

# Migration and determinants of health: clinical epidemiological characteristics of migrants in Malta (2010–11)

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## ABSTRACT

**Background** Over recent years Malta has experienced a growing influx of migrants from Africa. With the aim of defining demographic characteristics and assessing the prevalence of conditions of public health significance among asylum seekers in Malta, a clinical research study was implemented in the framework of the European Union project 'Mare nostrum'.

**Methods** From August 2010 to June 2011 a dermatologist and an infectious diseases specialist performed general and specialist health assessment of migrants hosted in open centres.

**Results** Migrants included in the study were 2216, 82.7% were males, their mean age was 25 years and 70.1% were from Somalia. Out of the total females, 42.5% had undergone some type of Female Genital Mutilation/Cutting. A total of 5077 diagnoses were set, most common were skin diseases (21.9%), respiratory diseases (19.8%) and gastro-enteric diseases (14.2%), whereas 31% of migrants reported good health conditions.

**Conclusions** Immigrants have a lower morbidity burden compared with their fellow countrymen living in the origin country. However, living conditions during the journey, in transit countries and after arrival can influence their health status. The present study provides a comprehensive picture of this growing population that is in need for health promotion, mental health services and fair policy planning.

**Keywords** epidemiology, Malta, migrants health, public health

## Background

The international population flow seeking for protection, employment or family reunion is challenging South-European countries at different levels.

Over recent years, Malta, the smallest European Union (EU) member country, has increasingly moved into the international spotlight as a front-line state for irregular migration from Africa towards the EU. Since 2002, this country has experienced a growing influx of migrants that culminated in 2011, during the civil unrest in Libya, with the arrival of thousands of people seeking for humanitarian protection. Even though the total number of migrants in Malta is not very high in absolute terms, the small size and very high population density of the country make the impact of migration higher

than in most—if not all—European countries.<sup>1</sup> In the last 10 years, Malta has received 12 131 boat migrants, 13% of whom were women and children, compared with a population of almost 400 000 people. As a consequence, immigration has become one of Malta's top policy priorities, at the national as

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well as at the EU level, where Malta has been calling for the establishment of burden-sharing mechanisms and support from other EU countries in coping with the growth in irregular migration. Among European regions, the five Nordic Countries report the largest relative increase in annual asylum levels (38%) with the 'old' EU member states (Germany, France, UK) accounting for 93% of all asylum claims registered within the European Union.<sup>2</sup> Moreover, boat migration across the Mediterranean Sea has become an increasingly pressing humanitarian challenge; it is estimated that several hundred would-be immigrants have died every year in the Mediterranean trying to reach the EU from the south.<sup>3</sup>

After arrival in Malta, undocumented migrants are systematically kept in detention centres for a maximum period of eighteen months during which their identity is verified and their asylum application—if any—processed. Migrants who do not meet the criteria for the recognition of refugee status can be granted 'subsidiary or humanitarian protection', which is an exceptional measure to provide displaced persons and people unable to return to their country of origin with immediate and temporary protection. In the text, those granted temporary protection or refugee status are referred to as 'documented migrants', whereas 'undocumented migrants' are international protection seekers whose application was rejected and who are waiting for repatriation. Both documented and undocumented migrants are transferred to open centres after detention. Hal Far Hanger, Hal Far Tent Village and Marsa are the three largest open centres in the island; they provide accommodation for 400 people, and for up to 1000 people in emergency situations. In 2008, >2700 migrants arrived in Malta, whereas the intensification of border controls in the Mediterranean Sea in 2009 resulted in a drastic reduction in landings. Between January and July 2010, only 48 migrants reached Malta's shores. Despite that, >3000 migrants, mostly from Somalia, still lived in the island in 2010.

