health Service (NHS)" (hospital/emergency room, general practitioners/doctors on call) and "not seeking help from the NHS" (reception facility staff/volunteers/associations, compatriots).

The second section consisted of validated tests. Depressive symptoms were investigated through the Patient Health Questionnaire-2 (PHQ-2), a 2-item instrument for depression screening (Kroenke et al., 2003). Anxiety was measured by the Generalized Anxiety Disorder-2 (GAD-2), a 2-item questionnaire for anxiety disorder screening (Kroenke et al., 2007). A score of 3 or above (range: 0 to 6) represented a higher probability of major depression (PHQ-2) and anxiety disorders (GAD-2) (Kroenke et al., 2003, 2007) To assess PTSD, the Primary Care PTSD Screen for DSM-5 (PC-PTSD-5) was used. If participants denied traumatic events, they did not complete the PC-PTSD-5. If participants affirmed to have experienced traumatic events, they completed the PC-PTSD-5: the test was above the cut-off for PTSD if participants answered "Yes" at least to three items out of five (Prins et al., 2016). Concerning discrimination, the Everyday Discrimination Scale (EDS) (Williams et al., 1997) was modified to simplify

understanding and compilation of the survey. Specifically, a four options scale was proposed instead of a six option one. The four options that were used were: "Never/rarely" (0 points), "A few times a month" (1 point), "At least once a week" (2 points) and "Almost every day" (3 points). The final score ranged from 0 to 15. Therefore, the EDS that we used was not comparable with studies that used the original score. Nevertheless, the higher the score the greater the perceived discrimination is. The EDS was complemented by the recommended follow up questions to investigate the perceived reasons for discrimination experiences (possibility to indicate more options) (Williams et al., 1997). Since there are no EDS cut-offs to assess the presence or absence of discrimination, in the follow up questions we added the option "I do not think I have ever been discriminated" to have an estimate of the percentage of participants who did/did not perceive any discrimination (variable called "reported discrimination").

The above-mentioned tools were chosen for their shortness and ease of use. It must be noted that they can be used for symptom screening and they cannot be used to diagnose. Moreover, these instruments have already been used in studies on migrant populations (Beutel et al., 2016; Tibubos et al., 2018; Weine et al., 2012). The PC-PTSD-5 and EDS were translated by the authors and native collaborators with the help of cultural mediators, while the PHQ and GAD are freely available in many languages (Patient Health Questionnaire Screeners website, n.d.). In our sample, the used tools had an acceptable Cronbach's alpha (PHQ-2: 0.750; GAD-2: 0.674; PC-PTSD-5: 0.714; EDS: 0.911).

The present paper had four outcomes: depressive symptoms, anxiety symptoms, PTSD, and perceived discrimination. According to the above-mentioned criteria, the presence/absence of a high probability of depression, anxiety disorders, and PTSD were considered as binary outcomes. The EDS was analyzed as a continuous outcome.

2.3 | Statistical analysis

Descriptive analyses were performed. Continuous variables were expressed as the median and interquartile range (IQR) since the Shapiro Wilk test indicated non-normal distributions (e.g., age and EDS score). Differences in socio-demographic variables were examined by χ^2 and Mann Whitney U tests. To evaluate differences between the groups defined by each outcome, χ^2 tests and Mann Whitney U tests (when appropriate: Kruskal Wallis test) were computed. Three PC-PTSD-5 categories were considered in such analyses (no traumatic event; traumatic event but below the cut-off for PTSD; traumatic event and above the cut-off for PTSD), while two categories were used in regression models (above the cut-off for PTSD; below the cut-off for PTSD, including participants without traumatic event) (Prins et al., 2016).

For binary outcomes, multivariable logistic regressions were conducted to explore the influence of independent variables (results expressed as adjusted odds ratio [adjOR], 95% CI). Multivariable linear regression models were executed for the discrimination outcome (results expressed as adjusted unstandardized coefficient [adjB], 95% CI). For each outcome, three models were performed: one with all participants, one with participants without Italian nationality and one with participants with Italian nationality. All models were adjusted for age and gender. Final models were achieved with a backward stepwise method. EDS score was included in the first step of all mental health outcomes' models. The differences in the variables entered in the first step were: living in a reception facility (a kind of building dedicated to housing of migrants waiting for a residency permit) and personal nationality were entered in models with participants without Italian nationality, while parents' nationality was entered in models with participants with Italian nationality.

Data analysis was performed using SPSS (v25) and a double-tailed p value<.05 was considered statistically significant. Missing values were excluded. The variables with the highest percentage of missing data were "perceived health status" (4.4%) and "seeking help from the NHS" (3.4%). The outcomes had a low percentage of missing data: PHQ-2 1%, GAD-2 1%, EDS 1.4% and PC-PTSD-5 0.7%. All other variables had a percentage of missing data below 1.7%.

3 | RESULTS

3.1 | Characteristics of the sample

A total of 293 questionnaires were collected. Females accounted for 28.3% and median age was 31 (IQR = 27–40). Participants with Italian nationality were 146 (49.8%), and among them 38 (26.4%) had parents from Northern Africa and 106 (73.6%) from Sub-Saharan Africa (represented for 70.8% by Western Africa). Among respondents without Italian nationality (50.2%), 34 (23.1%) came from Northern Africa and 113 (76.9%) from Sub-Saharan Africa (represented for 77.9% by Western Africa). Most of the sample was not born in Italy (n = 243, 83.2%). Among participants with Italian nationality, 31.5% was born in Italy. Among participants without Italian nationality, 44 (29.9%) lived in a reception facility and 92 (62.6%) had a temporary permit or were waiting for it.

