



## ORIGINAL ARTICLE

# Screening approach among newly arrived asylum seekers: experience in a primary health care setting in Piacenza, Emilia Romagna, Northern Italy

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## Keywords

Screening • Refugees • Infectious diseases • Migrants

## Summary

*In the last ten years the number of asylum seekers has increased in all of Europe. Our Migrants Health Unit in Piacenza, Emilia Romagna, Italy, is designated to provide primary health care for migrants without a regular permit of stay and, since 2015, is the reference center for asylum-seekers in our Province. Aim of this study is to describe the results of the screening for infectious diseases performed in asylum seekers from January 2015 to December 2015. For any asylum seekers referred to our Centre, we recorded demographical data and we offered screening for HIV, HBV, HCV, syphilis and active tuberculosis (TB). Descriptive*

*statistics were used to analyze the characteristics of the cohort. In 2015, 316 asylum seekers accessed to our Centre. Of them, the majority were men (N= 275; 87,03%). Africa was the most represented geographical area (221, 69,94%), followed from Asia (95, 30.06%). The median age was 25,4 years. 301 patients underwent chest X-Ray, that resulted negative in 262 cases (87%). HBsAg testing proved to be positive in 17 (5,3%) cases. The screening test for HCV, HIV and syphilis resulted respectively positive in 1.9%, 0.3% and 1.6%.*

## Introduction

In the last decade, migratory movements towards Europe bursted due to an increasing instability caused by conflicts, violence, natural disasters and human rights abuse in the nearby African and Asiatic region [1]. In 2015, the United Nations High Commissioner for Refugees (UNHCR) registered a dramatic growth in global forced displacement that involved approximately 65.3 million individuals [2]. In the same year, more than 1 million people entered Europe by boat. Of them, 153472 subjects arrived in Italy through the Mediterranean sea [3], that is the most deadly route to reach Europe [2]. Due to European resettlement policy, only 103972 individuals were admitted to Italian primary reception center [3]. According to Italian regulation, once international protection is requested, asylum-seekers are hosted in different locations placed along our country, till the application is resolved [4]. Consequently, a proportion of 7% of the total number of asylum seekers disembarked to Italy was assigned to Emilia Romagna and 7% of it was destined to the province of Piacenza (Fig. 1).

At the moment of the disembarkation, migrants undergo a first aid procedure, aiming to individuate critical clinical situations, skin infections and signs or symptoms suspicious for tuberculosis. Later, at the arrival in the destination site, a second deeper medical visit with a screening for infectious diseases (HIV/HBV/HCV/Syphilis/Tuberculosis) and other clinical conditions

(psychological trauma, diabetes, hypertension, anemia) is organized. These procedures are free of charge, and asylum seekers are regularly admitted to all national healthcare facilities and vaccination services till their legal status is cleared [5].

The Migrants Health Unit in Piacenza is designated to provide primary health care for all undocumented people and, since 2015, due to the presence of a skilled physician and cultural mediators, is the health referring center for all asylum-seekers, thanks to a joint venture with the Local Office of Interior Minister of Piacenza.

The aim of this study is to describe the results of infectious diseases screening in asylum seekers that accessed to our Unit from the 1<sup>st</sup> of January 2015 to the 31<sup>st</sup> December 2015.

## Material and methods

This is an observational retrospective study that considers any asylum-seekers older than 14 years that referred to our Migration Health Unit from the 1<sup>st</sup> of January 2015 to the 31<sup>st</sup> December 2015.

For each individual, we reviewed paper records. Demographical data (name, age, sex, geographical origin, date of arrival) and screening results for HIV, HBV, HCV, syphilis and active tuberculosis (TB) were anonymously entered into a dedicated database. Descriptive statistics were used to analyze the characteristics of the cohort ( $\chi$  square and T-student test); the geographical origin was

Fig. 1. Asylum seekers allocation proportion after their arrival.



divided into African and Asiatic (Not African) for statistical analysis.

At first visit, for each subject, we recorded in a paper file demographical data (name, age, sex, geographical origin, date of arrival, level of education, religion, marital status, children), behavioral data (smoke, alcohol consumption and drug abuse) and previous significant health problems and medicines taken. Blood pressure, heart frequency rate and temperature were obtained.

The main focuses of the visit were:

- to investigate the presence of symptoms suspicious for active tuberculosis (cough for more than 2 weeks, fever, night sweats, loss of weight);
- to detect skin signs of torture or ectoparasitic infection;
- to individuate signs or symptoms of genital, urogenital and gastrointestinal infections;
- to recognize signs or symptoms of diabetes, anemia, hypertension;
- to offer specialized psychological support for people who had suffered for violence or torture.

The screening for infectious disease was performed through a blood sample as follow:

- HIV: HIV ELISA test and Western Blot test to confirm a positive ELISA TEST;
- HBV: HBV surface antigen (HBsAg) search;
- HCV: HCV antibodies and, if positive, quantitative viremia;

- Syphilis infection: *Treponema pallidum* IgG ELISA and, in case of positivity, Treponema Pallidum Hemagglutination Assay.

