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translations in Castilian, Galician, Catalan, French,
Greek, Italian, Polish, Bulgarian and Croatian synthesis**

Tanguy Le Bris

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**UNIVERSITE DE BRETAGNE OCCIDENTALE.
FACULTE DE MEDECINE ET DES SCIENCES DE LA
SANTÉ DE BREST.**

Année 2017

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**THÈSE DE
DOCTORAT en MÉDECINE**

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DIPLOME D'ÉTAT

-
SPÉCIALITÉ : Médecine Générale

**THE HOPKINS SYMPTOMS CHECKLIST IN 25 ITEMS : TRANSLATIONS
IN CASTILIAN, GALICIAN, CATALAN, FRENCH, GREEK, ITALIAN,
POLISH, BULGARIAN AND CROATIAN SYNTHESIS.**

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Né le 12 mars 1989 à Concarneau
Présentée et soutenue publiquement

Le 8 juin 2017

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MEMBRES DU JURY Dr. Patrice NABBE
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« Si tant de médecins ont une conception réductrice de ceux qu'ils soignent, c'est qu'ils méconnaissent, chez ces derniers, cette contrepartie de maturation due à la maladie, dont il est vrai qu'elle est muette parce que tournée vers l'humilité ». Alain Froment

Serment d'Hippocrate

Au moment d'être admis(e) à exercer la médecine, je promets et je jure d'être fidèle aux lois de l'honneur et de la probité.

Mon premier souci sera de rétablir, de préserver ou de promouvoir la santé dans tous ses éléments, physiques et mentaux, individuels et sociaux.

Je respecterai toutes les personnes, leur autonomie et leur volonté, sans aucune discrimination selon leur état ou leurs convictions. J'interviendrai pour les protéger si elles sont affaiblies, vulnérables ou menacées dans leur intégrité ou leur dignité. Même sous la contrainte, je ne ferai pas usage de mes connaissances contre les lois de l'humanité.

J'informerai les patients des décisions envisagées, de leurs raisons et de leurs conséquences.

Je ne tromperai jamais leur confiance et n'exploiterai pas le pouvoir hérité des circonstances pour forcer les consciences.

Je donnerai mes soins à l'indigent et à quiconque me les demandera. Je ne me laisserai pas influencer par la soif du gain ou la recherche de la gloire.

Admis(e) dans l'intimité des personnes, je tairai les secrets qui me seront confiés. Reçu(e) à l'intérieur des maisons, je respecterai les secrets des foyers et ma conduite ne servira pas à corrompre les mœurs.

Je ferai tout pour soulager les souffrances. Je ne prolongerai pas abusivement les agonies. Je ne provoquerai jamais la mort délibérément.

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Que les hommes et mes confrères m'accordent leur estime si je suis fidèle à mes promesses ; que je sois déshonoré(e) et méprisé(e) si j'y manque.

Autorisation d'imprimer

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Faculté de Médecine

AUTORISATION D'IMPRIMER

Présentée par Monsieur le Professeur LE RESTE Jean Yves

Titre de la thèse

**THE HOPKINS SYMPTOMS CHECKLIST IN 25 ITEMS : TRANSLATIONS IN
CASTILIAN, GALICIAN, CATALAN, FRENCH, GREEK, ITALIAN, POLISH,
BULGARIAN AND CROATIAN SYNTHESIS.**

ACCORD DU PRESIDENT DU JURY DE THESE SUR L'IMPRESSION DE LA THESE :

OUI

En foi de quoi la présente autorisation d'imprimer sa thèse est délivrée à Mr LE BRIS Tanguy
Né le 12 mars 1989 à Concarneau

Fait à BREST, le 10 Mars 2017

VISA du Doyen de la faculté

A BREST, le 12.04.17

Le Doyen,

C. BERTHOU



Le Président du Jury de Thèse,



Liste des abréviations

EGPRN: European General Practice Research Network

FPDM: Family Practice Depression and Multimorbidity

HSCL-25: Hopkins Symptom Checklist - 25 items

DSM: Diagnostic and Statistical Manual of Mental disorders

RAND/UCLA: Research and Development Corporation and the University of California Los Angeles

PT: Pilot Team

GP : General Practitioner

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Resumé

Introduction:

La dépression est la deuxième maladie chronique rencontrée en soins primaires. Les variations interindividuelles et interculturelles peuvent modifier l'expression des symptômes.

L'étude Family Practice Depression and Multimorbidity (FPDM) de l'European General Practice Research Network (EGPRN) a permis de sélectionner la Hopkins Symptom Checklist en 25-items (HSCL-25) comme la plus appropriée à diagnostiquer la dépression selon les critères d'efficacité, de reproductibilité et d'ergonomie versus DSM.

L'objectif était de synthétiser les traductions linguistiques, effectué à partir de l'anglais, préalablement réalisés en Galicien, Castillan, Catalan, Français, Italien, Grec, Croate, Bulgare, Allemand, Polonais.

Méthode :

Une traduction aller-retour par une procédure Delphi a été réalisée pour obtenir un consensus. Un panel de médecins généralistes experts a été recruté par un investigateur national (NI) dans chaque pays. Les données quantitatives ont été faites grâce à une échelle de Likert. Les consentements et l'anonymat ont été garanti par les NI. Les traductions retour ont été réalisées à l'aveugle de l'original.

Résultats :

Le panel d'experts répondait aux critères d'inclusion. Une seule ronde delphi à été nécessaire en Pologne, Bulgarie, Castille et Catalogne, concernant l'Allemagne, une version existait déjà, les items ont été acceptés avec des remarques, deux rounds furent nécessaires en France, Croatie, Grèce, Galice et en Italie après désaccord des experts sur certains items. Aucun autre round n'a été nécessaire.

Discussion:

Le choix d'une méthode de traduction Aller-Retour par procédure Delphi adaptée et la qualité du panel d'experts garantissent une traduction fidèle de la HSCL-25. L'intérêt de ces traductions à partir de l'anglais est dans l'enseignement, la recherche et la pratique en soins primaires.

Conclusion:

Une traduction de la HSCL-25 est disponible dans 9 langues européennes. La prochaine étape est une analyse culturelle de la traduction qui assurera la reproductibilité sémantique entre la version originale et la traduction.

Abstract

Introduction:

Depression is the second most common chronic disorder in primary care. Inter-individual and cross-cultural variations can alter the expression of symptoms.

The 25-item Hopkins Symptom Checklist (HSCL-25) was selected by the Family Practice Depression and Multimorbidity (FPDM) study of the European General Practice Research Network (EGPRN) as the most appropriate to diagnose depression according to criteria efficiency, reproducibility and ergonomics versus DSM.

The objective was to synthesize the linguistic translations previously produced in Galician, Castilian, Catalan, French, Italian, Greek, Croatian, Bulgarian, German, Polish.

Method:

Backward-forward translation by Delphi rounds was used to make consensus. A panel of general practitioners (Gp) experts was recruited by a national investigator (NI) in each country. The quantitative data was made with a Likert scale. Consents and anonymity were guaranteed by NI. The backward translation was carried out blind from the original.

Results:

The panel complies with the inclusion criteria. A single round delphi was needed in Poland, Bulgaria, Germany, Castile and Catalonia, a German version already existed, items were accepted with commentaries. Two were necessary in France, Croatia, Greece, Galicia, Italy after experts disagreed on few items. No more rounds were necessary.

Discussion:

Delphi procedure and the quality of the panel of experts guarantee a validated and reliable translation of the HSCL-25. The interest of these translations from English is in teaching, research and practice in primary care.

Conclusion:

A translation of the HSCL-25 is available in 9 European languages. The next step is a cultural analysis of the translation which will ensure the semantic reproducibility between the original version and the translation.

1-Introduction

Depression is the second most common chronic disorder seen by primary care physicians (1), first responders in most European Countries (2,3). The multi-morbid patients over 50 years are especially at risk (4–10).

Prevalence and incidence rates of depression are different according to regions and European countries (11-15). These Variations can be explained by differences in the health care system, practices, concepts and objectives as well as cultural variations in the expression of the disease (25, 16-22).