The majority (82.4%) had an insufficient/poor perceived economic situation and 15% had an insufficient/poor perceived health status. Over 90% declared to seek help from NHS in case of need. Respondents with and without Italian nationality presented different frequencies of most of the socio-demographic variables (Table 1).

3.2 | The outcomes

The PHQ-2 resulted above the cut-off for depressive symptoms in 12.1% with a median score of 2 (IQR = 0–2), the GAD-2 was above the cut-off for anxiety disorder symptoms in 12.1% with a median score of 1 (IQR = 1–2). A total of 62.2% had no traumatic event, while 24.4% was above the cut-off for PTSD according to the PC-PTSD-5 (i.e., 64.5% of participants who had a traumatic event). The median EDS score was 5 (IQR = 3–7). The outcomes were differently distributed stratifying by nationality: there was a higher prevalence of mental health outcomes above the cut-off for symptoms among respondents without Italian nationality and higher EDS median among people with Italian nationality (Table 1).

Considering the EDS follow up questions, only 7.2% declared not to be discriminated. The most frequently reported reason for perceived discrimination was color of the skin (80.2%), followed by national origin (73.4%), ethnicity (56.7%), and religion (39.9%) (possibility to indicate more options).

Significant associations were found between mental health outcomes, showing possible connections between the considered disorders. The EDS score resulted differently distributed across the categories of PHQ-2, GAD-2, and PC-PTSD-5: the EDS median score was higher in the category above the cut-off for symptoms of each of the above-mentioned outcomes (Table 2).

Some variables showed a significant association with each mental health outcome and with EDS, for example, time spent in Italy, type of permit, working in Italy, living in a reception facility, and seeking help from the National Health Service. Other variables reported a significant relationship only with all mental health outcomes, for example, educational level, family in Italy, and perceived health status. Parents' nationality, perceived economic situation, and reported discrimination revealed a significant association only with EDS score. Other relationships are shown in Table 2.

3.3 | Multivariable regression models

Considering PHQ-2, participants who were waiting for/in possession of temporary permits had a higher likelihood of resulting above the cut-off for depressive symptoms both compared with respondents with Italian nationality (overall model: p = 0.001) and to people with a permanent permit (without Italian nationality model: p = 0.004). Compared with high school diploma, having an education level lower than high school increased the probability of depressive symptoms both in the overall model (p = 0.011) and in the model with participants with Italian nationality

TABLE 1 Descriptive analysis of the sample and χ^2 analysis and non-parametric tests by Italian nationality

Variables	Overall	Italian nationality		p value
		No (n = 147)	Yes (n = 146)	
	N (%)	N (%)	N (%)	
Characteristics				
Gender				
Male	210 (71.7)	114 (54.3)	96 (45.7)	**0.025**
Female	83 (28.3)	33 (39.8)	50 (60.2)	
Age (years)	31 (27–40)	29 (24–39)	35 (29–41)	**<0.001**
Time spent in Italy (months)[a]	204 (72–300)	96 (36–228)	252 (228–360)	**<0.001**
Educational level				
Lower than high school diploma	118 (40.5)	80 (67.8)	38 (32.2)	**<0.001**
High school diploma	136 (46.7)	51 (37.5)	85 (62.5)	
Higher than high school diploma	37 (12.7)	16 (43.2)	21 (56.8)	
Working in Italy				
No	71 (24.2)	55 (77.5)	16 (22.5)	**<0.001**
Yes	222 (75.8)	92 (41.4)	130 (58.6)	
Studying in Italy				
No	85 (29.1)	61 (71.8)	24 (28.2)	**<0.001**
Yes	207 (70.9)	86 (41.5)	121 (58.5)	
Perceived economic situation				
Good/excellent	51 (17.6)	37 (72.5)	14 (27.5)	**<0.001**
Insufficient/poor	239 (82.4)	109 (45.6)	130 (54.4)	
Family in Italy				
No	136 (46.6)	104 (76.5)	32 (23.5)	**<0.001**
Yes	156 (53.4)	43 (27.6)	113 (72.4)	
Someone to trust				
No	22 (7.6)	11 (50)	11 (50)	0.987
Yes	267 (92.4)	134 (50.2)	133 (49.8)	
Perceived health status				
Good/excellent	238 (85)	105 (44.1)	133 (55.9)	**<0.001**
Insufficient/poor	42 (15)	37 (88.1)	5 (11.9)	
Seeking help from NHS				
No	25 (8.8)	24 (96)	1 (4)	**<0.001**
Yes	258 (91.2)	119 (46.1)	139 (53.9)	
Reported discrimination				
Yes	272 (92.8)	137 (50.4)	135 (49.6)	0.808

TABLE 1 (Continued)

Variables	Overall	Italian nationality		p value
		No (n = 147)	Yes (n = 146)	
No	21 (7.2)	10 (47.6)	11 (52.4)	
Outcomes				
PHQ-2: Above the cut-off for depressive symptoms				
No	255 (87.9)	122 (47.8)	133 (52.2)	**0.047**
Yes	35 (12.1)	23 (65.7)	12 (34.3)	
GAD-2: Above the cut-off for anxiety symptoms				
No	255 (87.9)	120 (47.1)	135 (52.9)	**0.017**
Yes	35 (12.1)	24 (68.6)	11 (31.4)	
PC-PTSD-5: PTSD				
No traumatic event	181 (62.2)	68 (37.6)	113 (62.4)	**<0.001**
Below the cut-off for PTSD	39 (13.4)	35 (89.7)	4 (10.3)	
Above the cut-off for PTSD	71 (24.4)	42 (59.2)	29 (40.8)	
EDS: Perceived discrimination	5 (3–7)	4 (2–5)	5 (5-8)	**<0.001**

Note: Bold values provide significance of *p* value < .050. *n* = sample size.