Documented migrants in Malta have access to public health-care facilities, although language barriers hamper their access to the health-care system and cultural diversity makes particularly difficult for health-care providers to manage complex differences in communication styles, attitudes and expectations. As regards undocumented migrants, they are less likely to regularly attend medical services because they are not entitled to free access to health care. In this respect, some studies showed that, contrary to the perception of many health professionals and the general public, migrants tend to use health services less than nationals.<sup>4</sup>

The aim of this study is to document demographic characteristics and assess the prevalence of conditions of public health significance among migrants living in Maltese open

centres. To this purpose, a clinical research study was implemented from January 2010 to June 2011 in the framework of the EU project 'Mare Nostrum: Common approach to upgrade asylum facilities in Italy and Malta'<sup>5</sup> by the National Institute for Health, Migration and Poverty (NIHMP) of Rome, the Health Promotion and Diseases Prevention Department and the Migrant Health Unit of Malta. The project, carried on by a partnership between the Italian and the Maltese Ministries of Interior, was aimed at promoting migrant-sensitive health policies, assessing migrants' health needs and training health professionals and non-medical workers in Italian and Maltese centres for migrants on related issues.

## Methods

The present work is a retrospective study based on analysis of data collected during medical activities. From August 2010 to June 2011, clinical consultations were performed in Maltese open centres by a dermatologist and an infectious diseases specialist from the NIHMP as systematic check-up of new arrivals or upon migrants' request. Apart from being hosted in one of the open centres of the island, no other selection criteria were applied. Five cultural mediators from the most represented communities (Somalia, Mali and Eritrea) participated in the study. The Migrant Health Unit trained them in Cultural Mediation in Health Care and the Primary Health Care Department employed them to provide mediation support and assistance to migrants and health professionals during clinical examinations. Cultural mediators received specific information on the objectives of the study, on the content of the questionnaires and further clarifications or explanations required.

Participants were interviewed by a consultant, with the support of a cultural mediator, using a standardized, pre-coded questionnaire focused on socio-demographic characteristics and medical history. Particular attention was dedicated to tuberculosis (past or on-going active disease and exposure to infection), past and present use of medications and alcohol (type, quantity and mean daily intake), recreational drugs consumption, sexual health and risk behaviours for sexually transmitted infections (Annex 1). If the patient was a minor, the mother or accompanying person was asked to answer the questionnaire where applicable.

Data were collected in a purpose-specific database; each migrant was registered with a double identification code corresponding to the identity card and the police number assigned by the immigration office upon arrival in Malta.

Afterwards, general health assessment and specialist evaluation for infectious and skin diseases were performed by the two doctors involved in the study. Based on examination

**Table 1** Number of migrants examined per open centre in Malta

Open centre	No.
Church Open Centre	76
Balzan	89
Dar il Liedna	19
Dar il Sliem	12
Hal Far Hangar	590
Hal Far Tent village	880
HFO-Hal far Family Open Center	118
HFRC-Halfar Female Reception Center	79
Marsa Open Center	352
Peace Lab	1
Total	2216

The three biggest facilities (Hal Far Hangar, Tent Village and Marsa Open Center) hosted the 82% of migrants examined.

findings, clinically defined diagnoses were recorded in the database according to the International Classification of Diseases (ICD-9 CM). The study design was approved by the Maltese Ethic Committee.

Migrants in need for further medical examinations, diagnostic procedures, hospital admission or medicines were accordingly referred to health centres, hospitals and hospital pharmacies. Health promotion among migrants on personal hygiene, dietary habits, food storage and preservation, and STIs prevention was performed by the two project doctors in the course of clinical activities.

## Results

From August 2010 to June 2011, 2216 migrants were interviewed and examined by the two project doctors (Table 1); a total of 5214 examinations were performed, since a high number of migrants underwent more than one examination and/or follow-up visit. All migrants examined accepted to participate in the study.

