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Health status of homeless persons: a pilot study in the Padua municipal dorm

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Abstract

Objectives. *Homeless persons can be considered a vulnerable group and several studies showed in this group an higher prevalence of chronic and infectious diseases, a lower mental health status, and a higher abuse of alcohol. The aim of our study was to investigate the health status of homeless in Padua, Italy, administering a questionnaire composed by SF-36 and EQ-5D.*
Design. *We conducted a cross-sectional study from 15 December 2015 to 15 February 2016.*
Setting and participants. *We enrolled in our study 73 homeless persons welcomed in the municipal dorm of Padua. 5 persons refused to participate in the study; 9 had a mental status incompatible with the participation to the study.*
Main outcome measures. *We administered to the participants a questionnaire composed by three parts: in the first part we asked sociodemographic information (gender, age, nationality, qualification, height and weight) to calculate BMI, time spent at the dorm, period of homelessness, alcohol intake, smoking habit, availability of a general practitioner, emergency room visits in the last year, admissions in the last year, pre-existing conditions and in act, participation in screening programs. The second part was represented by the Short Form 36 questionnaire. The third part by the EQ-5D questionnaire.*
Results. *Our sample was composed by 79% men and 21% women. 54.7% were Italian. The mean age was 48 years. 72.8% were smoker and 60,3% drunk alcohol. In this latter group 28.8% drunk more than 1 liter of wine per day. Non Italian homeless smoke less than the Italian: this difference is statistically significant (OR = 3.7 p = 0.032). Only 9 foreigners had a general practitioner compared to 30 Italian homeless: this difference is statistically significant (OR = 60 P < 0.01).*
43 of the 59 respondents (72.8 %) said to suffer from some disease. No one reported a history of tuberculosis. The most represented diseases were pneumonia (30%), myocardial infarction (17%), hepatitis C (13.5%). Participation in screening programs was very low.
From the analysis of the SF-36 results, homeless persons obtained lower scores than Italian population. In our study, 40 persons reported a level 2 or 3 in the EQ-5D dimension called "anxiety/ depression". In the EQ visual-analogue scale, the homeless population showed a lower perception of its health status.
Conclusions. *Compared to the general population, the homeless reported a worse mental health, and this showed that they represent a particularly vulnerable group. Moreover they had a higher percentage of incorrect habits for their health (alcoholism and tobacco addiction), they suffered from chronic conditions, and tended to have a higher frequency of accesses to the emergency rooms. It would be better to improve the state of health of the homeless, through initiatives that could reduce the causes of homelessness, and that could prevent the onset of diseases in this group.*

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Introduction

The homeless condition is an important social problem with strong implications on the health of individuals and populations. In fact, they represent a group particularly at risk of developing very serious medical conditions. So it is necessary to take decisive action to assess their state of health in order to implement effective strategies to protect them (1).

As other studies demonstrated, this group tends to report a worse mental health than the general population (2), tends to abuse of drugs (3), has a higher prevalence of chronic diseases (4) and infectious diseases such as tuberculosis, hepatitis C and HIV (5, 6).

Various studies in the literature analyzed the health status of homeless population. However a lot of studies are not comparative and are published in languages different from English (7-9), making it difficult to start comparative discussions. Moreover, most of these studies focus almost exclusively on mental health (10).

Some authors in Germany showed that 90% of the homeless suffer from conditions that require medical care (11), especially hypertension, outcomes of suffered violence, COPD, skin diseases and acute infections, hepatic, renal, and gastrointestinal diseases. Another study showed that over 85% of the homeless need medical treatment and 40% suffer from at least 3 or more chronic conditions (12). Because of the scarcity of researches on this topic in Italy, we decided to carry out this pilot study, in order to investigate the health of the Padua homeless, welcomed in the municipal dormitory, so that we could identify their health needs and any critical issues in the assistance process, with the aim to start actions to improve their conditions.