Depression combine associated various symptoms. It is a syndromic disease difficult to diagnose. Patients often have difficulty assessing their psychological pain to doctors (23, 24), thus, clinicians may underestimate or overestimate the contrary, the severity of the disease (25-26). The difficulties to diagnose and assess the severity of depression lie in this inter-individual variability (27). Those difficulties may lead to inappropriate care and causes public health problems (28–31).

Diagnostic and Statistical Manual of Mental Disorders (DSM) can be considered as a diagnostic and categorical gold standard to diagnose depression (32). It is rarely used by practitioners (33, 34). General Practitioners (GPs') seem to be uncomfortable with the definition of depression and can result in delayed diagnosis and a no optimum care (25, 35-37).

Collaborative primary care mental health models can improve care and outcomes for patients. With this aim, the EGPRN developed collaborative research in Primary Care Medicine throughout Europe. This network requires a reliable, efficient and ergonomic tool which will take into account cultural and linguistic differences across Europe (38). International experts from different cultures, speaking different languages and with different health systems have to undertake a consensus (39), to identify such tools. These tools have to be acceptable and informative for both GPs and for secondary care (Psychiatrist, Psychologist) and to improve their collaboration (40-42). Screening for depression can bring added value to the identification of the condition if it can be undertaken in a routine manner in the doctor's surgery' but only if followed by good-quality treatment, either in primary care or in specialized psychiatric care (43).

The family practice depression and multi-morbidity study (FPDM) started in 2011. The first step was a systematic literature review in order to select the candidate tools. This systematic review investigated all diagnostic tools that were validated for depression versus DSM-IV/5, in adult patients excluding pregnant and post-partum women. At the end of this step, seven tools were selected (44,45).

The second step was a consensus procedure aiming to select a single tool among the seven candidates. The method chosen to reach a consensus was RAND/UCLA (Research ANd Development corporation / University of California Los Angeles) procedure.(46) HSCL-25 was designated to be the most appropriate tool for depression diagnostic in adult patients in Family practice in Europe, according to its criteria combined of effectiveness, reliability and ergonomics (47).

The third step consisted in translating this tool in the language of every country taking part in the FPDM study, following the same formal consensus method (48), with the support of European General Practice Research Network (EGPRN).

The HSCL-25 was translated in 10 different European languages (Croatian, Greek, Polish, Bulgarian, Italian, Galician, Castilian, Catalan, French and German) with the same Delphi consensus method adapted for Forward-Backward translation was followed for each.

The aim of this study was the linguistic synthesis translation.

2-Method

2.1. Definition of HSCL-25

The HSCL-25 is a self-report questionnaire on the existence and severity of both anxiety and depression symptoms during the previous week, used to identify psychiatric illness in primary care (49). It includes 25 items: 10 items about anxiety and 15 about depression (50). The patient is considered as a “probable psychiatric case” if the mean rating on the HSCL-25 is $\geq 1,55$. A cut-off value of $\geq 1,75$ is generally used for diagnosis of major depression defined as “a case, in need of treatment” (51,52). The HSCL-25 was used in primary care in family planning services, among refugees and among migrants (53–55).

For the translation to retain the same meaning as the original, a Forward-Backward translation (47)(56) was conducted following a formal consensus method, the Delphi procedure. Formal consensus is an appropriate method to reach a solid consensus transparently on a little investigated subject (57). Delphi procedure, reliable and efficient is used frequently in health care as a rigorous way to reach consensus in defined clinical areas (58-61). It is a systematic interactive method which involves a panel of experts using iterative procedures. It can be done quickly to make a single convergent final recommendation. This process requires to follow four rules: anonymity of participants (ensures responses reliability and avoids contamination), iteration (allows participants to refine their views in the light of the progress of the group's work), control feedback (under the responsibility of the investigator), statistical aggregation of group's responses to allow a quantitative and qualitative analysis of the data (46)(62-64).

2.2. Consents and anonymity

In each country, the Investigator was the National investigator (NI). He asked the participants for their signed consent (annex 2), anonymized the expert responses and delivered an identification number for later identification. The name of each expert was not transmitted to others (46). Only NI's consent was sent to the team of investigators (annex 3, annex 4). As the study involved no patient, it didn't require an ethics committee's decision.

2.3. Participants

Pilot Team (PT): The EGPRN French team was familiar with the Delphi methodology. It requested the consent of each national investigator as well as voluntary participation in the study and an absence of conflict of interest statement. It ensured that the whole process followed the protocol. It didn't take part in the translation phases or in Delphi rounds. The Forward-Backward translation had to be validated by the daily board of the study, composed of members of EGPRN all active within the research process.

National Investigators (NI): The NIs' were in charge of recruiting translators and experts. They acted between each phase and between two Delphi rounds. They didn't act when a Delphi round was running.

Translators: The NIs' selected translators to make up two translation teams. Translators had to be knowledgeable about health care terminology. The Forward translation team involved one member of the GPs' research group and one official translator in every country. The Backward translation team involved one (or two) GP(s') and one official translator (46). The two teams should not have involved the same person (65).

Experts panel: Initially, 20 to 30 experts were recruited in order to keep at least 15 participants until the end of the last round (according Delphi's quality standards criterias. The selection criteria for every expert were: being native to country of origin and speaking their native language; being an English speaker; being a GP. Over half had to have teaching or research activities. In order to assess the representativeness of the panel by its maximum variation, the experts informed their gender, area of practice, years of practice and publications.

2.4. Forward Translation

The PT sent the HSCL-25 original English version to the NI who sent it to the Forward translation team. This team translated HSCL-25 from English to language of the country aiming to retain the same meaning as the original.

There were 32 elements to translate: the introductory sentence, the 25 items, the 4 adjectives corresponding to the proposals, and two sentences relating to the use of the survey (explanatory sentence).

An exception for Germany, a German version of the HSCL-25 already existed. The forward translation was not performed. The Delphi procedure was applied directly to the German version. This made it possible to verify the quality of this translation for a qualitatively representative panel of GP.

2.5. Delphi rounds

At the beginning of the first round, NIs' sent by mail the original English version and translated version in Galician, Castilian, Catalan, Bulgarian, Greek, Croatian, Italian, French, German, Polish with the entire rules of procedure. GPs' experts received records individually. NIs didn't use a mailing list in order to assure anonymity which increases the reliability of responses and avoids contamination (discussion between experts).

Experts expressed their level of agreement on each proposal by using a 1 to 9 Likert scale. This Likert scale was an agree/disagree scale, symmetric, odd, that measured the intensity of their feelings on each proposal, taking into account the maintenance of the meaning between the original and the translation proposal, the ergonomics and the ease of understanding. Experts rated the proposal from 1 (absolutely no agreement) to 9 (fully agreement) and had to comment when rating less than 7. Consensus was defined for an excerpt's translation when it was rated 7 or above by over 70% of the panel (66), so it was accepted directly and didn't enter the following rounds; if not (proposal didn't reach consensus), the NI and the Forward official translator synthesized experts comments to propose a new translation proposal for this excerpt. Time between two rounds had to be less than four weeks. The following round began when the NI sent to the experts separately for each excerpt that didn't reach consensus: the original English version, the unaccepted proposal with all the experts' comments on this proposal, the new proposal. Experts rated the new proposal in the same way as the first round. The following rounds rolled out in an identical manner. This process was repeated until all excerpts found a consensual translation. The number of rounds was not limited (67).

At the Delphi procedures end, there were a HSCL-25 consensual versions in different European languages.

2.6. Backward translation

NI sent the final Galician, Castilian, Catalan, Bulgarian, Greek, Croatian, Italian, French, German or Polish version of HSCL-25 to the backward translation team who had to translate it into English. The translators should not have the knowledge of the original version (blind-back translation principle). Finally, he sent the Backward English version to the PT (68).

3-Results

3.1. Forward

The NI submitted the questionnaire to one official translator who was knowledgeable about health care terminology and GPs' researchers whose native language were the country where they worked. A consensual Forward translation of HSCL-25 was proposed.