The mean length of stay in open centres registered at the first examination was 13 months after ~6 months in a detention centre. Out of the total examined migrants, 82.7% were males, the mean age was 25 years (range 0–46) and minors were 197. Table 2 reports migrants' distribution by nationality. Out of total interviewed persons, 44.4% declared to be married and away from their families, 33.7% were illiterate (Table 3), 44.1% unemployed and 84% declared to be Muslim. As regards language, 65% were native Somali speakers, 10% spoke Tigrinya and 7% Amharic, less than a half (48.5%) spoke English as second language. As regards the use

**Table 2** Migrants by nationality

Nationality	No. (%)
Somalia	1.554 (70.1)
Eritrea	238 (10.7)
Sudan	88 (4)
Ethiopia	81 (3.7)
Mali	68 (3.1)
Ivory Coast	46 (2.1)
Nigeria	46 (2.1)
Chad	11 (0.5)
Burkina Faso	10 (0.5)
Niger	10 (0.5)
Others	64 (2.7)
Total	2.216 (100)

As regards the country of origin, most migrants were from East Africa.

**Table 3** Literacy level among migrants in Malta

Type of education	No. (%)
Illiterate	748 (33.7)
Complete compulsory	436 (19.7)
Secondary school diploma	398 (18)
Higher education	94 (4.2)
Incomplete primary <sup>a</sup>	322 (14.5)
Not reported	219 (9.9)
Total	2.216 (100)

Illiteracy was high especially among Somali because of the on-going armed conflict. Only 18% had a second level education and 4.2% a degree.

<sup>a</sup>Schoolchildren examined are 197; 'incomplete' primary education refers to <5-years school attendance. Minors should be detracted as they still attend school.

of psychoactive substances, 69% declared use of tobacco, 10% of drugs, particularly *kebat*, and alcohol.

STIs' risk analysis revealed that 30% had less than five sexual partners during their lifetime, 65% stated they never used a condom, 44% underwent HIV testing at least once in their lives and 10% in the previous 6 months.

Out of the total migrants involved, 384 women (17.3%) were examined, 12.5% were pregnant at the time of examination and 42.5% referred to have undergone some type of Female Genital Mutilation/Cutting (FGM/C) during childhood. About half of them underwent type III FGM (Table 4); for cultural and ethical reasons, gynaecological examination to verify this information was not performed.

**Table 4** Type III FGM/C, also known as infibulation, consists in the removal of all or part of the labia and usually the clitoris, and the fusion of the wound

Type of FGM/C	No. (%)
I	25 (15.3)
II	8 (4.9)
III	84 (51.5)
IV	46 (28.2)
Total	163 (100)

Infibulation was the most observed form of FGM in women coming from Somalia.

During clinical examinations, 5077 diagnoses were set: 31% of migrants resulted to be in good health and to have no physical or mental problems. Skin diseases constituted the most frequent diagnosis (21.9%), followed by respiratory diseases (19.8%), gastro-enteric diseases (14.2%), general symptoms (9.3%), traumas and injuries (9.2%), diseases of the musculoskeletal system (7.4%), diseases of the nervous system and sense organs (4.4%), diseases of the genitourinary system (3.8%), infectious diseases (2.8%) and mental disorders (2.6%) (Table 5). Data analysis was based on the ICD-9 code of the first diagnoses recorded, which corresponds to the reason for seeking medical advice.

Out of the total number of migrants examined, 195 (8.8%) were referred to hospitals and health centres for second-level examination or diagnostic procedure. Among the top five causes for referral, dental problems ranked first (14.2%), followed by ophthalmic disorders (12.8%), request of laboratory tests (9.2%), serious injuries (7.6%) and genito-urinary problems (7.6%). Gynaecological problems were the first cause for referral of female migrants (57%). As regards diagnoses, 22 cases of active tuberculosis (18 pulmonary, 3 lymph node and 1 bone tuberculosis) and 1 case of multi-bacillary leprosy were identified during the study period; two migrants underwent HIV testing on the basis of strong clinical evidence and resulted positive.

