FINAL DEGREE PROJECT

The use of COOP/WONCA charts as a screen for mental disorders in the immigrant community in primary care

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1. ABSTRACT

Aim. To evaluate the usefulness of COOP/WONCA charts as a screening tool for mental disorders in primary care in the immigrant healthcare users in Salt. To measure self-rated health of Salt immigration population using the COOP / WONCA charts and to assess its associated factors.

Design. Descriptive and transversal study.

Participants. 370 non-EU immigrants seniors selected by consecutive sampling stratified by sex.

Main measures. Personal information will be collected (age, sex, country of origin, years of residency in Spain, number of people living in the household and associated comorbidities). Each participant will complete the COOP/WONCA charts. An analysis of the validity of the diagnostic test will be done: sensibility, specificity, positive predictive value, negative predictive value, ROC curve and area under the curve (AUC). All variables will be subjected to descriptive analysis. Bivariate and multivariate analysis between the variables collected (sex, years of residency in Spain...) and the results of COOP / WONCA charts will be performed.

Results. Preliminary results are available on a pilot test with 30 patients. The mental disorder prevalence is around 30%. Sensibility (0,89), specificity (0,89), VPP (0,80), VPN (0,94) cutoff score (3.5) and AUC (0,941). Women, people with 10 or more years of residency in Spain and unemployed people have worse self-rated health.

Conclusions. Based on the preliminary results, is possible to conclude that COOP/WONCA charts could be an useful, valid and applicable screening test for mental disorders in primary care with immigrant population.

2. INTRODUCTION

For many years, humans have moved for various reasons such as economic, ideological, warlike, labor, social, etc. All this implies the person leaving his country, must abandon his life, his family, his job, his language... When an emigrant arrives in a new country, he becomes a newcomer and therefore he has to adapt to a new culture and lifestyle.

According to "*Encuesta Nacional de Inmigrantes*" done by "*Instituto Nacional de Estadística (INE)*" in 2007, the inmigrant population is predominantly young (72,3% are younger than 45 years), with high educational level (20,5% were qualified professionals and 50% went to the high school) with a similar propotion between men and women (52% and 48% respectively). Thus, people who migrate tend to be healthy and young ("healthy inmigrant theory"[1]). However, there is a worsening in health after 10 years of residence[2-4] . This health deterioration is related with the loss of social status, material deprivation, economic insecurity, discrimination and the break of social support[5].

The need for rapid adaptation, the pain for being apart from friends and family and the fear to a new, strange and hostile environment can trigger a great deal of stress. This stress is similar to mourning, as a process that comes after a person loses something or somebody who was specially important or relevant to him[6]. The migration mourning is an integration of seven different mournings: the mourning for family and friends, the language, the culture, the country, the social status, the contact with their ethnic group (national group) and the physical risks linked to migration[7]. This mourning can complicate and become chronic. The Ulisses Syndrome (Syndrome

of the inmigrant with chronic stress) lasts for long periods of time, and involves different basic areas specially the mourning for the family, for social status and for physical risks of migration. The patient, not able to control this syndrome, often deals with this for a long time with little external support.

The symptomatology consists of depressive manifestations (crying, sadness), anxiety symptoms (excessive worries, insomnia...), somatoform clinical features (headache, fatigue, musculoskeletal discomfort) and dissociative symptoms (spatial and temporal confusion, depersonalization, derealization)[8-10]. Knowing the immigrant culture, its values and its conception of health can be important for an effective treatment[11].

According to INE, in 2001 in Spain the registered population was 40,85 million of inhabitants, 1.572.013 of whom were foreigners (almost 4% of all the population). After a decade, the registered population in Spain reached the 46,8 million of people, 5.252.473 of them were foreigners (around 11,2% of all the population)[12]. Therefore, in ten years, the foreign population in Spain has almost triplicated.