Figures are expressed as number (*N*), column percentages (%) for overall analysis and row percentages (%) for "Italian nationality" analysis. Figures are expressed as median and interquartile range in brackets for: EDS, age, time spent in Italy. *p* value obtained via χ^2 test. *p* value obtained via Mann–Whitney *U* test for: EDS, age, time spent in Italy.

Abbreviations: EDS, Everyday Discrimination Scale; GAD-2, Generalized Anxiety Disorder-2; NHS, National Health Service; PC-PTSD-5, Primary Care PTSD Screen for DSM-5; PHQ-2, Patient Health Questionnaire-2; PTSD, posttraumatic stress disorder.

[a]Time spent in Italy was calculated only for participants who were not born in Italy (*n* = 243).

(*p* = 0.015). Having an education level higher than high school diploma increased the probability of depressive symptoms both in the overall model (*p* = 0.003) and in the model with people without Italian nationality (*p* = 0.004). Among people without Italian nationality, age increased the likelihood of reporting depressive symptoms (*p* = 0.003) and having someone to trust decreased it (*p* = 0.042). Increasing EDS score was associated with depressive symptoms in each model (overall: *p* < 0.001; without Italian nationality model: *p* = 0.009; Italian nationality model: *p* = 0.003) (Table 3).

Regarding findings of anxiety, participants reporting they had someone to trust had a reduced likelihood of having a GAD-2 score above the cut-off for anxiety disorder symptoms (overall model: *p* = 0.041; without Italian nationality model: *p* = 0.040), as well as people who were working in Italy (overall model: *p* = 0.005). Instead, a higher probability was reported for participants who were waiting for/in possession of temporary permits, compared with respondents with a permanent permit (without Italian nationality model: *p* = 0.029), people living in a reception facility (without Italian nationality model: *p* = 0.001), and participants with an education higher than diploma (without Italian nationality model: *p* = 0.009). Increasing EDS score was associated with anxiety symptoms in each model (overall: *p* < 0.001; without Italian nationality model: *p* < 0.001; Italian nationality model: *p* = 0.035) (Table 3).

PTSD was more likely to occur among people who were waiting for/in possession of temporary permits, both compared with participants with Italian nationality (overall model: *p* = 0.019) and to respondents with a permanent

TABLE 2 Chi-squared analyses by mental health outcomes (PHQ-2; GAD-2; PC-PTSD-5) and non-parametric tests by the perceived discrimination outcome (EDS)

Variable	PHQ-2: Above the cut-off for depressive symptoms N (%)		GAD-2: Above the cut-off for anxiety symptoms N (%)		PC-PTSD-5 N (%)			EDS median
	No (n = 255)	Yes (n = 35)	No (n = 255)	Yes (n = 35)	No events (n = 181)	Below the cut-off for PTSD (n = 39)	Above the cut-off for PTSD (n = 71)	(IQR)
PHQ-2: Above the cut-off for depressive symptoms					-			$p = .003$
No	-							5 (3–5)
Yes								7 (3–10)
GAD-2: Above the cut-off for anxiety symptoms	$p < 0.001$		-					$p = 0.004$
No	242 (95.3)	12 (4.7)						5 (3–5)
Yes	12 (34.3)	23 (65.7)						6 (4–10)
PC-PTSD-5: PTSD	$p < 0.001$		$p < 0.001$		-			$p < 0.001$
No traumatic event	168 (93.9)	11 (6.1)	167 (92.8)	13 (7.2)				5 (4–7)
Below the cut-off for PTSD	36 (92.3)	3 (7.7)	35 (92.1)	3 (7.9)				2 (0–4)
Above the cut-off for PTSD	49 (70.0)	21 (30.0)	51 (72.9)	19 (27.1)				5 (4–9)
Gender	$p = 0.967$		$p = 0.967$			$p = 0.611$		$p = 0.641$
Male	183 (88)	25 (12)	183 (88)	25 (12)	126 (60.6)	30 (14.4)	52 (25)	5 (3–7)
Female	72 (87.8)	10 (12.2)	72 (87.8)	10 (12.2)	55 (66.3)	9 (10.8)	19 (22.9)	5 (4–7)
Age (years)	$p = .446$		$p = 0.045$			$p < 0.001$		$p = 0.007$
	31 (28–40)	30 (27–41)	32 (28–41)	29 (26–35)	34 (29–43)	26 (23–30)	30 (26–39)	0.043
Time spent in Italy[a] (months)	$p = 0.003$		$p = 0.004$			$p < 0.001$		$p < 0.001$
	216 (84–300)	120 (28–264)	216 (96–300)	72 (28–252)	240 (168–336)	39 (24–84)	144 (36–300)	0.007
Country of birth	$p = 0.71$		$p = 0.71$			$p = 0.023$		$p = 0.444$

TABLE 2 (Continued)