Materials and methods

We conducted a cross-sectional study, from 15 December 2015 to 15 February 2016, administering a questionnaire to the homeless guests of the Padua Municipal Dormitory, after they have signed an informed consent. Our representative assisted foreign guests or guests with reading problems that made the self compilation difficult. The sample was composed by people who agreed to stay in a dormitory for a period of time and had all the necessary documents, because the dorm did not accept people without documents and residence. So our sample could not be representative of the population of homeless people living in the street because did not include people without a residence permit.

The questionnaire was organized in three parts: the first part was general, the second part consisted of the Short Form 36 (SF-36) questionnaire and the third part consisted of the EQ-5D questionnaire.

In the first part, socio-demographic data were collected: sex, age, nationality, education, height and weight to calculate Body Mass Index (BMI), period of stay in the dormitory, period of homelessness, alcohol intake, smoking status, availability of a general practitioner, emergency room admissions in the last year, admissions to hospital in the last year, pre-existing and actual health conditions, participation in screening programs.

The SF-36 is a validated questionnaire, which detects the health-related quality of life. It was developed in the ‘80s in the United States as a generic multi-dimensional questionnaire, with 36 questions that create 8 different scales: PA (physical activity), PR (role limitations due to physical conditions), ER (limitations due to emotional state), BP (physical pain), GH (perception of general health), VT (vitality), SA (social activities), MH (mental health). In Italy, the questionnaire was translated and adapted in the ‘90s as part of the International Quality of Life Assessment Project (IQOLA) (13, 14).

The EQ-5D (EuroQoL), is a standardized tool that measures the state of health of the respondents and their quality of life. It consists of two distinct sections: the first one which has five items about the status of health of the interviewee; each item gives the possibility to choose a level of severity (1, 2 or 3). The three levels of the five items can produce a maximum of 243 possible descriptions of the health status and evidence the absence or presence of potential problems and their intensity (moderate or severe): in fact, each of the 5 dimensions of the EQ-5D descriptive system is divided into 3 levels of perceived problems (Level 1: indicating no problem, Level 2: indicating some problems, Level 3: indicating extreme problems) and a unique health status is defined by combining 1 level from each of the 5 dimensions. This process leads to a 5 digits code (for example, 11111 indicates no problems in all 5 dimensions, while 11223 indicates no problems with mobility and self care, some problems with performing usual activities, moderate pain or discomfort and extreme anxiety or depression). The second section includes a visual-analogue scale graphically represented as a thermometer graduated from 0 (worst health status) to 100 (best health status), on which the respondent indicates the perceived level of health (15).

The collected data were reported on an Excel database. A descriptive analysis was then performed. The Mann-Whitney test was used to evaluate the association between the scores obtained by the SF-36 questionnaire and some demographic characteristics. For the analysis the software Stata 12 (StataCorp, College Station, Texas, USA) was used.

Results

The questionnaire was proposed to 73 guests welcomed in Padua dorm: 5 refused to participate in the study, 9 were in a mental condition that made it impossible for them to answer the questionnaire, even with the help of an operator. Table 1 summarizes the socio-demographic characteristics of our sample (Table 1).

Foreigners smoke less than the Italians; this difference is statistically significant (OR = 3.7 p = 0.032). Only 9 foreigners, compared to 30 Italians, had a general practitioner: this difference is statistically significant (OR = 60 $p<0.01$).

43 of the 59 respondents (72.8%) wrote that they suffer from some disease, while 15 (25.4%) were not suffering from any disease, one person did not respond. No one reported to suffer or to have suffered from tuberculosis. 30% said they suffer from one chronic condition and 20% from two.

Table 2 summarizes the data for their present and remote pathological history (Table 2).

In the category *Other*, the most represented diseases were: HIV infection (8.5%), psychiatric problems (15%), rheumatic diseases (8.50%).

As for the participation in screening offered by the National Health Service (for breast, colorectal, cervix cancers), this was very low: only 10 subjects (17%) performed a screening test, 2 have not responded. 7 performed a screening for colorectal cancer, two women executed a mammogram and one a pap test in their lives.

Table 3 summarizes averages and medians obtained from SF-36 questionnaire (Table 3).