The number of foreigners has raised during this decade (2001-2011) nearly in all the autonomous communities in Spain. In fact, there are autonomous communities such as Balearic Islands, Murcia Region, Valencia Community and Catalonia where the percentage of foreign people is greater than 15%[12]. The province Girona, in 2011 was second in the ranking of the highest percentage of foreign people in Spain (20,3%)[12]. According to *Institut d'Estadística de Catalunya* (IDESCAT), in 2011 *Castelló d'Empúries* (*Alt Empordà*), *Salt* (*Gironès*) and *Lloret de Mar* (*La Selva*) were among

the four catalan municipalities with more than 40% newcomer population[13]. In Salt, immigrant community in 2011 represented 42,5% of the society mainly from Morocco, The Gambia and Honduras[13].

Nevertheless, the migration is not *per se* a cause of mental disorders, but a risk factor when another vulnerabilities exist for the newcomer (any disease or disability), high levels of stressful factors (hostile environment) or both[8,9]. Everyone is vulnerable to develop a mental illness, mainly those who present more risk factors such as biological (genetical, hormonal,...), sociodemographic (sex, age, education, socioeconomic level, culture, religion,...) and psychosocial (personality, social and familiar support, life events,...)[14].

Around 20-25% of the daily consults in primary care are patients with a mental health disorders as a main or only reason for consulting[15-17]. In consonance with *Enquesta de Salut de Catalunya* in 2012 (ESCA 2012), the likelihood of having a mental disorder is 14,4% in women and 6,9% in men in a population of 15 years or more[18]. Several reports show that many people with mental disorder recieve treatment in primary care; hovewer, less than 50% of people with mental disorders are properly diagnosed and treated while in primary care[19-21,29]. Regarding the immigrant community, the rates of mental disorders undertreated and probably underdiagnosed are higher than autochthonous collective[22].

A valid and feasible screening tool for mental disorders in primary care are the COOP / WONCA charts[23,24]. This questionnaire was created by Damouth Primary Care Cooperative Research Network (COOP) and the World Organitzation of National Colleges, Academies, and Academic Associations of General Practitionets / Family Physicians (WONCA). With this charts the physical, emotional and social welfare can be evaluated. The charts consist of six single-item measures: physical fitness, feelings (mental well-being), daily activities, social activities, change in health and overall health. The charts are usually self-administered and subjects are asked to use the time scale of the past two weeks. The chosen categories are scored from one (good functional status) to five (poor functional status)[25].

According to some studies, people belonging to the most disadvantaged socioeconomical groups, women[18,26] and people who have lived in the new country for many years[2-4] have worse self-rated health than non disadvantaged socioeconomical groups, men and people who have lived in the new country for few years.

In September 2007, the journal *The Lancet* published a report alerting a progressive increase in mental disorders, turning them into the most prevalent non-contagious diseases worldwide; furthermore, it informed that mental health disorders increase the risk to develop other physical diseases such as cardiovascular disorders, infections, cancer, etc [27].

3. JUSTIFICATION

It has decided to conduct this study in the municipality of Salt because is one of towns with more immigration rate in Catalonia[13]. The immigrant community presents a superadded risk factor to developing mental disorder, which is having migrated and left their culture, environment, life, society, family, friends, customs, language, etc.[6-9]

The mental disorder is a very common reason for consultation in primary care[15-17]. Frequently the language, cultural and social barriers that exist among immigrants and healthcare workers prevent a good clinical interview and therefore a good diagnosis and / or treatment[19-22]. That is the reason why this research protocol has been designed, which pretends to evaluate the use of the COOP / WONCA charts as a tool for screening for mental disorder in immigrants, since they require few reading and comprehension skills by respondent being that the drawings are simple with symbols internationally recognized [24,31]. Thus, it is believed that using these charts, healthcare workers will be able to do a further research over the newcomers' mental health.

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5. HYPOTHESIS

It is believed that the COOP / WONCA charts are a useful tool for screening for mental illness and applicable to immigrant people in Salt. It's also believed that COOP/WONCA charts due to its graphical design are an instrument easy to understand for those people who do not speak or read the local language.

6. OBJECTIVES

The main aim is to evaluate the usefulness of the COOP / WONCA charts as a screening tool for mental disorders in primary care in the immigrant healthcare users in Salt.