3.2. Panel

11 experts from 8 European countries participated in the RAND / UCLA. They were all GPs', EGPRN members, and fluent in English. The panel was composed of 72.7% women. 90.9% of experts practiced in urban areas of more than 5 000 inhabitants and 9.1% worked in urban areas from 2000 to 5000 inhabitants. In terms of qualifications, 72.7% were teachers and researchers, 27.3% were only researcher. The average of international publications per leader was 13.8, for a total of 152 publications. The average of years of practice was 21.3 years, and 12.4 in terms of years of research (Table 1).

Experts	Gender	Country	University Statement	Number of inhabitants	Office type	International publication number	Years of practice	Years of research
1	F	Spain (Galicia)	Teacher/Researcher	>5000	GPs group office	15	20	14
2	F	Spain (Cataluna)	Teacher/Researcher	>5000	GPs group office	13	22	25
3	F	Greece	Teacher/Researcher	>5000	GPs and paramedic group office	14	30	18
4	M	Italy	Researcher	>5000	GPs group office	23	7	6
5	F	Germany	Researcher	2000 to 5000	Practice stop since 2 years	19	23	5
6	M	Poland	Teacher/Researcher	>5000	GPs group office	20	30	12
7	F	Croatia	Teacher/Researcher	>5000	Alone	6	20	12
8	F	Croatia	Teacher/Researcher	>5000	GPs group office	18	30	20
9	F	Bulgaria	Teacher/Researcher	>5000	GPs group office	9	14	12
10	F	Germany	Researcher	>5000	GPs group office	4	18	7
11	M	France	Teacher/Researcher	>5000	GPs group office	11	20	5
Male: 27,3% Female:72,7%						Average=13,8	Average=21,3	Average=12,4

Table 1 : Leader panel

F = female

M = male

GPs = General Practician

The NI obtained experts consents and asked them for their characteristics (Table 2).

14 (Germany) to 31(castille) experts were recruited for the Delphi procedure. In compliance with selection criteria, they were all GPs, all in family practice, all English speakers.

The European panel consisted of 111 (=51,6%) male and 104 (=48.4%) female.

9.7% of experts worked in city <2000 inhabitants, 19.3% in a city between 2000 and 5000 inhabitants and 71% in a city > 5000 inhabitants.

Clinical experience was analyzed according to years of activity: an average of 16.6 years experience.

81.4% (175) were academic researchers and/or teachers. Experts published 156 studies.

Country		Greece	Croatia	Poland	Bulgaria	Italy	Galicia	Germany	Castille	Catalonia	France	Number or Average
number of GPs'		26	16	30	22	18	20	14	31	22	16	215
Gender	Male	13	3	12	9	12	14	6	20	13	9	111
	Female	13	13	18	13	6	6	8	11	9	7	104
Average years of practice activity		10,9	19,2	11,9	20,5	17,2	22,3	16,7	19,5	15,7	12,5	16,6
Academic researcher and/or teacher	Number	24	16	26	8	13	17	9	27	20	15	175
	Average years of researching and/or teaching	5,06	11.54	13.08	7,7	14,02	13,09	10	12,02	10.5	6.26	10,33
Publication		26	15	10	5	12	19	6	30	22	11	156
Area of practice	< 2000	38,40%	6,25%	25%	4,50%	16,70%	0%	0%	0%	0%	6,30%	9,70%
	2000 - 5000	34,60%	6,25%	37,50%	22,70%	11,10%	0%	21,40%	6,50%	9,10%	43,75%	19,30%
	> 5000	26,90%	87,50%	37,50%	72,70%	72,20%	100%	78,60%	93,50%	90,90%	50%	71%
Participants of the second round		57,70%	93,75%	No second round	No second round	94,40%	100%	No second round	No second round	No second round	93,75%	

Table 2: Experts' panel

GPs'= General practitioners

3.3. Number of Delphi round

In Poland, Bulgaria, Germany, Castille, Catalonia, there was only one round Delphi, in the others country two rounds were necessary to get final translations.

Almost all proposals were accepted in round one (273/320: 85.3%) (Table 3). Excerpt that did not reach consensus entered the second round, the NI and the Forward official translator synthesized experts comments to propose a new translation proposal for those excerpts. NI sent to the same experts' panel (following the same procedure): the original English version, the unaccepted proposal and all the experts' comments on this proposal, the new proposal. Experts rated the new proposal in the same way as for the first round. The delay between two rounds must be less than four weeks.

Item/Country	Galicia	Castille	Catalonia	France	Italy	Bulgaria	Croatia	Greece	Germany	Poland
1	C	C	C	C	C	C	C	NC	C	C
2	C	C	C	C	C	C	NC	C	C	C
3	C	C	C	NC	NC	C	NC	NC	C	C
4	C	C	C	C	C	C	C	C	C	C
5	C	C	C	NC	C	C	C	C	C	C
6	NC	C	C	NC	NC	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C
9	C	C	C	NC	C	C	NC	C	C	C
10	NC	C	C	NC	C	C	NC	C	C	C
11	C	C	C	C	C	C	NC	NC	C	C
12	C	C	C	NC	NC	C	C	C	C	C
13	C	C	C	C	C	C	C	NC	C	C
14	C	C	C	NC	C	C	NC	C	C	C
15	C	C	C	NC	C	C	NC	C	C	C
16	C	C	C	C	C	C	NC	C	C	C
17	C	C	C	NC	C	C	NC	C	C	C
18	C	C	C	C	C	C	C	NC	C	C
19	C	C	C	NC	C	C	C	C	C	C
20	C	C	C	NC	C	C	NC	NC	C	C
21	C	C	C	NC	C	C	NC	NC	C	C
22	C	C	C	C	C	C	C	C	C	C
23	C	C	C	NC	C	C	C	NC	C	C
24	C	C	C	C	C	C	C	NC	C	C
25	NC	C	C	NC	C	C	C	C	C	C
Choose the best answer for how you felt over the past week	C	C	C	NC	C	C	C	C	C	C
Not at all	C	C	C	C	NC	C	C	C	C	C
A little	C	C	C	NC	C	C	C	C	C	C
Quite bit	C	C	C	C	C	C	C	C	C	C
Extremely	C	C	C	C	C	C	C	C	C	C
The HSCL-25 score is calculated by dividing the total score (sum score of items) by the number of items answered (ranging between 1,00 and 4,00). It is often used as the measure of distress. The patient is considered as a "probable psychiatric case" if the mean rating on the HSCL-25 is $\geq 1,55$.	C	C	C	NC	NC	C	C	C	C	C
A cut-off value of $\geq 1,75$ is generally used for diagnosis of major depression defined as "a case, in need of treatment". This cut-off point is recommended as a valid predictor of mental disorder as assessed independently by clinical interview, somewhat depending on diagnosis and gender. The administration time of HSCL 25 is 5 to 10 minutes	C	C	C	NC	C	C	C	C	C	C

Table 3: Results of the first Delphi round

C = Consensus

NC = No Consensus

3.4. For each language

3.4.1. Galician

There were two Delphi rounds to validate the Galician Forward of HSCL-25. Three items were not accepted in the first round: item nº6, 10 and 25:

-Item N° 6 (Trembling): the first proposal was “Trema”, present indicative of the verb tremar. The average rate was 7.25/9 and seven experts (35% rated strictly less than 7). It was apparently an agreement problem. The second proposal was “Ten tremores”. In the second round, every expert rated 7 or above (seven, eleven and two experts rated respectively 7, 8 and 9). The consensus was reached with a high level of agreement for this excerpt. The Backward translation was the same as the original version: « Trembling ».

- Item N° 10 (Feeling restless): the first proposal was “Séntese inquedanza”. The average rate was 7.2/9 and seven experts (35%) rated strictly less than 7. The second proposal was: “Séntese inquedo”. This second proposal reached consensus with a good level of agreement. The Backward translation was the same as the original version: « Feeling restless ».