| Variable | PHQ-2: Above the cut-off for depressive symptoms N (%) | | GAD-2: Above the cut-off for anxiety symptoms N (%) | | PC-PTSD-5 N (%) | | | EDS median |
	No (n = 255)	Yes (n = 35)	No (n = 255)	Yes (n = 35)	No events (n = 181)	Below the cut-off for PTSD (n = 39)	Above the cut-off for PTSD (n = 71)	(IQR)
Italy	211 (87.9)	29 (12.1)	211 (87.9)	29 (12.1)	143 (59.3)	38 (15.8)	60 (24.9)	5 (3–7)
Other	44 (89.8)	5 (10.2)	44 (89.8)	5 (10.2)	37 (75.5)	1 (2)	11 (22.4)	5 (4–8)
Type of permit	**p < 0.001**		**p < 0.001**		**p < 0.001**			**p < 0.001**
Italian nationality	133 (91.7)	12 (8.3)	135 (92.5)	11 (7.5)	113 (77.4)	4 (2.7)	29 (19.9)	5 (5–8)
With a permanent permit	49 (98)	1 (2)	48 (96)	2 (4)	39 (81.3)	2 (4.2)	7 (14.6)	5 (4–6)
Waiting for/in possession of temporary permits	68 (75.6)	22 (24.4)	67 (75.3)	22 (24.7)	26 (28.3)	32 (34.8)	34 (37)	3 (1–5)
Nationality[b]	p = 0.455		p = 0.38		**p = 0.035**			**p = 0.016**
Northern Africa	30 (88.2)	4 (11.8)	30 (88.2)	4 (11.8)	22 (66.7)	5 (15.2)	6 (18.2)	2 (0–5)
Sub-Saharan Africa	92 (82.9)	19 (17.1)	90 (81.8)	20 (18.2)	46 (41.1)	30 (26.8)	36 (32.1)	4 (2–6)
Parents' Nationality[c]	p = 0.135		p = 0.176		p = 0.797			**p < 0.001**
Northern Africa	37 (97.4)	1 (2.6)	37 (97.4)	1 (2.6)	31 (81.6)	1 (2.6)	6 (15.8)	5 (0–5)
Sub-Saharan Africa	94 (89.5)	11 (10.5)	96 (90.6)	10 (9.4)	81 (76.4)	3 (2.8)	22 (20.8)	5 (5–9)
Educational level	**p < 0.001**		**p = 0.003**		**p < 0.001**			p = 0.516
Lower than high school diploma	93 (79.5)	24 (20.5)	94 (81)	22 (19)	56 (47.9)	28 (23.9)	33 (28.2)	5 (2–7)
High school diploma	129 (96.3)	5 (3.7)	128 (94.8)	7 (5.2)	96 (70.6)	10 (7.4)	30 (22.1)	5 (4–7)
Higher than high school diploma	31 (83.8)	6 (16.2)	31 (83.8)	6 (16.2)	27 (75)	1 (2.8)	8 (22.2)	4 (3–5)
Working in Italy	**p < 0.001**		**p < 0.001**		**p < 0.001**			**p = 0.002**

(Continues)

TABLE 2 (Continued)

Variable	PHQ-2: Above the cut-off for depressive symptoms N (%)		GAD-2: Above the cut-off for anxiety symptoms N (%)		PC-PTSD-5 N (%)			EDS median
	No (n = 255)	Yes (n = 35)	No (n = 255)	Yes (n = 35)	No events (n = 181)	Below the cut-off for PTSD (n = 39)	Above the cut-off for PTSD (n = 71)	(IQR)
No	52 (75.4)	17 (24.6)	51 (73.9)	18 (26.1)	22 (31)	21 (29.6)	28 (39.4)	4 (2–5)
Yes	203 (91.9)	18 (8.1)	204 (92.3)	17 (7.7)	159 (72.3)	18 (8.2)	43 (19.5)	5 (4–7)
Studying in Italy	p = 0.618		p = 0.907			p = 0.129		p = 0.075
No	76 (89.4)	9 (10.6)	75 (88.2)	10 (11.8)	55 (66.3)	14 (16.9)	14 (16.9)	5 (2–7)
Yes	179 (87.3)	26 (12.7)	179 (87.7)	25 (12.3)	125 (60.4)	25 (12.1)	57 (27.5)	5 (4–7)
Perceived economic situation	p = 0.052		p = 0.154			p = 0.603		**p = 0.001**
Good/excellent	48 (96)	2 (4)	46 (93.9)	3 (6.1)	34 (68)	6 (12)	10 (20)	4 (2–5)
Insufficient/poor	205 (86.1)	33 (13.9)	206 (86.6)	32 (13.4)	144 (60.5)	33 (13.9)	61 (25.6)	5 (4–7)
Family in Italy	**p = 0.005**		**p = 0.001**			**p < 0.001**		p = 0.123
No	110 (82.1)	24 (17.9)	108 (81.2)	25 (18.8)	65 (48.1)	30 (22.2)	40 (29.6)	5 (3–6)
Yes	145 (92.9)	11 (7.1)	146 (93.6)	10 (6.4)	115 (74.2)	9 (5.8)	31 (20)	5 (4–8)
Someone to trust	p = 0.289		p = 0.080			p = 0.054		p = 0.599
No	17 (81)	4 (19)	16 (76.2)	5 (23.8)	9 (40.9)	3 (13.6)	10 (45.5)	5 (2–5)
Yes	236 (88.7)	30 (11.3)	236 (89.1)	29 (10.9)	169 (63.8)	35 (13.2)	61 (23)	5 (3–7)
Living in a reception facility	**p = 0.017**		**p < 0.001**			**p < 0.001**		**p < 0.001**
No	218 (89.7)	25 (10.3)	222 (91.7)	20 (8.3)	170 (70.5)	17 (7.1)	54 (22.4)	5 (4–8)
Yes	33 (76.7)	10 (23.3)	29 (67.4)	14 (32.6)	8 (17.8)	20 (44.4)	17 (37.8)	3 (1–5)
Perceived health status	**p < 0.001**		**p = 0.001**			**p < 0.001**		p = 0.663
Good/excellent	216 (91.5)	20 (8.5)	214 (90.7)	22 (9.3)	160 (67.5)	28 (11.8)	49 (20.7)	5 (3–7)

TABLE 2 (Continued)