The secondary aim is to measure the self-rated health in Salt newcomers using the COOP / WONCA charts and to evaluate its associated factors.

7. METHODS

7.1 Study design

Descriptive and transversal study with immigrant population in Salt.

7.2 Definition of the participants

The target population of the study are the non-EU immigrant adult user of healthcare services in Salt. An immigrant is a person born in another country, and due to various reasons (improvement in quality of life, job seeking, family regrouping, political or religious persecution...) he has had to move and adapt to a new community.

- Inclusion criteria: adults (18 years or more) of maghrebi origin, sub saharan, latin american, asian or non-communitarian european.
- Exclusion criteria: second generation immigrants.

7.3 Sample selection and sample size

Using the application "EPIDAT 4.0" which is a free program for the statistical and epidemiological data analysis, a sample of 370 people (n=370) has been selected based on:

- the sensibility (84%) and specificity (88%) of COOP/WONCA charts as a screening for mental disorders[23].
- Confidence interval of 95%
- Minimum accuracy level of 5%

The sampling method used will be consecutive, sequential and stratified by sex. This method consist on selecting patients who meet the inclusion criteria as they come to the consultation.

The interviewer will meet the first candidate that comes to the medical consultation and will invite him to join the study. Once this patient has completed, or not, the questionnaire, the interviewer will invite the next possible candidate to take part on it. The interviewer will ofer to join the study to anyone who meets the criteria for inclusion, trying to avoid as far as possible selection bias. Once the minimum number of one sex (n = 165) has reached, the sampling will continue until reaching the minimum number of the opposite sex (n = 165).

A pilot test has been conducted using a sample of 30 people selected by a consecutive and sequential sampling method. The pilot test will be performed in a general practicioner consultation with a contingent that inludes a high prevalence of immigration. The pilot test will allow researchers to study the feasibility of the project, estimate the resources and make some changes if necessary.

7.4 Variables

- Sex
- Age
- Country of origin
- Number of years of residency in Spain
- Number of people living in the household (he/she included)
- Comorbidities on last 4 months (gastrointestinal, osteomuscular, neurological, dermatological, respiratory, cardiovascular, genitourinary, etc.)

- Laboral situation (doesn't work, eventual without contract, eventual with contract, self-employed, permanent contract,...)
- Ability to do the test in an autonomous way (total, partial or null)
- The reason why it was decided not to participate in the study, if so.
- Values of COOP/WONCA charts obtained for each dimension (physical fitness, feelings, daily activities, social activities, change in health and overall health)
- Presence of mental disorders recorded in ECAP (electronic medical records known as "*estació clínica d'atenció primària*")

7.5 Measure instruments

The COOP / WONCA charts (Annex I) are a simple instrument, brief and easily understandable.

These charts provide the participants with a document showing the possible answers illustrated by drawings, which represent a low load to the interviewer and the interviewee, since they require short time to fill (less than 4 minutes)[30] and require few reading and comprehension skills by the interviewee being that the drawings are simple symbols internationally recognized[24,31]. Using illustrated questionnaires is a way to reduce language and cultural barriers existing between healthcare workers and newcomers[28].

Six dimensions related to perceived quality of life during the last 2 weeks will be evaluated: physical fitness, feelings, daily activities, social activities, change in health and overall health. Pain can be the seventh diagram but it is optional. The charts will be distributed in Spanish, English, French or Arabic (among others) depending on the choice of the participant.

Regarding the scoring system, each of the sections is classified with an ordinal rating scale from 1 ("unlimited") to 5 ("severely limited"). On the vignette "change of health" a score of 1 represents a "much better" while a 5 is "much worse." Each page represents a dimension of quality of life related to health (QLRH) and according to the original authors, the ratings should not be added to reflect an overall functioning score.

Several studies show that the COOP / WONCA charts have acceptable levels of reliability, validity and test-retest reliability at 2 weeks[24-26]. One of the main drawbacks is the ceiling effect, where the results of the frames are slightly biased to the extent that denotes a good QLRH, especially regarding feelings, daily activities and social activities[24].