## Discussion

### Main findings of this study

The present study was conducted in Maltese open centres between August 2010 and June 2011. All migrants hosted in the open centres were examined by a dermatologist and an infectious diseases specialist with expertise in migration medicine. Migrants who had returned to Malta as well as those who had just been released from detention centres were also

**Table 5** Distribution of diagnosis by categories and subcategories

Diagnosis by ICD9 classification groups (first diagnosis)	Frequency (%)
Diseases of the skin and subcutaneous tissue	819 (21.9)
Contact dermatitis and other eczema	107
Pruritus and related conditions	95
Scar conditions and fibrosis of skin	78
Scabies	67
Acne	66
Pityriasis versicolor	60
Others	346
Diseases of the respiratory system	739 (19.8)
Acute nasopharyngitis	322
Bronchitis, not specified as acute or chronic	148
Allergic rhinitis	101
Acute laryngitis and tracheitis	58
Asthma	33
Acute tonsillitis	20
Chronic sinusitis	20
Others	37
Diseases of the digestive system	533 (14.2)
Gastritis and duodenitis	197
Constipation	131
Dental caries	96
Other disorders of liver	16
Others	93
Symptoms, signs, and ill-defined conditions	349 (9.3)
Headache	83
Abdominal pain	76
Chest pain	48
Cough	45
Sleep disturbances	19
Others	78
Injury and poisoning	346 (9.2)
Open wound	90
Open wound of finger(s)	30
Open wound of foot except toe(s) alone	20
Open wound of knee, leg and ankle	18
Open wound of toe(s)	12
Insect bite	16
Early complications of trauma	10
Late effect of fracture of upper extremities	10
Others	140
Diseases of the musculoskeletal system and connective tissue	278 (7.4)
Backache, unspecified	159
Others	119
Diseases of the nervous system and sense organs	164 (4.4)
Keratitis	33
Visual disturbances	16
Otitis externa	15

*Continued*

**Table 5** Continued

Diagnosis by ICD9 classification groups (first diagnosis)	Frequency (%)
Others	100
Diseases of the genitourinary system	142 (3.8)
Cystitis	55
Urinary tract infection, site not specified	12
Dysmenorrhea	11
Haematuria	7
Others	57
Infectious and parasitic diseases	104 (2.8)
Diarrhoea of presumed infectious origin	48
Pulmonary tuberculosis	18
Human immunodeficiency virus (HIV) disease	9
Others	29
Mental disorders	99 (2.6)
Others	160 (4.2)
Total	3733 (100)

The data analysis has been made taking into account the ICD9 record of the first diagnosis reported in the database and not the total number of diseases diagnosed.

included in the study. As a result, the response rate was 100%. Socio-demographic data show a young population, with a prevalence of single men from Africa. The majority had fled political persecution, war or poverty. Most of migrants in Malta had applied for asylum and obtained temporary protection; only a few of them, mainly from West Africa, resided in the open centres as undocumented migrants and were waiting for repatriation. Before arrival, a high number of migrants had spent several years in transit countries, such as Sudan and Libya, where unsuitable living and working conditions increase risk of exposure to infectious diseases. Variations in behavioural risks for STIs were observed within different ethnic groups, according to their cultural and religious beliefs. Muslims asserted that, due to restrictions imposed by religion, they have a very low number of sexual partners and do not use condoms. For the same reason, they denied alcohol and recreational drug consumption, with the exception of *kebat*, which is culturally acceptable in the Horn of Africa.<sup>6</sup> This result confirms that cultural and religious aspects should always be considered in the interpretation of studies on migrant populations and that ethnic-oriented approach should be adopted in the design of intervention strategies.

Women examined in the open centres represented 17.3% of the total sample. It should be outlined that, in general, in transit countries as well as after arrival, they are at higher risk of suffering from violence, unsuitable working conditions,

sexual exploitation and poor reproductive health.<sup>3</sup> Despite the difficulty of verifying the accuracy of this information, it is relevant to note that 42.5% of women referred to have undergone an FGM/C during childhood, and that half of them declared to have been infibulated<sup>7</sup> (Table 4). These data could be underestimated because of migrants' difficulty of talking about this practice, although the questionnaire was administered by a female cultural mediator from the same country of origin. Most migrant women in Malta are from Somalia and Eritrea where FGM/C is still performed despite legislative initiatives aimed at eradicating this practice. FGM/C is known to be associated with complications, including decreased fertility,<sup>8</sup> higher risk of dermatological complications<sup>9</sup> and potentially increased risk of HIV transmission.<sup>10</sup>