Variable	PHQ-2: Above the cut-off for depressive symptoms N (%)		GAD-2: Above the cut-off for anxiety symptoms N (%)		PC-PTSD-5 N (%)			EDS median
	No (n = 255)	Yes (n = 35)	No (n = 255)	Yes (n = 35)	No events (n = 181)	Below the cut-off for PTSD (n = 39)	Above the cut-off for PTSD (n = 71)	(IQR)
Insufficient/poor	29 (69)	13 (31)	30 (73.2)	11 (26.8)	12 (29.3)	10 (24.4)	19 (46.3)	5 (2–9)
Seeking help from NHS	**p = 0.046**		**p = 0.001**		**p < 0.001**			**p = 0.001**
No	19 (76)	6 (24)	17 (68)	8 (32)	4 (16)	11 (44)	10 (40)	3 (2–5)
Yes	229 (89.5)	27 (10.5)	230 (90.2)	25 (9.8)	170 (66.4)	28 (10.9)	58 (22.7)	5 (3–7)
Reported discrimination	p = 0.746		p = 0.308		p = 0.249			**p < 0.001**
Yes	237 (88.1)	32 (11.9)	238 (88.5)	31 (11.5)	165 (61.1)	36 (13.3)	69 (25.6)	5 (4–7)
No	18 (85.7)	3 (14.3)	17 (81)	4 (19)	16 (76.2)	3 (14.3)	2 (9.5)	0 (0–1)

Note: Bold values provide significance of p value < .050. n = sample size.

Figures are expressed as number (N) and row percentages (%). Figures are expressed as median and interquartile range in brackets for: EDS, age, time spent in Italy.

PHQ-2, GAD-2, PC-PTSD-5: p value obtained via χ^2 test, except for age and time spent in Italy (Mann–Whitney U test).

EDS: p value obtained via Mann–Whitney U test (or Kruskal–Wallis test), except for age and time spent in Italy (univariable linear regression. Figures are unstandardized coefficients B).

Abbreviations: EDS, Everyday Discrimination Scale; GAD-2, Generalized Anxiety Disorder-2; Neg., negative; NHS, National Health Service; PC-PTSD-5, Primary Care PTSD Screen for DSM-5; PHQ-2, Patient Health Questionnaire-2; Pos., positive; PTSD, posttraumatic stress disorder.

[a]Time spent in Italy was calculated only for participants who were not born in Italy (n = 243).

[b]Nationality calculated only among participants without Italian nationality.

[c]Nationality of parents calculated only among participants with Italian nationality.

TABLE 3 Multivariable regression models considering the whole sample and stratified by nationality

	PHQ-2			GAD-2			PC-PTSD-5			EDS		
	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjB (95% CI)	Participants without Italian nationality adjB (95% CI)	Participants with Italian nationality adjB (95% CI)
Age	1.0 (0.9; 1.1)	**1.1 (1.0; 1.2)***	1.0 (0.9; 1.1)	1.0 (0.9; 1.1)	1.0 (0.9; 1.1)	1.0 (0.9; 1.1)	1.0 (0.9; 1.1)	1.0 (0.9; 1.1)	1.0 (0.9; 1.1)	0.03 (−0.01; 0.07)	0.05 (0; 0.09)	−0.03 (−0.08; 0.02)
Female	1.5 (0.6; 4.0)	2.5 (0.6; 10.8)	0.9 (0.2; 4.6)	1.6 (0.6; 4.1)	2.9 (0.7; 12.2)	1.0 (0.2; 4.8)	0.9 (0.4; 1.8)	0.4 (0.1; 1.4)	1.6 (0.6; 4.3)	−0.3 (−1.1; 0.51)	0.18 (−1.04; 1.4)	−0.64 (−1.62; 0.33)
Italian nationality	Ref.	-	-	Ref.	-	-	Ref.	-	-	Ref.	-	-
With a permanent permit	0.3 (0.03; 2.4)	-	-	0.4 (0.1; 2.3)	-	-	0.9 (0.4; 2.7)	-	-	−0.65 (−1.62; 0.33)	-	-
Waiting for/in possession of temporary permits	**5.6 (2.1; 15.0)***	-	-	2.7 (0.8; 8.9)	-	-	**3.0 (1.2–7.5)***	-	-	**−2.16 (−3.09; −1.23)***	-	-
High school diploma	Ref.	Ref.	Ref.	-	Ref.	Ref.	-	Ref.	-	-	-	-

TABLE 3 (Continued)

	PHQ-2			GAD-2			PC-PTSD-5			EDS		
	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjB (95% CI)	Participants without Italian nationality adjB (95% CI)	Participants with Italian nationality adjB (95% CI)
Lower than high school diploma	4.2 (1.4; 12.8)*	6.5 (0.8; 51.0)	8.4 (1.5; 46.7)*	-	1.4 (0.2; 9.6)	3.0 (0.6; 13.9)	-	0.3 (0.1; 1.0)	-	-	-	-
Higher than high school diploma	8.4 (2.0; 34.5)*	44.0 (3.3; 592.4)*	1.6 (0.1; 18.1)	-	22.2 (2.2; 224.8)*	1.2 (0.1; 12.0)	-	1.5 (0.3; 7.6)	-	-	-	-
Perceived economic situation: insufficient/poor	3.9 (0.8; 19.7)	3.5 (0.4; 29.3)	-	-	-	-	-	-	-	1.34 (0.41; 2.28)*	2.07 (0.86; 3.28)*	-
Perceived health status: Insufficient/poor	-	-	-	-	-	-	2.7 (1.1; 6.9)*	2.5 (0.9; 7.0)	-	0.1 (-0.2; 2.0)	-	3.3 (0.7; 5.9)*
EDS score	-			-			-			-		

(Continues)

TABLE 3 (Continued)