- Item N° 25 (Sleep disturbance): the first proposal was “Problemas para durmir”. The average rate was 7.45/9 and seven experts (35%) rated strictly less than 7. “Durmir” is a verb which could be translated in « to sleep » and its meaning is closer to « stay asleep » than « fall asleep ». It could produce a confusion or at less a restriction. The second proposal was: “Alteracións do sono”. Two experts, who rated 5 and 6 made the same comment: “Durme mal”. The Backward translation was « Sleep disorders» which is very close to the original version « Sleep disturbance». Finally, few comments appeared on the new proposals: and they were widely accepted.

NI sent the final Galician version of HSCL-25 to three translators forming the Backward-translation team who translated it back to English. They were knowledgeable about health care terminology. One was a philologist and the two others are FPs. The blind-back translation principle was respected.

Finally, he sent the Backward English version to the PT.

3.4.2. Castilian

All items were accepted in the first round Delphi but several translations required comments, the most discussed items of forward translation were the Final excerpt , the beginning excerpt, item1, 4, 8, 11 12, 14, 16, 18, 19.

The Castilian version obtained was translated in English by four independents translators, which gave us one backward blind translation. They were knowledgeable about health care terminology, and their native language was Castilian. One of them was a Philologist and others were FP researchers. The blind-back translation principle was respected.


3.4.3. Catalan

All items were accepted in the first round Delphi but several translations required comments, items 2, 5, 10, 11, 14, 18 21, 25, the final excerpt.

The Catalan version obtained was translated in English by three independents translators, which gave us one Backward blind translation, one official translator and two FPs. The native language of the translators was Catalan and they were knowledgeable about health care terminology.

	Original english version	Galician		Catalan		Castilian	
		Forward	Backward	Forward	Backward	Forward	Backward
Introductory sentence	Choose the best answer for how you felt over the past week	Escolla a resposta que mellor describa como se sentiu durante a semana pasada	Choose the best answer to indicate how you felt during the last week	Tria la millor resposta per indicar com s'ha sentit en la derrera setmana	Choose the best answer to indicate how you felt during last week	elija la repuesta que mejor describa como se ha sentido durante la semana pasada	Choose the best answer to describe how you felt over the last week
1	Being scared for no reason	Asústase sen motivo	Being scared for no reason / Being suddenly scared for no reason	Estar espantat sense motiu aparent	Being scared for no reason	Se asusta sin motivo	Being scared for no reason
2	Feeling fearful	Ten medo	Feeling fearful	Sentir por	Feeling fearful	Siente miedo	Feeling afraid/fearful
3	Faintness	Debilidade	Weakness	Debilitat	Weakness	Debilidad	Weakness
4	Nervousness	Nerviosismo	Nervousness	Nerviosisme	Nervousness	Nerviosismo	Nervousness
5	Heart racing	Palpitacións	Heart pounding	Cor accelerat	Racing heart	Palpitaciones	Palpitations
6	Trembling	Ten tremores	Trembling	Tremolos	Tremulous	Tiembla	Trembling
7	Feeling tense	Séntese tenso	Feeling tense	Sentir-se tens	Feeling tense	Se siente tenso	Feeling tense
8	Headache	Dor de cabeza	Headaches	Mal de cap	Headache	Dolor de cabeza	Headache
9	Feeling panic	Sente pánico	Feeling panic /Having panic attacks	Sensacio de pànic	Sense of panic	Siente panico	Feeling panic
10	Feeling restless	Séntese inquedo	Feeling restless	Sensacio de inquietud	Sense of restlessness	Siente inuietud	Feeling restless
11	Feeling low in energy	Sente que lle falta enerxía	Feeling low in energy	Sensacio de manca d'energia	A lack of energy	Siente que le falta energia	Feeling a lackof energy
12	Blaming oneself	Cúlcase a si mesmo	Blaming yourself for things	Culpar-se un mateix	Blaming your self	Se culpa a si mismo	Blaming oneself
13	Crying easily	Chora con facilidade	Crying easily	Plor fàcil	Crying easily	Llora con facilidad	Crying easily
14	Losing sexual interest	Perda do apetito sexual	Loss of sexual interest	Pèrdua de l'interès sexual	loss of sexual interest	Pierde el interés sexual	Losing interest in sex
15	Feeling lonely	Séntese só/soa	Feeling lonely	Sentir-se sol	Feeling lonely	Se siente solo	Feeling alone
16	Feeling hopeless	Séntese sen esperanza	Feeling hopeless	Sentiment de desesperanca	Feeling of hopelessness	Se siente sin esperanza	Feeling of hopeless
17	Feeling blue	Séntese triste	Feeling blue	Sentir- se trist	Feeling sad	Se siente triste	Feeling sad
18	Thinking of ending one's life	Pensa en acabar coa súa vida	Having thoughts of ending your life	Pensaments de suicidi	Thoughts of suicide	Piensa en acabar a su vida	Thinking of ending your life
19	Feeling trapped	Séntese atrapado	Feeling trapped	Sentir-se atrapat	Feeling trapped	Se siente atrapado	Feeling trapped
20	Worrying too much	Preocúpase en exceso	Worrying too much about things / Worrying too much	Preocupar-se en excès	Worrying too much	Se preocupa n exceso	Worrying too much
21	Feeling no interest	Non sente interese por nada	Feeling no interest in anything / Feeling no interest	Sentiment de manca d'interès	A lack of interest	No siente interés por nada	Not interested in anything
22	Feeling that everything is an effort	Sente que todo lle supón un esforzo	Feeling that everything is an effort	Sentir que tot és un esforç	Feeling that everything is an effort	Siente que todo le cuesta un esfuerzo	Feeling that everything is an effort
23	Worthless feeling	Séntese inútil	Feeling worthless	Sentir-se inútil	Feeling useless	Se siente inutil	Feeling useless
24	Poor appetite	Falta de apetito	Loss of appetite	Pèrdua de la gana	Loss of appetite	Falta de apetito	Poor appetite
25	Sleep disturbance	Alteracións do sono	Sleep disorders	Alteracio de la son	Sleeping disturbance	Problemas para dormir	Problems sleeping