### What is already known on this topic

Accurate data on migrants' health and its social and environmental determinants are essential for providing appropriate and accessible medical services and suitable public health interventions. Despite that, in many EU countries, epidemiological figures are insufficient, thus limiting the possibility to monitor and plan actions for improving migrants' health.<sup>11,12</sup>

Due to the interaction between social and health factors, migrants are exposed to specific risks and face access barriers to health services.<sup>13</sup> The profile of migrants in Malta is characterized by recent history of migration, low educational level, disadvantaged social conditions and insufficient language skills. Main health risk factors include unemployment, lack of steady income, poor housing conditions in a foreign context, absence of family support, different eating habits often compromising nutritional status.<sup>14</sup> Study results show that 31% of migrants in Malta had good health status and that, among people who sought medical advice, a prevalence of minor health problems is reported. This finding is consistent with a number of previous studies.<sup>14–16</sup> Upon arrival, migrants generally report better health status than the local population, but it tends to worsen over time, particularly as regards specific migrant groups.<sup>17</sup> This additional burden of disease should be interpreted in the context of a national health service that struggles to cope with the increasing demands of modern medicine and with shortage of doctors and nurses. Systematic screening upon arrival for hepatitis and tuberculosis is likely to be cost-effective. In fact, both infections can lead to progressive disease causing repeated hospital admissions and prolonged outpatient surveillance.<sup>5</sup>

### What does this study add?

The present study provides relevant and comprehensive data on the health status of migrants living in Malta, where little information is available on this topic. In open centres, migrants

are mostly affected by health conditions related to environmental factors (poor hygiene, overcrowding, dampness) and incorrect food habits that eventually lead to a decline of their good health. Interventions should be implemented in open centres for improving migrants' living conditions and favour the resettlement process.

A high number of non-specific physical symptoms referred by patients (9.3%) was registered. They were interpreted as somatization of psychosocial stress and suggest some sort of mental disorders, as expected considering the number of stress factors migrants are exposed to.<sup>18,19</sup> Vague physical complaints are among the main reasons for referring to primary health-care services.<sup>20,21</sup> No major epidemiological threats for public health were reported; the rate of infectious diseases was very low (2.8%), and only a low number of imported diseases was observed. Although active and latent TB screening was performed upon arrival, 22 migrants developed active TB in the open centres, probably as a consequence of deteriorated immune function.<sup>22</sup> Contact tracing was performed for active TB migrants, but general preventive measures, such as latent TB screening and prophylactic treatment, should be adopted in open centres.<sup>5,23,24</sup> Multi-bacillary leprosy was diagnosed in a western African migrant who immediately started on multi-drug treatment. Providing health assistance to migrants has important public health implications. The results of this study seem to confirm that migrant populations have a low morbidity burden, but social inequalities, as well as the migration process itself, put their physical, mental and social well-being at risk, thus affecting their health status. Especially in hosting and transit countries, migrants' health is often threatened by poverty, social exclusion and by the poor availability and accessibility of health services. Health professionals play a prominent role in improving health care and providing medical information to migrants, but linguistic and cultural barriers, difficult diagnoses, poor compliance and follow-up are major problems to be addressed.

Social determinants of migrants' health in Malta seem to be related to poor living and working conditions, language and cultural differences, physical and social environment, gender, as well as lack of integration policies. Moreover, documented and undocumented migrants face different health challenges and have different levels of access to health services.

Further research is needed to evaluate the impact of public health interventions, such as strengthening cultural mediation at primary and secondary health service level; training health professionals on migrants' health, particularly focusing on cultural issues; promoting healthy behaviours among migrant communities and mental health support to vulnerable categories; improving reception conditions and integration within the hosting community.

### Limitations of this study

According to the results of the present study, only a low rate of migrants showed psychological disorders, such as depression, sleep disorders, alcohol abuse, anxiety and psychosexual dysfunction (2.6%). This figure is probably underestimated because no in-depth mental health assessment and dedicated staff were provided in the framework of the project.

Another limitation of the study is the difficulty in obtaining correct and complete information on FGM/C and in examining women due to religious restrictions and ethical issues.

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