	PHQ-2			GAD-2			PC-PTSD-5			EDS		
	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjB (95% CI)	Participants without Italian nationality adjB (95% CI)	Participants with Italian nationality adjB (95% CI)
	1.3 (1.2; 1.5)*	1.3 (1.1; 1.5)*	1.7 (1.2; 2.4)*	1.4 (1.2; 1.6)*	1.5 (1.2; 1.9)*	1.4 (1.0; 1.8)*	1.3 (1.1; 1.4)*	1.4 (1.2; 1.6)*	1.2 (1.0; 1.4)*	-	-	-
Waiting for/ in possession of temporary permits	-	110.2 (4.6; 2615.5)*	-	-	9.6 (1.4; 73.1)*	-	-	4.4 (1.3; 15.6)*	-	-	-	-
Studying in Italy: Yes	-	5.29 (0.9; 28.8)	06 (0.1; 4.5)	-	-	0.4 (0.1; 3.2)	3.4 (1.4; 8.3)*	2.4 (0.9; 7)	7.0 (0.8; 58.9)	-	-	-
Someone to trust: Yes	-	0.1 (0.01; 0.9)*	0.8 (0.1; 8.6)	0.36 (0.1; 0.9)*	0.1 (0.01; 0.9)*	-	-	-	-	-	-	-
Northern Africa (personal nationality)	-	0.2 (0.02; 1.2)	-	-	-	0.5 (0.1; 4.2)	-	-	-	-	-1.91 (-3.18; -0.65)*	-
	-	-		-			-			-		

TABLE 3 (Continued)

	PHQ-2			GAD-2			PC-PTSD-5			EDS		
	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjOR (95% CI)	Participants without Italian nationality adjOR (95% CI)	Participants with Italian nationality adjOR (95% CI)	Overall sample adjB (95% CI)	Participants without Italian nationality adjB (95% CI)	Participants with Italian nationality adjB (95% CI)
Northern Africa (parents' nationality)	-	-	0.5 (0.04; 5.7)							-	-	**−2.49 (−3.44; −1.55)***
Working in Italy: Yes	-	-	-	**0.2 (0.1; 0.6)***	-	-	**0.4 (0.2; 0.9)***	**0.3 (0.1; 0.9)***	-	-	-	-
Family in Italy: Yes	-	-	-	0.3 (0.1; 1.0)	-	-	-	-	-	-	-	-
Living in a reception facility: Yes	-	-	-	-	**24.9 (3.7; 166.1)***	-	-	-	-	-	**−2.4 (−3.75; −1.06)***	-

Note: Bold values provide significance of *p* value < .050.

*p < 0.050.

permit (without Italian nationality model: $p = 0.020$). Also students (overall model: $p = 0.009$) and those with an insufficient/poor perceived health status (overall model: $p = 0.034$) had a higher likelihood of reporting PTSD. Instead, participants who were working in Italy reported a reduced probability (overall: $p = 0.044$; without Italian nationality model: $p = 0.039$). Increasing EDS score was associated with PTSD in each model (overall: $p < 0.001$; without Italian nationality model: $p < 0.001$; Italian nationality model: $p = 0.031$) (Table 3).

Lastly, waiting for/in possession of temporary permits, compared with having Italian nationality (overall model: $p < 0.001$) and living in a reception facility (without Italian nationality model: $p = 0.001$) were negatively associated with EDS score. An insufficient/poor economic situation was positively associated with EDS score (overall: $p = 0.005$; without Italian nationality model: $p = 0.001$), as well as an insufficient/poor perceived health status (Italian nationality model: $p = 0.013$). Compared with Sub-Saharan Africa, Northern Africa was negatively correlated to EDS score, both considering nationality of participants (without Italian nationality model: $p = 0.003$) and parents' nationality (Italian nationality model: $p < 0.001$) (Table 3).

4 | DISCUSSION

This paper aimed to explore depression, anxiety, and PTSD among African migrants in Italy. Additionally, perceived discrimination was evaluated.

The results showed a high frequency of mental health issues. Indeed, 12.1% showed depressive symptoms and 12.1% anxiety symptoms. These findings seem consistent with existing studies. A recent meta-analysis calculated a depression prevalence of 15.6% among migrants worldwide (Foo et al., 2018). Previous data outlined a big variety in prevalence. Considering migrants from various countries, the prevalence resulted to be from 3% to 81% for depression and from 5% to 90% for anxiety (Lindert et al., 2008).

Considering the variables associated with depressive risk, subjects that defined their health status insufficient/poor showed an increased risk of depression, confirming results that showed that self-rated health was a depression predictor up to 5 years (Ambresin et al., 2014). Employed subjects reported a lower risk of depressive symptoms, coherently with findings that highlighted effects of unemployment can be magnified among minorities (Paul & Moser, 2009). Furthermore, we found participants waiting for/in possession of temporary permits were more likely to report symptoms, similarly to a study showing that a long wait for a legal residency status was associated with psychopathologies (Laban et al., 2008). Data also hint that aspects related to integration, for example, having someone to trust or having a job, might have a role in depression and anxiety. These data seem to confirm previous findings that outlined the role of poor social integration in increasing mental illness in this population (Giacco et al., 2018).

The PTSD prevalence was remarkably high. About a quarter of the sample was above the cut-off for PTSD. The frequency of PTSD is hard to compare with other studies considering the high variability of the results. Indeed, previous works showed a PTSD prevalence ranging from 4% to 86% (Lindert et al., 2008). Other papers have already tried to explain the increased rate of PTSD in this population, suggesting that exposure to traumatic events before or during migration plays a role (Giacco et al., 2018).

A vast majority reported discrimination. Based on our results, migrants who reported more discrimination were Italians with Sub-Saharan Africa's parents and a poor economic status. This can be explained by greater expectancies that second-generation migrants have towards western lifestyle (King & Lulle, 2016). Furthermore, the likelihood of all mental health outcomes was significantly increased by the discrimination, consistently with previous findings that reported the discrimination as a determinant of poor mental health among migrants (Hynie, 2018).