There is a statistically significant difference (p = 0.03) in the scores of "General Health" domain between Italians and foreigners. (Table 4).

In Table 4 the data obtained from the EQ-5D, grouped by age, are reported

The results obtained by EQ-VAS, grouped by age, are reported in Table 5.

Table 1 - Socio-demographic characteristics of the sample

Sex	Men 79% Women 21%
Nationality	Italian 54.7% Moroccan 13,6% Romanian 9.5% Other 22.2%
Age	Overall mean 48 years, SD 11.5 Mean, men 49.6 years SD 11.2 Mean, women 42 years SD 11.6
Education Level	Primary school 39% Junior high school 39% Senior high school 17% College, University 3%
Period of homelessness	>5 years 61% Between 1 and 5 years 28.8% <1 year 10.1%
Period of stay in the dormitory	>2 years 37% Between 6 months and 2 years 48% <6 months 15%
BMI	Mean BMI 25.1 Overweight 46.4% Normal weight 48.2% Obese 5.3% 3 did not answer
Smoking status	Smokers 72.8% Non smokers 27.2%
Alcohol intake	Drinkers 60.3% 28.8% heavy drinkers (> 1 L wine per day)
Availability of a General Practitioner	Yes 67% No 32% 1 did not answer
Emergency room admissions in the last year	Between 2 and 5 times 50.7% Once 33.9% Never 15.2%
Admissions to hospital (in the last year) 62% were admitted:	Once 25% 2 times 50% 3 times or more 25% Average length of stay 7.8 days (SD 6.4)

Discussion and Conclusions

We interviewed 59 homeless people: 79% of them were men and 21% women. Many of our results are in line with those found by Sarajlija et al (16), who investigated the health status of 104 homeless persons in Belgrade. The percentage of males was three times greater than females (74% men and 26% women): our results are in line with this study. In our study 72.8% of respondents said to be smokers; 73% in the study conducted in Belgrade. As for the consumption of alcohol: 35 respondents (60.3%) reported to drink alcohol, of these 17 (28.8%) said to drink from one to three liters of beer/wine a day;

Table 2 – Medical history of the sample

Pathological history	N	%	N	%
	Remote		Actual	
TBC	0	-	0	-
Pneumonia	17	30.00%	0	-
Scabies	2	3.50%	0	0
Diabetes	5	8.50%	5	8.50%
Hypertension	15	8.50%	11	18.50%
Carcinoma	6	10.00%	0	-
Heart Attack	10	17.00%	0	-
Stroke	3	5.00%	0	-
Hepatitis C	8	13.50%	8	13.50%
Syphilis	0	-	0	-
Other	37	62.00%	14	24.00%

Table 3 – SF-36 scores

Domain	Median	Mean	Italians	Foreigners	Reference population (mean)
Physical activity	80	77.1 SD 21.9	80	85	84.46
Physical role	75	58.8 SD 38.4	50	75	78.21
Physical pain	72	63.4 SD 28.6	52	74	73.67
General Health	40	40.7 SD 24.0	**32.5**	50	65.22
Vitality	40	39.6 SD 21.9	40	45	61.89
Social activities	50	55 SD 26.5	50	62.5	77.43
Emotional role	66.6	49.7 SD 39.3	66.6	33.3	76.16
Mental health	44	45 SD 18.9	50	44	65.59

in the study conducted by Sarajlija et al. (16) the percentage of heavy drinkers (> 1 liter per day) was 30%.

The problem of alcoholism among the homeless is not new in the literature (17). Rehabilitation programs demonstrated to have a moderate effectiveness, however a lot of subjects decided not to complete the treatment or are unable to comply with abstinence from drugs and alcohol (18-20).