The COOP / WONCA charts are an instrument for measuring HRQL potentially useful in primary care. They can determine who could benefit from further exhaustive evaluation, since they provide a fast, reliable and valid way to screen mental disorders. [24]. Some healthcare workers that have used the COOP/WONCA charts suggest that they generate significant new information in one of every four patients[32].

7.6 Data collection

The administration and completion of the survey will be carried out in primary care CAP - SALT 1. Before collecting the information, the cultural mediators must attend a formation course about passing the COOP / WONCA charts in the study population.

Information related to study variables will be gathered: date of birth, sex, years of residency in Spain, laboral situation, number of people living in the household and health problems in the last 4 months. Information related to the self-rated health will also be collected using the questionnaire COOP / WONCA, which is in Spanish, French, English and Arabic among others.

It has created a data collection logbook specific for the study (annex II). Furthermore, the interviewer will collect information about the participants' ability to perform the questionnaire in an autonomous way (total, partial or null) and the reasons why some of them have decided not to participate in the study (lack of time, haven't completed the questionnaire,etc). The time will be approximately 20 minutes. In theory it can be completed with less than 5 minutes, since normally each page takes 30-45 seconds, regardless of the chosen method of administration[30], but the study and the informed consent should have to be explained, thus this will increase the time to 20 minutes.

To avoid the interviewer bias is preferable to self-administer the charts[30]. Participants should be encouraged to read the questions carefully and choose the alternative that they consider as correct. If necessary, the questions can be read aloud by the professional or be clarified, but being careful to not suggesting a specific answer. Hence, interviewers will require training in order to reduce this bias (the interviewer has to influence the minimum possible in the participant's decision) as well as reduce the inter-interviewers bias (all interviewers have to act on the same way).

8. STATISTICAL ANALYSIS

A receiver operating characteristic (ROC) curve will be generated and calculated its sensitivity, specificity and positive and negative predictive values. An area under the curve (AUC) of 1.0 is considered to indicate perfect accuracy, and an AUC less than 0.5 indicates bad accuracy[34]. All the analyses will be calculated with a confidence interval of 95%.

A crosstab will be done with ECAP data (ECAP is going to be considered as the gold standard test) and those obtained from “feelings” in COOP/WONCA charts. To carry out this table, the variable "feelings" should have only two possible answers (dichotomous variable) but it has five. To be able to transform this variable into dichotomous, ROC curve will be used in order to find the cutoff that offers more sensitivity and less false positives. Two variables of "feelings" will be obtained: profile of mental illness and no profile of mental illness. Once the crosstab is done, it will be possible to calculate the sensitivity, specificity, positive and negative predictive value.

The validity of the diagnostic test will also be evaluated with the set of three variables “feelings, social activities and daily activities” (from COOP/WONCA charts) due to some studies have shown more diagnostic power with this set than all these entities separately[23].

All studied variables will be subjected to descriptive analysis. Bivariate analysis between the variables collected (sex, years of residency in Spain...) and the results in averages of COOP / WONCA charts using Student test for quantitative variables and chi-square for qualitative ones for the purpose of determining the empirical relationship between them. A multivariate logistic regression analysis is going to be done between the recorded variables (independent variables) and the register of mental illness as the dependent variable.

9. PRELIMINAR RESULTS BASED ON PILOT TEST

A pilot test has done with a sample of 30 people. The demographic and clinical characteristics of our patient sample are presented in table 1, annex III. The findings are the result of a preliminary study and are not definitive or representative. Overall, 30% of patients had at least one mental disorder (23.3% anxiety and 6.7% depression).

Using SPSS, a crosstab has been made (table 3, annex III) and the sensitivity (0.89), the specificity (0.89), the positive predictive value (0.80), the negative predictive value (0.94) and the AUC (0.941) have been calculated. The cutoff score found (done by ROC curve) is 3.50, but the answers are not continuous, but discrete variables, so the cutoff score is 3, like the Brazilian study in 2011 presented in Annals of Family Medicine[23].