This study presents some limitations. Considering numerous existing barriers, quantitative data are not easy to collect to assess this specific topic. We tried to overcome this limitation by using validated tests (or slightly modified versions) translated in different languages; nevertheless, an additional weakness of our paper is represented by the fact that we did not validate the translation of two scales nor the modified EDS. However, migrants are a

heterogeneous group, with relevant differences between asylum seekers and refugees, "voluntary" long term migrants and "involuntary" migrants (Lindert et al., 2008); therefore, a greater sample size with enough participants to represent each category would improve the study of this issue. Additionally, the decision to analyze only African migrants limits the generalizability of results. Also, the used tools are screening instruments and cannot assess the prevalence of a diagnosed disorder. Lastly, the cross-sectional design restricts causal interpretation and convenience sampling increases the possibility of a selection bias.

Nevertheless, the results showed a substantial prevalence of mental symptoms, suggesting that this issue deserves further studies. These findings are relevant considering that Italy is one of the European countries with a particularly limited access to health care for non-European migrants (Rosano et al., 2017), thus highlighting the urgent need of addressing more resources to improve the access to care not only for physical health but also for mental health. Moreover, our research added evidence about the burden of discrimination among migrants in Italy and its strong link with poor mental health also outside the workplace, which was the only setting where this condition was thoroughly explored (Di Napoli et al., 2017). Last, European countries should face this important public health priority by improving the implementation of programs of health monitoring at national and international levels.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

ETHICAL APPROVAL

This study was conducted according to the guidelines laid down in the Declaration of Helsinki. The Ethics Committee of the University of Torino reviewed and approved the protocol (Protocol number 250096).

PEER REVIEW

The peer review history for this article is available at https://publons.com/publon/10.1002/jcop.22685

DATA AVAILABILITY STATEMENT

All relevant data are within the paper.

ORCID

Gianluca Voglino https://orcid.org/0000-0002-5516-3419
Maria Rosaria Gualano http://orcid.org/0000-0001-7357-2892
Giuseppina Lo Moro https://orcid.org/0000-0002-9472-3263
Fabrizio Bert https://orcid.org/0000-0002-4329-9028
Roberta Siliquini https://orcid.org/0000-0001-7388-3965

REFERENCES

Ambresin, G., Chondros, P., Dowrick, C., Herrman, H., & Gunn, J. M. (2014). Self-rated health and long-term prognosis of depression. *Annals of Family Medicine*, *12*(1), 57–65. https://doi.org/10.1370/afm.1562

Beutel, M. E., Jünger, C., Klein, E. M., Wild, P., Lackner, K. J., Blettner, M., Banerjee, M., Michal, M., Wiltink, J., & Brähler, E. (2016). Depression, anxiety and suicidal ideation among 1(st) and 2(nd) generation migrants—Results from the Gutenberg health study. *BMC Psychiatry*, *16*(1), 288. https://doi.org/10.1186/s12888-016-0995-2

Brydsten, A., Rostila, M., & Dunlavy, A. (2019). Social integration and mental health—A decomposition approach to mental health inequalities between the foreign-born and native-born in Sweden. *International Journal for Equity in Health*, *18*(1), 48. https://doi.org/10.1186/s12939-019-0950-1

Bustamante, L. H. U., Cerqueira, R. O., Leclerc, E., & Brietzke, E. (2017). Stress, trauma, and posttraumatic stress disorder in migrants: A comprehensive review. *Revista Brasileira de Psiquiatria*, *40*(2), 220–225.

Caritas e Migrantes. (2018). XXVIII Rapporto Immigrazione 2017–2018. Non Si Tratta Solo Di Migranti.

Caritas e Migrantes. (2020). XXIX Rapporto Immigrazione 2020. Conoscere per comprendere.

Cristofalo, D., Bonetto, C., Ballarin, M., Amaddeo, F., Ruggeri, M., Nosè, M., & Barbui, C. (2018). Access to and use of psychiatric services by migrants resettled in Northern Italy. *Journal of Immigrant and Minority Health*, *20*(6), 1309–1316. https://doi.org/10.1007/s10903-018-0703-z

Di Napoli, A., Gatta, R., Rossi, A., Perez, M., Costanzo, G., Mirisola, C., & Petrelli, A. (2017). Discriminazione percepita sul luogo di lavoro in quanto straniero: Uno studio sulla salute mentale percepita dagli immigrati in Italia. *Epidemiologia & Prevenzione*, *41*(3–4), 33–44. https://doi.org/10.19191/EP17.3-4S1.P033.063. Suppl. 1.

Foo, S. Q., Tam, W. W., Ho, C. S., Tran, B. X., Nguyen, L. H., McIntyre, R. S., & Ho, R. C. (2018). Prevalence of depression among migrants: A systematic review and meta-analysis. *International Journal of Environmental Research and Public Health*, *15*(9), 1986. https://doi.org/10.3390/ijerph15091986

Forte, A., Trobia, F., Gualtieri, F., Lamis, D. A., Cardamone, G., Giallonardo, V., Fiorillo, A., Girardi, P., & Pompili, M. (2018). Suicide risk among immigrants and ethnic minorities: A literature overview. *International Journal of Environmental Research and Public Health*, *15*(7), 1438.