In the study conducted in Belgrade, the surveyed population declared to suffer mostly from cardiovascular and pulmonary diseases: in our study cardiovascular disease (heart attack 17%, hypertension 8.5%) are quite represented, and the 30%

Table 4 – EQ - 5D results: number of subjects in each age group, for each level and dimension

EQ-5D DIMENSIONS	Level	25-34 years old	35-44 years old	45-54 years old	55-64 years old	>65 years old	TOTAL
Mobility							
I have no problems in walking	1	8	10	9	12	1	40
I have some problems in walking	2	-	2	6	9	2	19
I am confined to bed	3	-	-	-	-	-	-
Self care							
i have no problems washing or dressing myself	1	7	10	11	15	2	45
I have moderate problems washing or dressing myself	2	1	2	4	6	1	14
I am unable to wash or dress myself	3	-	-	-	-	-	-
Usual activities							
i have no problems doing my usual activities	1	8	10	10	11	2	41
I have some problems doing my usual activities	2	-	2	5	10	1	18
I am unable to do my usual activities	3	-	-	-	-	-	-
Pain/discomfort							
i have no pain or discomfort	1	6	9	9	5	1	30
I have moderate pain or discomfort	2	2	3	5	25	2	27
I have extreme pain or discomfort	3	-	-	-	-	-	-
Anxiety/depression							
i am not anxious or depressed	1	5	4	5	4	1	19
I am moderately anxious or depressed	2	2	3	5	12	2	24
I am extremely anxious or depressed	3	1	5	5	5	0	16

Tale 5 – EQ VAS score by age group

EQ-VAS	25-34 years old	35-44 years old	45-54 years old	55-64 years old	>65 years old	Total
Mean	74.3	62	16.2	59	61.6	61
Standard deviation	13.4	20.8	55.6	14.2	12.5	
Median	80	62.5	50	60	60	60

of respondents said they had ever had a pneumonia. In our study, 30% suffer from one chronic condition and 20% from two. This datum is in line with the results of Sarajlija et al. which found that 37% of the surveyed population had a chronic disease, while 20% had two. In our study, hepatitis C, HIV-positivity, rheumatic diseases and diabetes are fairly represented. A systematic review of the literature has shown in the

homeless population a prevalence of infection with hepatitis C between 3.9% and 36.2%; and a prevalence of seropositivity for HIV ranging between 0.3% and 21.1% (5). In the same study tuberculosis had a prevalence of 0.2% - 7.7%. On the contrary in our study no one declared a history of TB. In our study 8.5% of respondents declared to suffer from diabetes, compared to 4% detected by the study of Seena et al. (21).

As for the availability of a General Practitioner: 39 people had a GP (67%). The gap between Italians and foreigners is very large. Although all foreign respondents have residence permits and therefore the right to have one, only 9 foreigners declared to have the family doctor (33% of the foreign population). The total percentage of people who have a GP is higher than that reported by the study of Khandor et al. (22), who showed that 43% of homeless people had not the GP. The study analyzed a population of homeless in Toronto and demonstrated that the availability or not of a health insurance, the possession or not of a health card and the presence or absence of a chronic disease are the most important factors that led the homeless to have or not to have a GP.

From the analysis of the SF-36 results, the scores obtained in each scale are drastically lower if compared to the reference Italian population (13, 14). This result is in line with the findings of Hwang et al. (23), who showed very low scores, in physical and mental health scales.

In our study, almost 40 people reported a level 2 or 3 in the "anxiety depression" dimension of EQ-5D. A research conducted in Austria in 2014 (24), which confronted the health status of a population of 66 homeless and that of a population of people staying in a house, showed that 23% of respondents claimed to be very depressed or mildly depressed, while 54% did not believe to be depressed. Our sample has greater problems in the psychic sphere.

The EQ-VAS scores obtained from the EQ visual-analogue scale are quite worse if compared to the Italian population scores (mean 84.8; 13.8 sd) (25). Therefore, homeless population has a lower perception of her health status.

This pilot study tried to analyze the health of the homeless population, using a limited context like that of Padua. Compared to the general population, and as other studies showed, homeless reported more problems of mental health. And this phenomenon shows that homeless people are a vulnerable group. Despite the limitations of our study, caused mainly by the small number of participants, we can affirm that the homeless tend to have incorrect habits for their health (alcoholism and tobacco addiction) and a higher prevalence of chronic conditions, higher frequency of accesses to the emergency room, used as a preferential access to the National Health Service. The homeless' problem is also a community problem and must be squared off with appropriate preventive actions: on the one hand activities that can reduce the causes that forces some people to end up on the street must be developed, on the other hand initiatives with the aim to prevent the onset of diseases in homeless people must be strengthened, especially for those who already suffer from more or less serious diseases.