10. DISCUSSION BASED ON PILOT TEST

A literature review in 2009 about prevalence of mental illness in immigrant community in Spain concluded that the number of studies carried out in Spain was very scarce (n=5) [33]. One of them is a study done in the Raval district of Barcelona[22] which obtains figures of prevalence in immigrant population around 15.2% for depression, 17.9% for anxiety disorders and 10.7% for somatization disorder.

There is no an ideal Gold standard in mental health because an irrebuttable diagnostic test doesn't exist. Thus, assuming committed limitations, the mental disorders registered in ECAP will be considered as a Gold Standard test feasible to conduct the study.

Based on the results of the pilot test (preliminar findings, not representative) it could be concluded that the COOP / WONCA charts could be a valid screening tool (high sensibility and specificity) for mental disorders in immigrant population. The AUCs for COOP/WONCA charts measures indicates that have good discrimination (AUC = 0.941) for depression and anxiety disorder (table 2, annex III). They are feasible, and an applicable screening method to the study population. However 60% of respondents could require help to comprehend the questionnaire.

As a result of the pilot test, is possible to conclude that women in general have worse self-rated health than men (table 7, annex III) and those with 10 or more years of residency in Spain have worse perception that those who has lived there less than 10, except for the section of social activities that happen in reverse (table 8, annex III). Is also possible to contemplate that people who are employed has better self-rated health than those who are not, except in the area of physical fitness which is invested (table 9, annex III).

11. ETHICAL ASPECTS

Before carrying out the study, the research protocol will be presented at the *Institut d'Investigació i recerca en Atenció Primària (IDIAP) Jordi Gol,* the ethical committee of clinic research in primary care in Catalonia.

Will be necessary to provide informed consent to the participants and a copy of it before giving them the questionnaire (annex IV).

12. LIMITATIONS

There is a possible information bias because some people can not self-administer the questionnaire due to illiteracy or language problems.

Despite the consecutive and sequential sample selection is the non-probabilistic sampling that represents more the entire study population, there is still a selection bias.

Once having conducted the pilot test, it has observed that although the questionnaires submitted illustrations are easy to interpret, a high percentage (60%) of participants required assistance. This limitation could be minimized if the data collection and field work was done by cultural mediatorse

13. WORK PLAN

Coordination phase (1 month). Researchers

There will be an organizational meeting of the researcher group at the beginning. The timetable will be scheduled and the criteria for gathering information in the database will be pooled. There will be training course to cultural mediators for a correct passing of questionnaires, and a training course for researchers about analysis of health data with R (free software environment for statistical computing and graphics). Coordination and general meetings will be done monthly.

Field research. Exploration of participants (7 weeks). Cultural mediators. Participants will be cited progressively. The data collection will start. 8 interviews are calculated daily for 20 minutes (plus 10 minutes for data entry in the database). It is necessary to include 16 patients per day (8 per professional) in order to recruit the 370 participants in 5 weeks. Periodically, the researchers will review the data quality. Actions:

A. Beggining: sampling will be stratified by gender and selected by consecutive and sequential method. The interviewer will meet the first candidate that comes to the medical consultation and will invite him to join the study. Once this patient has completed, or not, the questionnaire, the interviewer will invite the next possible candidate to take part on it.

B. Information: The aims of the study, the voluntary nature of participation and the informed consent will be explained.

C. Interview: The questionnaire and the way to respond it will be explained. The COOP/WONCA charts will be given to the patient who will fill them. If precise explanations are needed, the cultural mediator staff will clarify them.

Data analysis. 6 weeks. Statistical staff (*Sistema d'Informació pel Desenvolupament de la Investigació a l'Atenció Primària*, SIDIAP). Once the recruitment of pacients has completed, the database will be analyzed. The validity of the diagnostic test will be evaluated by studying the sensitivity, specificity, positive and negative predictive values, ROC and AUC. All variables will be subjected to descriptive analysis. Bivariate and multivariate analysis between the variables collected (sex, years of residency in Spain ...) and the results of COOP / WONCA charts will be performed.