Table 4: Forward/backward: Galicia, Catalan, Castilian

 Accepted after two rounds

	Original english version	Galician		Catalan		Castilian	
		Forward	Backward	Forward	Backward	Forward	Backward
Adjective	Not at all	En absoluto	Absolutely not/ Not at all	Gens	Not at all	En absoluto	Not a bit
	a little	Un pouco	A little	Una mica	A little	Un poco	A little bit
	quit a bit	Bastante	Quite a lot	Bastant	Quite a bit	Bastante	Quite a bit
	extremely	Moito	A lot	Molt	A lot	Mucho	A lot
1st explanatory sentence	<p>The HSCL-25 score is based on pencil-and-paper self-report of 25 questions about the presence and intensity of anxiety and depression symptoms over the last week. Participants answer to one of four categories for each item on a four-point scale ranging from 1.00 to 4.00</p>	<p>A puntuación HSCL-25 baséase nun cuestionario autocumplimentado con lapis e papel, de 25 preguntas sobre a presenza e a intensidade de ansiedade e síntomas depresivos na última semana. Os participantes responden unha de catro categorías para cada ítem, nunha escala de catro puntos que van desde 1 a 4.</p>	<p>HSCL-25 scores are based on a 25-item paper-based questionnaire on the presence and severity of anxiety and other depressive symptoms in the last week. Participants answer one of four categories for each item on a 1-to-4 rating scale.</p>	<p>L'escala HSCL-25 es basa en un questionari auto administrat de 25 preguntes, sobre la presència i la intensitat de símptomes d'ansietat i depressio en la darrera setmana, Els participants responen a una de les quatre categories per a cada ítem en una escala de quatre punts que va de l'1 al 4,</p>	<p>The HSCL-25 scale is based on a self-administered questionnaire of 25 questions about the presence and intensity of anxiety and depression symptoms in the last week. The participants answer to one of the four categories for each item, in a four-point scale ranging from 1.00 to 4.00</p>	<p>La puntuación HSCL-25 se basa en un cuestionario autocumplimentado con lápiz y papel, de 25 preguntas sobre la presencia y la intensidad de ansiedad y síntomas depresivos en la última semana. Los participantes responden una de cuatro categorías para cada ítem, en una escala de cuatro puntos que van desde 1 a 4.</p>	<p>The HSCL-25 score is based on survey that is self-administered with pen and paper. It has 25 questions about the presence and intensity of anxiety and depressive symptoms over the last week. The participants answer one of the four categories for each item on a four-point scale ranging from 1.00 to 4.00</p>
		<p>A puntuación do HSCL-25 calcúlase dividindo a puntuación total (a suma de todas as preguntas) entre o número de respostas (cuxa puntuación oscila entre 1,00 e 4,00). Úsase de forma habitual para medir o nivel de angustia. Considérase que o paciente é un "caso psiquiátrico probable" se o valor medio do HSCL-25 é $\geq 1,55$. Polo xeral, úsase un valor de corte $\geq 1,75$ para diagnosticar a depresión maior, definida como "un caso que precisa tratamento". Este valor de corte recoméndase como un predictor válido dun trastorno mental, avaliado independentemente por medio de entrevistas clínicas, aínda que depende en parte do diagnóstico e do xénero. O tempo de realización do HSCL-25 é de 5 a 10 minutos.</p>	<p>HSCL-25 scores are calculated by dividing the total score (sum of all the questions) by the number of answers (scores ranging from 1.00 to 4.00). The questionnaire is frequently used to measure anxiety levels. Patients with mean rating HSCL-25 scores of 1.55 or greater are considered to be likely psychiatric cases. In general, a cut-off score of 1.75 is used to diagnose cases of major or chronic depression defined as requiring medical treatment. This cut-off point is recommended as a strong predictor of a mental disorder, independently assessed through clinical interviews, yet partially dependent on the diagnosis and gender.</p>	<p>La puntuación total de HSCL-25 es calcula dividindo la suma de la puntuación de los diferentes ítems por el número de ítems contestados. El resultado total oscila entre 1,00 i 4,00, Aquesta escala sovint s'utilitza com a mesura de l'angoixa. El pacient és considerat com a "probable cas psiquiàtric" si la qualificació mitjana del HSCL-25 és $\geq 1,55$. Generalment s'utilitza un punt de tall $\geq 1,75$ per al diagnòstic de la depressió major i es defineix com "cas de precisa de tractament". Es recomana aquest punt de tall com un predictor vàlid de trastorn mental com ho seria l'avaluació independent per entrevista clínica, dependent en part del diagnòstic i del gènere. El temps d'administració del HSCL-25 és de 5 a 10 minuts,</p>	<p>The total HSCL-25 score is calculated by dividing the sum of the different items score of items answered. The total score ranges from 1 to 4. This scale is often used as the measure of anxiety. The patient is considered as a "probable psychiatric case" if the HSCL-25 average is ≥ 1.55. Usually, a cut off point ≥ 1.75 is used to diagnose major depression and it's defined as "a case, that needs treatment". This cut-off is recommended as a valid predictor of mental disorder as would be independent evaluation by clinical interview, depending in part on the diagnosis and gender. Administration time of HSCL 25 is from 5 to 10 minutes</p>	<p>La puntuación del HSCL-25 se calcula dividindo la puntuación total (sumando la puntuación de todos las preguntas) entre el número de respuestas (varia entre 1,00 y 4,00). Se usa habitualmente para medir el malestar psicológico, El paciente se considera "un probable caso psiquiátrico" si el valor medio del HSCL-25 es $\geq 1,55$. Por lo general se usa un valor de corte de $\geq 1,75$ para el diagnóstico de depresión mayor, definida como un "caso que necesita tratamiento". Este valor de corte se considera un predictor válido de un trastorno mental, evaluado de forma independiente mediante entrevista clínica, aunque depende en parte del diagnóstico y el género. El tiempo de administración del HSCL-25 es de 5 a 10 minutos.</p>	<p>The HSCL-25 score is calculated dividing the total score (the sum of the score score of all questions) by the number of items answered (ranging between 1 and 4). It is usually used to measure the level of anxiety. The patient is considered as a "probable psychiatric case" if the average of the HSCL-25 is ≥ 1.55. A cut-off value of ≥ 1.75 is generally used for diagnosis of major depression defined as "a case, that needs treatment". This cut-off point is considered a valid predictor of mental disorder, assessed in an independent way by a clinical interview, although it depends , in part, on the diagnosis and gender. The administration time of HSCL 25 is from 5 to 10 minutes.</p>
2nd explanatory sentence	<p>The HSCL-25 score is calculated by dividing the total score (sum score of items) by the number of items answered (ranging between 1 and 4). It is often used as the measure of distress. The patient is considered as a "probable psychiatric case" if the mean rating on the HSCL-25 is ≥ 1.55. A cut-off value of ≥ 1.75 is generally used for diagnosis of major depression defined as "a case, in need of treatment". This cut-off point is recommended as a valid predictor of mental disorder as assessed independently by clinical interview, somewhat depending on diagnosis and gender. The administration time of HSCL 25 is 5 to 10 minutes</p>	<p>A puntuación do HSCL-25 calcúlase dividindo a puntuación total (a suma de todas as preguntas) entre o número de respostas (cuxa puntuación oscila entre 1,00 e 4,00). Úsase de forma habitual para medir o nivel de angustia. Considérase que o paciente é un "caso psiquiátrico probable" se o valor medio do HSCL-25 é $\geq 1,55$. Polo xeral, úsase un valor de corte $\geq 1,75$ para diagnosticar a depresión maior, definida como "un caso que precisa tratamento". Este valor de corte recoméndase como un predictor válido dun trastorno mental, avaliado independentemente por medio de entrevistas clínicas, aínda que depende en parte do diagnóstico e do xénero. O tempo de realización do HSCL-25 é de 5 a 10 minutos.</p>	<p>HSCL-25 scores are calculated by dividing the total score (sum of all the questions) by the number of answers (scores ranging from 1.00 to 4.00). The questionnaire is frequently used to measure anxiety levels. Patients with mean rating HSCL-25 scores of 1.55 or greater are considered to be likely psychiatric cases. In general, a cut-off score of 1.75 is used to diagnose cases of major or chronic depression defined as requiring medical treatment. This cut-off point is recommended as a strong predictor of a mental disorder, independently assessed through clinical interviews, yet partially dependent on the diagnosis and gender.</p>	<p>La puntuación total de HSCL-25 es calcula dividindo la suma de la puntuación de los diferentes ítems por el número de ítems contestados. El resultado total oscila entre 1,00 i 4,00, Aquesta escala sovint s'utilitza com a mesura de l'angoixa. El pacient és considerat com a "probable cas psiquiàtric" si la qualificació mitjana del HSCL-25 és $\geq 1,55$. Generalment s'utilitza un punt de tall $\geq 1,75$ per al diagnòstic de la depressió major i es defineix com "cas de precisa de tractament". Es recomana aquest punt de tall com un predictor vàlid de trastorn mental com ho seria l'avaluació independent per entrevista clínica, dependent en part del diagnòstic i del gènere. El temps d'administració del HSCL-25 és de 5 a 10 minuts,</p>	<p>The total HSCL-25 score is calculated by dividing the sum of the different items score of items answered. The total score ranges from 1 to 4. This scale is often used as the measure of anxiety. The patient is considered as a "probable psychiatric case" if the HSCL-25 average is ≥ 1.55. Usually, a cut off point ≥ 1.75 is used to diagnose major depression and it's defined as "a case, that needs treatment". This cut-off is recommended as a valid predictor of mental disorder as would be independent evaluation by clinical interview, depending in part on the diagnosis and gender. Administration time of HSCL 25 is from 5 to 10 minutes</p>	<p>La puntuación del HSCL-25 se calcula dividindo la puntuación total (sumando la puntuación de todos las preguntas) entre el número de respuestas (varia entre 1,00 y 4,00). Se usa habitualmente para medir el malestar psicológico, El paciente se considera "un probable caso psiquiátrico" si el valor medio del HSCL-25 es $\geq 1,55$. Por lo general se usa un valor de corte de $\geq 1,75$ para el diagnóstico de depresión mayor, definida como un "caso que necesita tratamiento". Este valor de corte se considera un predictor válido de un trastorno mental, evaluado de forma independiente mediante entrevista clínica, aunque depende en parte del diagnóstico y el género. El tiempo de administración del HSCL-25 es de 5 a 10 minutos.</p>	<p>The HSCL-25 score is calculated dividing the total score (the sum of the score score of all questions) by the number of items answered (ranging between 1 and 4). It is usually used to measure the level of anxiety. The patient is considered as a "probable psychiatric case" if the average of the HSCL-25 is ≥ 1.55. A cut-off value of ≥ 1.75 is generally used for diagnosis of major depression defined as "a case, that needs treatment". This cut-off point is considered a valid predictor of mental disorder, assessed in an independent way by a clinical interview, although it depends , in part, on the diagnosis and gender. The administration time of HSCL 25 is from 5 to 10 minutes.</p>