Riassunto

Lo stato di salute delle persone senza dimora: il caso del dormitorio di Padova

Obiettivi. Le persone senza fissa dimora possono essere considerate un gruppo vulnerabile e diversi studi hanno dimostrato in questo gruppo una maggiore prevalenza di malattie croniche e infettive, uno stato di salute mentale peggiore, ed una maggiore tendenza all'abuso di alcol. Lo scopo del nostro studio è stato quello di indagare lo stato di salute dei senza dimora a Padova, Italia, somministrando un questionario composto da SF - 36 e EQ- 5D.

Disegno. Abbiamo condotto uno studio trasversale dal 15 dicembre 2015 al 15 febbraio 2016.

Soggetti in studio. Sono stati arruolati nel nostro studio 73 persone senzatetto accolte nel dormitorio comunale di Padova. 5 persone hanno rifiutato di partecipare allo studio; 9 si trovavano in un stato psichico incompatibile con la partecipazione allo studio.

Principali misure di out come. Abbiamo somministrato ai partecipanti un questionario composto da tre parti: nella prima parte abbiamo chiesto informazioni socio-demografiche (sesso, età, nazionalità, titolo di studio, altezza e peso per calcolare BMI, tempo trascorso al dormitorio, periodo da senzatetto, assunzione di alcol, abitudine tabagica, disponibilità di un medico di medicina generale, accessi al pronto soccorso nel corso dell'ultimo anno, ricoveri nel corso dell'ultimo anno, condizioni generali di salute pre-esistenti e in atto, partecipazione a programmi di screening). La seconda parte era costituita dal questionario Short Form 36. La terza parte dal questionario EQ- 5D.

Risultati. Il nostro campione era composto da 79% uomini e 21% donne. Il 54,7% erano italiani. L'età media era di 48 anni. 72,8% erano fumatori e 60,3% bevevano alcol. In quest'ultimo gruppo il 28,8% beveva più di 1 litro di vino al giorno. I senza tetto stranieri fumavano meno degli italiani: questa differenza è statisticamente significativa (OR = 3,7 p = 0,032). Solo 9 stranieri avevano un medico di medicina generale rispetto ai 30 senzatetto italiani: questa differenza è statisticamente significativa (OR = 60 P <0,01).

43 dei 59 intervistati (72,8%) ha dichiarato di soffrire di qualche malattia. Nessuno ha riportato una storia di tubercolosi. Le malattie più rappresentate sono state polmonite (30%), infarto miocardico (17%), epatite C (13,5%). La partecipazione ai programmi di screening è stata molto bassa.

Dall'analisi dei risultati dell'SF-36, le persone senza fissa dimora hanno ottenuto punteggi più bassi rispetto alla popolazione italiana di riferimento. Nel nostro studio, 40 persone hanno riportato un livello 2 o 3 nella dimensione EQ-5D chiamata "ansia / depressione". Nella scala visuo-analogica dell'EQ, la popolazione senza fissa dimora ha mostrato una percezione peggiore del proprio stato di salute.

Conclusione. Rispetto alla popolazione generale, i senza fissa dimora hanno riportato una salute mentale peggiore, e questo ha dimostrato che essi rappresentano un gruppo particolarmente vulnerabile . Inoltre avevano una più alta percentuale di abitudini scorrette per la loro salute (alcolismo e tabagismo), soffrivano di malattie croniche, e tendevano ad avere una maggiore frequenza di accessi ai pronto soccorso. Sarebbe quindi opportuno migliorare lo stato di salute dei senzatetto, attraverso iniziative che consentano di ridurre le cause di questo fenomeno, e che possano prevenire l'insorgenza di malattie in questo gruppo.

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