Giacco, D., Laxhman, N., & Priebe, S. (2018). Prevalence of and risk factors for mental disorders in refugees. *Seminars in Cell and Developmental Biology*, *77*, 144–152. https://doi.org/10.1016/j.semcdb.2017.11.030

Heeren, M., Wittmann, L., Ehlert, U., Schnyder, U., Maier, T., & Müller, J. (2014). Psychopathology and resident status—Comparing asylum seekers, refugees, illegal migrants, labor migrants, and residents. *Comprehensive Psychiatry*, *55*(4), 818–825. https://doi.org/10.1016/j.comppsych.2014.02.003

Hynie, M. (2018). The social determinants of refugee mental health in the post-migration context: A critical review. *Canadian Journal of Psychiatry. Revue Canadienne de Psychiatrie*, *63*(5), 297–303. https://doi.org/10.1177/0706743717746666

Jurado, D., Alarcón, R. D., Martínez-Ortega, J. M., Mendieta-Marichal, Y., Gutiérrez-Rojas, L., & Gurpegui, M. (2017). Factores asociados a malestar psicológico o trastornos mentales comunes en poblaciones migrantes a lo largo del mundo. *Revista de Psiquiatría y Salud Mental*, *10*(1), 45–58.

King, R., & Lulle, A. (2016) A policy review research on migration: Facing realities and maximising opportunities. Retrieved from http://ec.europa.eu/research/social-sciences/pdf/policy_reviews/ki-04-15-841_en_n.pdf

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2003). The patient health questionnaire-2: Validity of a two-item depression screener. *Medical Care*, *41*(11), 1284–1292. https://doi.org/10.1097/01.MLR.0000093487.78664.3C

Kroenke, K., Spitzer, R. L., Williams, J. B. W., Monahan, P. O., & Löwe, B. (2007). Anxiety disorders in primary care: Prevalence, impairment, comorbidity, and detection. *Annals of Internal Medicine*, *146*(5), 317–325. https://doi.org/10.7326/0003-4819-146-5-200703060-00004

Laban, C. J., Komproe, I. H., Gernaat, H. B. P. E., & Jong, J. T. V. M. (2008). The impact of a long asylum procedure on quality of life, disability and physical health in Iraqi asylum seekers in the Netherlands. *Social Psychiatry and Psychiatric Epidemiology*, *43*(7), 507–515. https://doi.org/10.1007/s00127-008-0333-1

Lindert, J., Brähler, E., Wittig, U., Mielck, A., & Priebe, S. (2008). Depression, anxiety and posttraumatic stress disorders in labor migrants, asylum seekers and refugees: A systematic overview. *Psychotherapie, Psychosomatik, medizinische Psychologie*, *58*(3–4), 109–122. https://doi.org/10.1055/s-2008-1067358

Norredam, M., Nielsen, S. S., & Krasnik, A. (2010). Migrants' utilization of somatic healthcare services in Europe—A systematic review. *European Journal of Public Health*, *20*(5), 555–563. https://doi.org/10.1093/eurpub/ckp195

OECD (2019). *International migration outlook 2019*. OECD Publishing. https://doi.org/10.1787/c3e35eec-en

Patient Health Questionnaire (PHQ) Screeners website. Screener Overview (n.d.). Retrieved from: https://www.phqscreeners.com/select-screener

Paul, K. I., & Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior*, *74*(3), 264–282. https://doi.org/10.1016/j.jvb.2009.01.001

Prins, A., Bovin, M. J., Smolenski, D. J., Marx, B. P., Kimerling, R., Jenkins-Guarnieri, M. A., Kaloupek, D. G., Schnurr, P. P., Kaiser, A. P., Leyva, Y. E., & Tiet, Q. Q. (2016). The primary care PTSD screen for DSM-5 (PC-PTSD-5): Development and evaluation within a veteran primary care sample. *Journal of General Internal Medicine*, *31*(10), 1206–1211. https://doi.org/10.1007/s11606-016-3703-5

Qin, W., Nguyen, A. W., Mouzon, D. M., Hamler, T. C., & Wang, F. (2020). Social support, everyday discrimination, and depressive symptoms among older African Americans: A longitudinal study. *Innovation in Aging*, *4*(5), igaa032. https://doi.org/10.1093/geroni/igaa032

Ra, C. K., Huh, J., Finch, B. K., & Cho, Y. (2019). The impact of perceived discrimination on depressive symptoms and the role of differentiated social support among immigrant populations in South Korea. *International Journal for Equity in Health*, *18*(1), 7. https://doi.org/10.1186/s12939-019-0910-9

Rosano, A., Dauvrin, M., Buttigieg, S. C., Ronda, E., Tafforeau, J., & Dias, S. (2017). Migrant's access to preventive health services in five EU countries. *BMC Health Services Research*, *17*(1), 588. https://doi.org/10.1186/s12913-017-2549-9

Solano, G., & Huddleston, T. (2020). *Migrant Integration Policy Index 2020*. CIDOB and MPG. ISBN: 978-84-92511-83-9.

Straiton, M. L., Aambø, A. K., & Johansen, R. (2019). Perceived discrimination, health and mental health among immigrants in Norway: The role of moderating factors. *BMC Public Health*, *19*(1), 325. https://doi.org/10.1186/s12889-019-6649-9

Tibubos, A. N., Beutel, M. E., Schulz, A., Klein, E. M., Brähler, E., Michal, M., Münzel, T., Wild, P. S., Lackner, K., König, J., Pfeiffer, N., Wiltink, J. (2018). Is assessment of depression equivalent for migrants of different cultural backgrounds? Results from the German population-based Gutenberg Health Study (GHS). *Depression and Anxiety*, *35*(12). 1178—1189. https://doi.org/10.1002/da.22831

Weine, S., Bahromov, M., Loue, S., & Owens, L. (2012). Trauma exposure, PTSD, and HIV sexual risk behaviors among labor migrants from Tajikistan. *AIDS and Behavior*, *16*(6), 1659–1669. https://doi.org/10.1007/s10461-011-0122-9

Williams, D. R., Yu, Y., Jackson, J. S., & Anderson, N. B. (1997). Racial differences in physical and mental health. Socio-economic status, stress and discrimination. *Journal of Health Psychology*, *2*(3), 335–351. https://doi.org/10.1177/135910539700200305