In case of a diagnosis of viral chronic infection, patients were referred to the Infectious Diseases Department of our hospital for follow-up and treatment.

Syphilis was treated in our Unit through injections of penicillin according to international guidelines.

Active tuberculosis was investigated through chest X-Ray and, where necessary, a CT scan. We considered chest X-rays suspicious for tuberculosis in case of infiltrate or consolidation in the pulmonary apices, cavitory lesions and pleural effusion. If TB was suspected, patients were sent to the Pneumology Department of our Hospital for further investigation, treatment and follow up. No screening for latent tuberculosis infection was performed till the end of 2015 due to our regional directive.

In case of a diagnosis of a communicable disease, patients were informed on how to avoid the spread of infection even through cultural mediators. Moreover, we provided informative materials in different languages and condoms in case of sexually transmitted infection.

Thanks to a partnership with the Public Health and Hygiene Department, we gave to each subject an appointment for vaccinations, according to a schedule approved by the Italian Ministry.

In case of pregnancy, patients were addressed to the Antenatal Care of our Hospital.

## Results

Three hundred sixteen asylum seekers were referred to our Centre in 2015, of them the majority were men (M 275, 87.03%; F 41, 12.97%). All the females were coming from Africa; 4 of them were diagnosed pregnant, and 1 having a miscarriage. Subjects came from 16 different countries. Africa was the most represented geographical area (69.94%, 221), while the remaining were coming from Asia (30.06%, 95). Nigeria was the country with the largest share (32.91%, N = 104), followed by Pakistan (20.25%; N = 64) and Gambia (11.07%, N = 35). The median age was 25.4 years (confidence range 17-64). Age fell between 18 and 30 years in 82.9% of cases. The median age was  $23 \pm 5$  years in African subjects, and slightly higher in those from Asia ( $28 \pm 7$  years), although this difference was not statistically significant ( $p > 0.05$ ). Sierra Leone had the youngest population (18.5 years). Two subjects were older than 50 years old,

a man from Eritrea of 64 years and one from Pakistan of 59 years (Tab. I).

Three hundred and fifteen people underwent HBV, HCV, HIV and syphilis screening (Tab. II).

HBsAg was detected in 17 (5.3%) subjects (16 M; 1 F); 16 cases were from Africa and only 1 from Asia (Pakistan) ( $p = 0.032$ ). All of them were addressed to the infectious diseases unit for second level tests.

HCV antibodies were identified in 6 persons (1.9%), all men, coming from Africa in 4 cases and Asia (Pakistan) in 2 cases ( $p > 0.05$ ). A dual infection HBV/HCV was diagnosed in 1 subject.

HIV infection was diagnosed in 2 males (0.3%) from Nigeria.

No statistically significant difference resulted for HBV/HCV/HIV screening positivity according to the geographical area of origin (22/243 from Africa; 3/98 Non-African;  $\chi = 3.69$ ;  $p = 0.054$ ).

Six patients resulted positive at the syphilis screening, 1 woman with VDRL positivity (0.3%) and 5 men (1.58%)

Tab. I. Demographic characteristics.

Origin	Men	Women	Mean	Median	Max	Min
Afghanistan	9	0	23,55556	19	46	18
Bangladesh	22	0	29,45455	29	45	20
Costa d'Avorio	12	8	25,3	25	36	19
Eritrea	1	0	64	64	64	64
Gambia	32	3	21,45714	21	29	17
Ghana	9	0	26,33333	27	39	18
Guinea	13	0	22,84615	22	30	19
Liberia	2	0	28,5	28,5	29	28
Mali	15	0	22,73333	22	31	18
Nigeria	74	30	24,70192	24	40	17
Pakistan	64	0	29,48438	28	59	19
RCA	1	0	24	24	24	24
Senegal	15	0	21,6	20	26	18
Sierra Leone	2	0	18,5	18,5	19	18
Togo	4	0	22,25	21,5	27	19

Tab. II. Screening serological data by country of origin.

Origin	N. Total	HBsAg +	HCVAb + (%)	VDRL + (%)	TPHA + (%)	HIVAb + (%)
Afghanistan	9	0	0	0	0	0
Bangladesh	22	0	0	0	0	0
Cote Ivoire	20	0	0	1	3	0
Eritrea	1	0	1	0	0	0
Gambia	35	4	0	0	0	0
Ghana	9	2	1	0	0	0
Guinea	13	0	0	0	0	0
Liberia	2	1	0	0	0	0
Mali	15	2	0	0	1	0
Nigeria	103	4	0	0	0	2
Pakistan	64	1	2	0	0	0
RCA	1	0	0	0	0	0
Senegal	15	2	1	0	1	0
Sierra Leone	2	0	0	0	0	0
Togo	4	1	1	0	0	0
Total	315	17 (5.3%)	6 (1.9%)	1 (0.3%)	5 (1.58%)	2 (0.63%)

with TPHA positivity: all of them came from Africa (1 woman and 3 men from Ivory Coast; 1 man from Senegal and 1 man from Mali).