Analysis and publication of results. Researchers. The results and its corresponding articles will be written. The layout of schedule is provided in annex V.

14. PLANNING

14.1 Dissemination plan

If the results of the study concluded that the COOP / WONCA charts are a good screening tool for mental disorders in immigrants, they would be spread to healthcare workers in order to include this measure in clinical practice. The dissemination plan would include the attendance at the *XVI World Congress of Psychiatry "Focusing on access, quality and Humane Care"*, the request for communicating in the recognized journal *Primary Care*, the participation in training sessions (clinical sessions in primary care and sessions to medical and nursing students) and the poster design for congresses, among others.

14.2 Furher research

Further studies about applicability in our environment should be done to assess the ability to transfer it into the clinical practice. A future line of research would be to study which measures should be taken facing a positive screening of mental disorder.

15. MEANS AVAILABLE TO DEVELOP THE PROJECT

The project will be carried out at Primary Care Center Salt 1 (CAP Salt 1) which provides medical consultations to interview the participants. This will allow the use of basic materials such as office furniture and appropiate computers with access to ECAP, R and EPIDAT 4.0.

16. BUDGET

The research team will carry out all the tasks of coordination, interpretation and dissemination of results and writing articles.

To guarantee a successful development of the study, cultural mediator staff should participate in a training course about passing the questionnaires (€ 75 per person).

The project could not be done without hiring cultural mediators to perform the tasks of information gathering. 370 patients must be interviewed. The interviewer will be paid €10 for each performed questionnaire. Cultural mediators will also translate materials into different languages (€ 200).

The statistics support and assess (done by SIDIAP) will be hired to execute statistical analysis of the obtained results. The estimated budget for statistical support and assess is € 400.

Coordination meetings should have to realize once a month (2 hours per 7 meetings in total, € 550, which only covers cultural mediators).

Impressions of the questionnaires and informed consent shall be borne by project. The printing budget is € 150.

Attending at the congress *XVI World Congress of Psychiatry "Focusing on access, quality and Humane Care"* in September 2014 in Madrid is budgeted with € 1000, which includes registration, accommodation and subsistence.

Budget requested	
	Euros
1. Personal	
a) Hiring of cultural mediators	3700
b) Training courses (questionnaires)	150
c) Statistical support and asses (SIDIAP)	550
d) Coordinating meetings	550
2. Material and services	
a) Printing of questionnaires and informed consent	150
b) Translation of materials	200
3. Travels and subsistence	
a) Attendance to congresses	1000
TOTAL	**6.300,00 €**

17. ANNEXES

Annex I. COOP/WONCA charts

Forma física

Durante las 2 últimas semanas…
¿cuál ha sido la máxima actividad física
que pudo realizar durante, al menos, 2 minutos?

Muy intensa (por ejemplo, correr de prisa)		1
Intensa (por ejemplo, correr con suavidad)		2
Moderada (por ejemplo caminar a paso rápido)		3
Ligera (por ejemplo, caminar despacio)		4
Muy ligera (por ejemplo, caminar lentamente o no poder caminar)		5

Dartmouth Coop Functional Assesment Charts/WONCA
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Sentimientos

Durante las 2 últimas semanas…
¿en qué medida le han molestado problemas emocionales tales como sentimientos de ansiedad, depresión, irritabilidad o tristeza y desánimo?

Nada, en absoluto		1
Un poco		2
Moderadamente		3
Bastante		4
Intensamente		5

Actividades cotidianas

Durante las 2 últimas semanas…
¿cuánta dificultad ha tenido al realizar actividades o tareas habituales, tanto dentro como fuera de casa, a causa de su salud física o por problemas emocionales?

Ninguna dificultad		1
Un poco de dificultad		2
Dificultad moderada		3
Mucha dificultad		4
Toda, no he podido hacer nada		5

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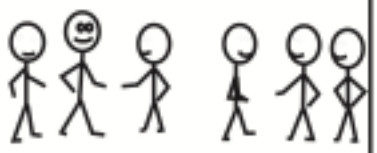
Actividades sociales

Durante las 2 últimas semanas…
¿su salud física y estado emocional han limitado sus actividades sociales con familia, amigos, vecinos o grupos?