Table 4: Forward/backward: Galicia, Catalan, Castilian

3.4.4. French

There were two Delphi rounds to validate the French Forward of HSCL-25: Nine excerpts entered the second round fourteen translation proposals were accepted by the experts in the first round. Eighteen proposals did not reach this agreement. They had to be reformulated for a second round using the comments collected. Indeed, item 3, 5, 6, 9, 10, 12, 14, 15, 17, 19, 20, 21, 23, 25, adjective « a little », the first and second explanatory sentence.

Converging comments from experts have emerged for innaccepted proposals. For example: the forward of « sleep disturbance » did not accepted and the majority of the comments proposed to replace the translation « vous n'arrivez pas à dormir » by « votre sommeil était perturbé ».

All new proposals from the translation team were accepted during the second round There were differences between the initial version in English and the backward for many proposals. The meaning of the words, the syntax, the quotations and the strength of the proposals seemed to be different possibly in relation to the French language. The comparison of the two English forms will allow cultural analysis.

3.4.5. Italian

There were two Delphi rounds to validate the Italian Forward of HSCL-25. Almost all proposals were accepted in round one. Five excerpts entered the second round.

Five proposals were not accepted at the first round (3; 6; 12; 27; 28). Indeed, only 61% of the panel agreed with proposal 27 and 67% with proposals 3; 6; 12; 28.

These proposals were accepted at the second round: just one participant made a comment regarding the third item: “sentirsi intimoriti, mi sembrerebbe meglio” that is “sentirsi intimoriti, seems to me better”.

The Italian version obtained was translated in English by two independents translators, which gave us one backward blind translation. The native language of the second translator was Italian and he was knowledgeable about health care terminology.

3.4.6. Bulgarian

All items were accepted in the first round Delphi but several translations required comments. The most discussed items were the item 11, 12, 22:


-item 11 and 12 with the two, 7 answers between 7-9. Two comments emerged about these items. The first concerned, item 11 “Feeling low in energy”, “Усещане за понижена енергия” in Bulgarian. The FPs experts had commented: липса на / намалена. For the term “low”, three words had the same meaning in Bulgarian: понижена, липса на, намалена.

- item 22 “Feeling that everything is an effort”, “Чувство, че всичко изисква усилие” in Bulgarian. The FPs experts had commented: се случва с / става с. same for the term « is an ... », three words had the same meaning in Bulgarian: изисква, се случва с, става с.

The Bulgarian version obtained was translated in English by two independents translators, which gave us one backward blind translation. The native language of the second translator was Bulgarian and he was knowledgeable about health care terminology.


	Original english version	French		Italian		Bulgarian	
		Forward	Backward	Forward	Backward	Forward	Backward
Introductory sentence	Choose the best answer for how you felt over the past week	Veillez choisir la réponse qui décrit le mieux comment globalement vous vous sentiez toute la semaine dernière	Please choose the answer that describes best how you generally felt throughout last week.	Scegliere la risposta più adatta su come ti sei sentito nell'ultima settimana	Choose the answer that best describes how you have been feeling during the past week	Изберете отговора, който най-добре описва как сте се чувствали през изминалата седмица	Choose the answer which describes best how you felt over the past week:
1	Being scared for no reason	Vous aviez peur sans raison	You felt scared without any reason	Avere paura senza motivo	Being afraid with no reason	Чувство за уплаха без причина	Being scared for no reason
2	Feeling fearful	Vous vous sentiez effrayé	You felt frightened	Essere timorosi	Feeling fearful	Чувство за страх	Feeling fearful
3	Faintness	Vous aviez une sensation d'étourdissement	You felt dizzy	Sensazione di mancamento	Faintness	Отпадналост	Faintness
4	Nervousness	Vous vous sentiez nerveux	You felt nervous	Essere nervoso	Feeling nervous	Нервност	Nervousness
5	Heart racing	Vous aviez l'impression que votre cœur battait anormalement vite	You felt that your heartbeat was abnormally fast	Avere tachicardia	Tachycardia	Сърцебиене	Heart racing
6	Trembling	Vous aviez la sensation de tremblement	You had a shaky feeling	Tremore	Trembling	Треперене	Trembling
7	Feeling tense	Vous vous sentiez tendu	You felt tense	Sensazione de tensione	Feeling tense	Чувство за напрежение	Feeling tense
8	Headache	Vous aviez des maux de tête	You had headaches	Avere mal di testa	Experiencing headache	Главоболие	Headache
9	Feeling panic	Vous vous êtes senti paniqué	You felt panicked	Sensazione di panico	Panicky	Чувство за паника	A sense of panic
10	Feeling restless	Vous vous sentiez agité	You felt agitated	Sensazione de irrequietezza	Feeling restless	Чувство на безпокойство	A sense of anxiety
11	Feeling low in energy	Vous manquez d'énergie	You didn't have any energy	Sentirsi stanco	Feeling tired	Усещане за понижена енергия	A sense of low energy
12	Blaming oneself	Vous ressentiez une sensation de culpabilité	You felt guilty	Avere sensi di colpa	Blaming oneself	Самообвинение	Self-accusation
13	Crying easily	Vous pleuriez facilement	You cried easily	Piangere facilmente	Often tearful	Плачливост	Tearfulness
14	Losing sexual interest	Vous ressentiez un désintérêt pour la vie sexuelle	You were not interested in sex	Perdere l'interesse sessuale	Losing sexual interest	Загубата на сексуален интерес	Loss of sexual interest
15	Feeling lonely	Vous aviez la sensation de solitude	You felt lonely	Sentirsi soli	Feeling lonely	Чувство за самотност	A sense of loneliness
16	Feeling hopeless	Vous vous sentiez désespéré	You felt hopeless	Sentirsi senza speranza	Without hope	Чувство за безнадежност	A sense of hopelessness
17	Feeling blue	Vous aviez le cafard	You felt down	Sentirsi tristi	Feeling sad	Чувствам се нещастен	Feeling blue
18	Thinking of ending one's life	Vous aviez pensé à mettre fin à votre vie	You thought about ending your own life	Avere pensieri di togliersi la vita	Thinking about taking one's life	Мисли за самоубийство	Thoughts of suicide
19	Feeling trapped	Vous vous êtes senti pris au piège	You felt trapped	Sentirsi intrappolati	Feeling trapped	Чувствам се като в капан	Feeling trapped
20	Worrying too much	Vous vous inquiétiez trop	You worried too much	Preoccuparsi troppo	Worrying too much	Притеснявам се твърде много	Worrying too much
21	Feeling no interest	Vous n'étiez plus intéressé par quoi que ce soit	You weren't interested in anything any more	Non avere alcun interesse	No interest in anything	Чувство за загуба на интерес	A sense of a loss of interest
22	Feeling that everything is an effort	Tout était un effort pour vous	Everything was an effort for you	Sentire che tutto è uno sforzo	Feeling that everything is an effort	Чувство, че всичко изисква усилие	A sense that everything needs effort
23	Worthless feeling	Vous aviez le sentiment d'être nul, bon à rien	You felt rubbish, good for nothing	Sentirsi inutile	Feeling of uselessness	Чувство за безполезност	A sense of worthless
24	Poor appetite	Vous aviez perdu l'appétit	You lost your appetite	Avere poco appetito	Loss of appetite	Лош апетит	Poor appetite
25	Sleep disturbance	Votre sommeil était perturbé	Your sleep was disturbed	Disturbo del sonno	Sleep disturbance	Нарушения на съня	Sleep disturbance