A chest X-ray was proposed to any patients, except pregnant women. Of the 312 patients, only 301 individuals underwent the procedure, that revealed normal findings in 262 (87%) cases. Eleven patients produced documents proving that they already did the screening before their arrival in our Province.

Among the 39 positive X-Ray, 4 showed signs of pneumonia (1,3%), 8 showed signs compatible with tuberculosis (2,7%), 29 showed signs compatible with other pathologies (9.6 %).

Of the 8 cases of X-Ray scans suggesting Tb, only a single TC scan confirmed the suspicion of tuberculosis. In the remaining population, during follow up, 2 other pulmonary tuberculosis cases have been diagnosed, both of them with a negative X-Ray scan at the screening.

## Discussion

We presented the results of the screening procedure conducted in our Unit, that was in line with our regional guidelines.

Various studies have been carried out in Italy over the prevalence of infectious diseases among migrants [6-8], but only few consider hepatitis, HIV, tuberculosis and syphilis at the same time [9, 10].

Our data are consistent with national data for subject's origin, as Nigeria, Pakistan and Gambia were the more represented countries. Contrarily, we had a higher percentage of female (12.97 % vs 9.69%), especially coming from Nigeria [11].

Due to the numerosity and the variability of the sample, no consideration can be formulated on different prevalence of infectious diseases based on the origin, especially that our study doesn't include economic migrants [12, 13], but the overall prevalence of hepatitis, syphilis and HIV was low.

Active tuberculosis was diagnosed in 3 subjects, although more complete data could have been provided by latent tuberculosis infection screening, that was not yet recommended in Emilia Romagna at the study time. In our region, even nowadays, active tuberculosis screening consists not only in a syndromic surveillance but even in a chest X-ray that proved to be helpful in diagnosing early and asymptomatic cases [14].

Even if migrants do not generally pose a health threat to the host population, some subgroups of migrants, as refugees, asylum seekers and irregular migrants, are particularly vulnerable to infectious diseases not only for higher prevalence in their countries of origin, but also for poor living conditions and deprivations experienced during the journey to reach the host country and in the host country itself [12, 15]. Expert consultations pointed out the importance of conducting migrant screening for communicable diseases according to their native land, since prevalence rates differ considerably by each country [16-21], but

a national and European health policy on this target population was not yet formulated in 2015 [15, 22]. Alongside this, the importance of verify how to deliver effective and cost-effective screening, vaccination, and health services to this group is becoming crucial in a resource-constrained system [12]. Asylum seekers, by the way, are a particular population that has special pathways of integration in the welcoming country either at a social either at a sanitary and legal level. Many studies were conducted to assess the compliance to screening program in this population all over Europe, finding a very high acceptability [12, 23-25]. Data on treatment adherence however are lacking, due to the extreme mobility of this population and the difficulty to rebuild their healthcare pathway beyond a local level [12, 23-25]. Our study unfortunately was not conceived to assess the cost effectiveness of the intervention. Nevertheless, considering some of the parameters of a cost-effective analysis, such as the coverage and the uptake, we can affirm that we reached a coverage of almost 100% as any asylum seekers allocated to our Province had to be visited by our equip within 48-72 hours from the arrival thanks to the notification of the Local Office of Interior Minister of Piacenza. The uptake, defined as the percentage of persons who agreed to be screened after being offered screening [12], was also very high, thanks to the presence of cultural mediators and the completion of all the screening procedures in a single day. Concerning treatment compliance, we personally provided only syphilis therapy, that was completed by all patients, but our sample is low. Since we addressed people to other Units for tuberculosis, viral hepatitis and HIV cure, we have no data on their treatment compliance.

In general, however, we can affirm that our intervention was cost effective for coverage and uptake, mainly thanks to the close interaction among the stakeholders (Local Office of Interior Minister, Health system, hosting community), and contributed to diagnose diseases at early stage with damage limitation at personal and health care system level.

Alongside this, we believe it's important to stress that an infectious diseases screening should not be averted from a parallel screening to psychological needs as migrants arriving on Italian coasts experience mental and psychosocial diseases in a considerable number. As we noticed even in our Unit, depression and anxiety disorders, indeed, are related to traumas, either physical, mental or sexual, roused from violence that these people experience in their country of origin and throughout their journey [26-28].

We believe that this study enlightens the utility of a screening procedure in newly arrived asylum seekers. This is not only an overall public health strategy, but it's even the first chance for this population to access to the National Health Service and have accurate and faster specific treatment when and where needed.



## Key points

- No systematic association between migration and communicable diseases.
- Migrant screening procedures for communicable diseases accordingly to their country of origin.
- Screening procedures as a part of a public health strategy
- screening procedures offer the opportunity to access to previously undiagnosed diseases.

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## Conflict of interest statement

The authors declare no conflict of interest.

## Authors' contributions

Conceptualization; AD, TF, CG; methodology: AD and CG; formal statistical and epidemiological analysis: AD and CG; investigation: AD, LG; data curation: AD, LG; writing - original draft preparation: AD and TF; writing - review and editing: AD and CG; supervision: AD.

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