No, nada, en absoluto		1
Ligeradamente		2
Moderadamente		3
Bastante		4
Muchísimo		5

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Cambio en el estado de salud

¿Cómo calificaría ahora su estado de salud, en comparación con el de hace 2 semanas?

Mucho mejor	↑↑ ++	1
Un poco mejor	↑ +	2
Igual, por el estilo	↔ =	3
Un poco peor	↓ –	4
Mucho peor	↓↓ – –	5

Estado de salud

Durante las 2 últimas semanas…
¿cómo calificaría su salud en general?

Excelente		1
Muy buena		2
Buena		3
Regular		4
Mala		5

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Annex II. Data collection logbook

Nº recording:_____

Date answering the questionnaire: ___/___/____
(dd)/(mm)/(yyyy)

1) Date of birth: ___ / ___ / ____
(dd)/(mm)/(yyyy)

2) Sex: Male / Female

3) Origin Country: Morocco / Senegal / The Gambia / Mali / Mauritania / Honduras Equador / Veneçuela / India / Pakistan / Others:_____

4) Number of years of residency in Spain 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 others: ___

5) Number of people living in the household (you included): 1 2 3 4 5 6 7 8 9 10 others: __

6) Laboral situation: doesn't work / eventual without contract / eventual with contract self-employed / permanent contract / others:_____

7) Comorbidities on last 4 months: Yes / No

Please, specify: gastrointestinal / osteomuscular / neurological / dermatological respiratory / cardiovascular / genitourinary / others:_____

Annex III. Statistical data

Table 1. Patient Characteristics (N = 30)

Characteristic	No. (%)	Average
Sex*		
Women	18 (60)	
Men	12 (40)	
Age, y*		45,03
18-19	0 (0)	
20-29	3 (10)	
30-39	8 (26.7)	
40-49	8 (26.7)	
50-59	8 (26.7)	
>59	3 (10)	
Years of residency, y		11,11
1-4	0 (0)	
5-9	8 (26.7)	
10-14	16 (53.3)	
15-19	2 (6.7)	
>19	1 (3.3)	
Country of origin		
Ecuador	3 (10)	
Gambia, The	2 (6.7)	
Ivory Coast	1 (3.3)	
Mali	3 (10)	
Mauritania	1 (3.3)	
Morocco	12 (40)	
Nigeria	1 (3.3)	
Russia	1 (3.3)	
Senegal	3 (10)	
Number of people living at home		4,33
1-2	3 (10)	
3-4	11 (36.7)	
5-6	10 (33.3)	
>6	3 (10)	
Labor situation		
Unemployed	18 (60)	
Employed	9 (30)	
Comorbidities		
Osteomuscular	11 (36.7)	
Others	8 (26.7)	

* there were 3 missing. It was collected only their sex and age.

Table 2. Coordinates of the ROC curve

Positive if equal to or greather than	Sensibility	1 - Specificity
,00	1,000	1,000
1,50	1,000	,667
2,50	,889	,278
3,50	,889	,111
4,50	,778	,000
6,00	,000	,000

AUC (Area Under Curve)
0,941

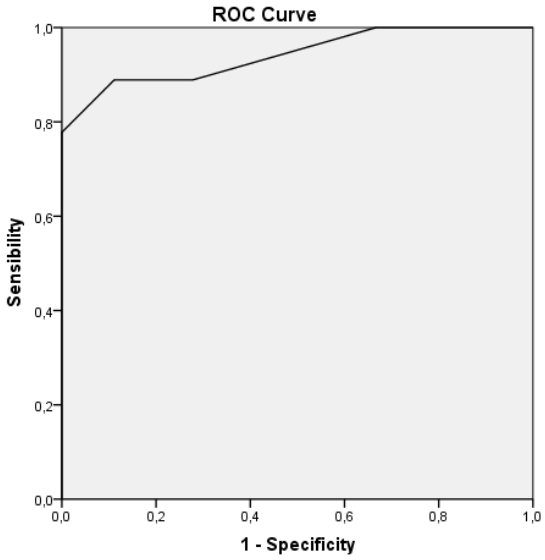

Table 3. Mental illness (ECAP)*Mental illness profile (COOP/WONCA charts, "feelings"), crosstab