Table 5: Backward/Forward: Italian, French, Bulgarian

 Accepted after two rounds

	Original english version	French		Italian		Bulgarian	
		Forward	Backward	Forward	Backward	Forward	Backward
adjective	Not at all	Pas du tout d'accord	Strongly disagree [*]	Niente	Nothing	Съвсем не	Not a bit
	A little	Un peu d'accord	Agree a little	Poco	Slightly	Незначително	A little bit
	Quit a bit	Plutôt d'accord	Rather agree	Abbastanza	Significantly	Съвсем малко	Quite a bit
	Extremely	Complètement d'accord	Completely agree	Moltissimo	Very much	Извънредно	Extremely
1st explanatory sentence	The HSCL-25 score is based on pencil-and-paper self-report of 25 questions about the presence and intensity of anxiety and depression symptoms over the last week. Participants answer to one of four categories for each item on a four-point scale ranging from 1.00 to 4.00	La HSCL-25 est un auto-questionnaire en 25 questions relatives à la présence et à l'intensité des symptômes d'anxiété et de dépression durant toute la semaine dernière. Les participants cotent chaque proposition, sur une échelle en quatre points, cotée de 1 à 4.	The HSCL-25 is a self-assessment questionnaire with 25 questions relating to the presence and intensity of anxiety and depression symptoms during the whole of the previous week. The people taking part rate each statement, on a four point scale, ranging from 1 to 4	Il punteggio dell'HSCL-25 si basa su un'autovalutazione in carta e penna di 25 domande sulla presenza e intensità sui sintomi di ansia e depressione nell'ultima settimana. I partecipanti rispondono a una delle quattro categorie per ogni elemento in una scala di 4 punti che si estende da 1 a 4.	The HSCL-25 score is based on a self-assessment on pen and paper of 25 questions regarding the presence and intensity of the symptoms of anxiety and depression during the last week. The participants reply to one of the four categories for every item on a scale of 4 points which ranges from 1 to 4.	Резултатът от HSCL-25 се основава на самостоятелно попълнен инструмент на хартиен носител, включващ 25 въпроса за наличието и интензивността на симптоми на тревожност и депресия през последната седмица. Участниците избират една от категориите за всяка позиция по скала от четири точки от 1.00 до 4.00.	The HSCL-25 is based on self-completed instrument on paper, including 25 issue of the presence and intensity of symptoms of anxiety and depression in the last week. Participants choose one of the categories for each item on a scale of four points from 1.00 to 4.00
	The HSCL-25 score is calculated by dividing the total score (sum score of items) by the number of items answered (ranging between 1 and 4). It is often used as the measure of distress. The patient is considered as a "probable psychiatric case" if the mean rating on the HSCL-25 is ≥ 1.55 . A cut-off value of ≥ 1.75 is generally used for diagnosis of major depression defined as "a case, in need of treatment". This cut-off point is recommended as a valid predictor of mental disorder as assessed independently by clinical interview, somewhat depending on diagnosis and gender. The administration time of HSCL 25 is 5 to 10 minutes	Le score du HSCL- 25 se calcule en divisant la somme des cotations des propositions par le nombre de réponses reçues. Le résultat final est compris entre 1,00 à 4,00. Il est couramment utilisé pour mesurer la souffrance psychologique. Le patient est considéré comme « probablement atteint d'une maladie psychiatrique » si le score moyen du HSCL-25 est supérieur ou égal à 1,55. Un score supérieur ou égal à 1,75 diagnostique généralement une dépression majeure et défini « un patient nécessitant un traitement ». Ce seuil est considéré comme un score prédictif validé des troubles mentaux. Il a été évalué de manière indépendante par des études cliniques. Il varie peu quelles que soient les situations diagnostiques et le sexe. Remplir le questionnaire HSCL-25 prend entre 5 et 10 minutes.	The score of the HSCL-25 is calculated by dividing the sum of the statement ratings by the number of collected answers. The final result ranges from 1,00 to 4,00. It is currently used to measure psychological suffering. The patient is considered to be "probably suffering from a mental illness" if the average score of the HSCL-25 is higher or equal to 1,55. A score that is higher or equal to 1,75 generally reveals a major depression and indicates that "a patient needs treatment". This threshold is considered to be a validated predictive score for mental disorders. It has been assessed by independent clinical studies. It varies little regardless of diagnostic context and gender. Filling in the HSCL-25 questionnaire takes between 5 and 10 minutes.	Il punteggio dell'HSCL-25 si calcola dividendo il punteggio totale (somma dei punteggi degli elementi) con il numero di elementi risposti (che variano da 1,00 a 4,00). Spesso si usa come misura di ansietà. Il paziente è considerato come un "probabile caso psichiatrico" se il punteggio medio dell'HSCL-25 è $\geq 1,55$. Un cut-off che sia $\geq 1,75$ è normalmente usato per la diagnosi di depressione maggiore definita come "un caso che necessita di trattamento". Questo cut-off è raccomandato come un valido predittore di disordine mentale come valutato in modo indipendente da un colloquio clinico, dipendente in qualche modo dalla diagnosi e dal genere. Il tempo di somministrazione dell'HSCL-25 è da 5 a 10 minuti.	The HSCL-25 score is calculated by dividing the total score (the sum of the scores of the items) by the number of items replied to (which vary from 1.00 to 4.00). It is often used to measure anxiety. The patient is considered to be a "likely psychiatric case" if the average score of the HSCL-25 is ≥ 1.55 . A cut-off point of ≥ 1.75 is normally used for the diagnosis of worse depression defined as "a case that requires treatment". This cut-off is recommended as a reliable predictor of mental disorder as evaluated independently via a clinical discussion, dependent in part on the diagnosis and the type. The HSCL-25 takes between 5 and 10 minutes to complete.	HSCL-25 резултатът се изчислява, като се раздели общият брой точки (сбор точки по критерий) на броя на отговорените критерии (вариращи между 1,00 и 4,00). Той често се използва като мярка за страдание. Пациентът се приема като "вероятно психиатричен случай", ако средната оценка по HSCL-25 е $\geq 1,55$. Гранична стойност от $\geq 1,75$ обикновено се използва за диагностициране на тежка депресия и определя случая като "случай, нуждаещ се от лечение". Тази гранична стойност, получена независимо от клиничното интервю и зависеща до определена степен от диагнозата и пола, се препоръчва като валиден предиктор за психично разстройство. Времето за провеждане HSCL-25 е от 5 до 10 минути.	The HSCL-25 result is calculated by dividing the total score (total score of items) by the number of the items answered (ranging from 1,00 and 4,00). It is often used as a measure of distress. The patient is considered as "a probable psychiatric case" if the average rating on HSCL-25 is ≥ 1.55 . The borderline value of ≥ 1.75 is commonly used for diagnosing major depression defined as "a case, in need of treatment". This borderline point obtained independently by the clinical interview and somewhat depending on diagnosis and gender is recommended as a valid predictor of mental disorder. The administration time of HSCL-25 is 5 to 10 minutes
2nd explanatory sentence							

Table 5: Backward/Forward: Italian, French, Bulgarian

 Accepted after two rounds

3.4.7. Croatian

There were two Delphi rounds to validate the Croatia Forward of HSCL-25.

Almost all proposals were accepted in round one. Nine excerpts entered the second round but 11 items were problematic.

- 5 items (numbers 2, 3, 9, 10, and 15) were only gender problems about items talking about fear and loneliness and the NI decided not to have a second round in relation to these.

- Item 11: Feeling low in energy, the first translation was about feeling of losing power or feeling weak. The participant's comments here were about a lack of energy.

- Item 16: feeling hopeless, the 7 comments were more about desperation than the loss of hope.

- Item 17: feeling blue, the 5 comments were more about melancholy than sadness.

- Item 21: feeling no interest, the 5 comments were more about feeling indifference than any interest.