		Mental illness registered in ECAP		Total
		Mental illness	No Mental illness	
Mental illness profile (evaluated with COOP/WONCA charts, *feeling*'s sheet)	Mental illness profile	8	2	10
	No mental illness profile	1	16	17
Total		9	18	27

Sensibility (8/9= 0.89), specificity (16/18= 0.89), VPP (8/10= 0.80), VPN (16/17= 0.94)

Table 4. Report. Average (Sex, years of residency, laboral situation)*Results with COOP/WONCA charts

	Physical Fitness	Feelings	Dialy Activities	Social Activities	Change in Health	Overall Health
Women	3,38	3	2,5	2,06	2,63	3,3
Men	3,09	2,73	2,18	1,73	2,09	3
<10	2,5	2,63	2	2,25	2,38	2,75
> or = 10	3,58	3	2,53	1,79	2,42	3,37
Employed	3,43	2	2	1,43	2	3,14
Unemployed	3,25	3,42	3,17	2,5	2,17	3,33
Total	3,32	2,89	2,74	2,11	2,11	3,26

Annex IV. Informed consent

Declaració del Consentiment Informat per al Qüestionari d'Autopercepció de Salut

Objectiu del projecte

L'estudiant Aida Palacin i Maresma de la Facultat de Medicina de la Universitat de Girona està fent un projecte per aprendre més sobre l'autopercepció de salut en persones nouvingudes a Salt.

Què se li preguntarà?

Si vostè decideix participar en aquest projecte, se li demanarà que completi un qüestionari. Aquest qüestionari és completament voluntari i si no desitja realitzar-lo el seu metge continuarà amb la seva atenció habitual; si es nega a fer l'estudi això no li comportarà cap inconvenient.
Si decideix no contestar alguna pregunta, pot deixar-la en blanc.

Qui tindrà accés a aquesta informació?

Com a estudiant de medicina, l'estudiant està obligada per llei a protegir la seva informació. No donarà la seva identitat, la seva informació de contacte o cap tipus d'informació sobre vostè a ningú de fora de l'entorn mèdic. Només aquells col·laboradors de l'estudi veuran aquest qüestionari. No es posarà cap de les seves respostes juntament amb el seu nom.

Quins són els riscos?

Algunes de les preguntes poden semblar molt personals i vostè pot sentir-se incòmode compartint aquesta informació. Si vostè ho desitja, pot deixar de contestar qualsevol pregunta.

Quins són els beneficis?

Al contestar les preguntes del qüestionari, vostè ajudarà a completar un estudi el qual pot millorar l'atenció mèdica al col·lectiu de persones immigrades. Una finalitat d'aquest estudi és millorar la identificació precoç de trastorns mentals en persones nouvingudes, de manera que al participar a l'estudi estarà ajudant a aconseguir aquest objectiu.

Consentiment informat

La seva firma a baix indica que:

35. vostè ha llegit i entén la informació d'aquest consentiment o se li ha llegit en veu alta i se li ha explicat;
36. vostè està d'acord en participar en aquest projecte;
37. sap que pot deixar de contestar qualsevol pregunta si així ho desitja; i
38. vostè ha rebut una còpia d'aquest consentiment per què pugui guardar-la

_____ _____

Firma Data

Si us plau, el seu nom amb lletres d'impremta: _____

Annex V. Schedule

ACTIVITY	PERSONAL	Jan. 2014	Feb. 2014	Mar. 2014	Apr. 2014	May 2014	Jun. 2014	Jul. 2014
Coordination phase	Researcher personnel							
Field research	Cultural mediators*							
Data analysis	Statistical support							
Analysis and publication of results.	Researcher personnel							

* 2 cultural mediators