- Item 14: losing sexual interest, the 5 comments were about the loss of interest while the first translation was about the absence of sexual relation.

- Item 20: worrying too much, the 5 comments were about worrying beyond measure unless first translation was just about worrying.

The progression of consensus after the new proposal of the NI and the first translator for these 6 items was highly satisfying. At the end of the second round, the most frequently rate for all proposal was 9. The average of satisfaction for each rate at the end of the second round is presented in table 5.

The forward translation was done by a second official translator (different from the first one) and blind-knowledge of HSCL-25 and whose mother tongue was Croatian.

3.4.8. Greek

There were two Delphi rounds to validate the Greek Forward of HSCL-25. Almost all proposals were accepted in round one. Nine excerpts entered the second round:

- Item N°1 (Being scared for no reason): the first proposal was “Είμαι τρομοκρατημένος χωρίς αιτία ». Various synonyms were proposed in comments: « ταραγμένος ή φοβισμένος » and « τρομαγμένος ». The second proposal was: « Είμαι τρομαγμένος χωρίς αιτία ». This second proposal reached consensus.

- Item N°3 (Faintness): the first proposal was “Αδυναμία ». Various synonyms were proposed in comments: « λιποθυμική τάση », « ατονία /αίσθημα αδυναμίας« The second proposal was: « Αίσθημα λιποθυμιάς ». This second proposal reached consensus.

- Item N°11 (Feeling low in energy): the first proposal was “Αισθάνομαι κόπωση “. Various synonyms were proposed in comments: “Δεν έχω ενέργεια”, “Αισθάνομαι εξαντλημένος”, “Αισθάνομαι χωρίς ενέργεια”, “Νοιώθω να έχουν πέσει οι μπαταρίες μου”. The second proposal was: « Αισθάνομαι ότι δεν έχω ενέργεια ». This second proposal reached consensus.

- Item N°13 (Crying easily): the first proposal was “Κλαίω εύκολα ». The second proposal was: « Εύκολο κλάμα ». This second proposal reached consensus.

- Item N°18 (Thinking of ending one's life): the first proposal was “Σκέψεις να δώσει (ω) τέλος στη ζωή ». Various synonyms were proposed in comments: « έχω σκεφτεί να δώσω τέλος στη ζωή (μου)».The second proposal was: « Σκέφτομαι να δώσω τέλος στη ζωή ». This second proposal reached consensus.
- Item N°20 (Worrying too much): the first proposal was “Ανησυχώ πάρα πολύ ». Various synonyms were proposed in comments: « ανησυχώ πάρα πολύ ». The second proposal was: « Ανησυχώ υπερβολικά ». This second proposal reached consensus.
- Item N°21 (Feeling trapped): the first proposal was “Αισθάνομαι να μην έχω ενδιαφέροντα ». Various synonyms were proposed in comments: « αισθάνομαι ότι δεν έχω ενδιαφέροντα », « αισθάνομαι πως δε με ενδιαφέρει τίποτε ». The second proposal was: « Αισθάνομαι ότι τίποτε δεν είναι ενδιαφέρον ». This second proposal reached consensus.
- Item N°23 (Worthless feeling): the first proposal was « Αισθάνομαι αναξιότητα ». Various synonyms were proposed in comments: « αισθάνομαι ανάξιος », « αίσθημα αναξιότητας », « αισθάνομαι άχρηστος », « έχω την αίσθηση ότι δεν αξίζω τίποτε », « αισθάνομαι ότι δεν έχω καμιά αξία ». The second proposal was: « Αισθάνομαι ότι δεν αξίζω τίποτε ». This second proposal reached consensus.
- Item N°24 (Poor appetite): the first proposal was “Ανορεξία ». Various synonyms were proposed in comments: « μειωμένη όρεξη για φαγητό », « δεν έχω όρεξη », « μειωμένη όρεξη ».The second proposal was: « Μείωση της όρεξης ». This second proposal reached consensus.

NI sent the final Greek version of HSCL-25 to two translators forming the backward translation team who translated it back to English. They were knowledgeable about health care terminology. They were both GPs. The blind-back translation principle was respected.

3.4.9. Polish

There was only one round Delphi to validate the polish translation. All the proposal were ranked 7 or above at 90% for one sentence, 93,3 % for five sentences, 96,6% for six sentences, and 100% for the 20 remaining sentences.

The Polish version was then translated back to English by two independent translators; therefore we have two different backward translations.

	Original english version	Croatian		Greek		Polish	
		Forward	Backward	Forward	Backward	Forward	Backward
Introductory sentence	Choose the best answer for how you felt over the past week	Izaberite jedan odgovor koji naj+P4:Q14bolje opisuje kako ste se osjećali tijekom prošlog tjedna	Choose one answer that best describes how you have been feeling in the past week	Επιλέξτε την καλύτερη απάντηση για το πώς αισθανθήκατε την τελευταία εβδομάδα	Choose the best answer for how you have been feeling over the past week	Wybierz najlepszą odpowiedź dotyczącą Pana/Pani samopoczucia w ciągu ostatniego tygodnia	Please select the answer best describing your physical and mental state during last week.
1	Being scared for no reason	Bili ste bezrazložno uplašeni	You have been scared for no reason	Είμαι τρομαγμένος χωρίς αιτία	Being scared for no reason	Bać się bez powodu	Ungrounded fears
2	Feeling fearful	Bojali ste se	You have been afraid	Αισθάνομαι φοβισμένος	Feeling fearful	Poczucie strachu	Fear
3	Faintness	Bili ste slabi>You have been weak	You have been weak	Αίσθημα λιποθυμίας	Faintness	Omdlenia	Fainting
4	Nervousness	Bili ste nervozni	You have been nervous	Nerviosismo	Nervousness	Nerwowość	Nervousness
5	Heart racing	Ubrzano vam je lupalo srce	Your heart has been racing	Ταχυπαλμία	Heart racing	Kołatanie serca	Palpitations
6	Trembling	Drhtali ste	You have been trembling	Τρεμούλα	Trembling	Drżenia	Tremors
7	Feeling tense	Bili ste napeti	You have been tense	Αισθάνομαι υπερένταση	Feeling tense	Uczucie napięcia	Emotional tension
8	Headache	Bojela vas glava	You have had a headache	Πονοκέφαλος	Headache	Bóle głowy	Headaches
9	Feeling panic	Bili ste u panici	You have been in panic	Αισθάνομαι πανικό	Feeling panic	Uczucie paniki	panic attack
10	Feeling restless	Bili ste uznemireni	You have been upset	Αισθάνομαι ταραχή	Feeling restless	Uczucie niepokoju	Anxiety
11	Feeling low in energy	Niste imali dovoljno energije	You haven't had enough energy	Αισθάνομαι ότι δεν έχω ενέργεια	Feeling low in energy	Poczucie braku energii	lacking energy
12	Blaming oneself	Okrivljavali ste se	You have blamed yourself	Κατηγορώ τον εαυτό μου	Blaming (myself) oneself	Obwinianie samego siebie	Self blame
13	Crying easily	Bili ste plačljivi	You have felt like crying	Εύκολο κλάμα	Crying easily	Placliwość	Excessive weeping
14	Losing sexual interest	Niste bili zainteresirani za spolni odnos	You have not been interested in sexual intercourse	Απόλεια σεξουαλικού ενδιαφέροντος	Losing sexual interest	Utrata popędu seksualnego	Loss of sexual drive
15	Feeling lonely	Bili ste usamljem	You have felt lonely	Αισθάνομαι μοναξιά	Feeling lonely	Poczucie osamotnienia	Feeling of loneliness
16	Feeling hopeless	Osjećali ste sebeznađno	You have felt hopeless	Αισθάνομαι απελπισμένος	Feeling hopeless	Poczucie beznadziejności	Feeling of hopelessness
17	Feeling blue	Bili ste sjetni	You have been melancholic	Νοιώθω πεσιμένος	Feeling blue	Poczucie przygnębienia	Feeling of depression
18	Thinking of ending one's life	Razmišljali ste da si oduzmete život	You have been thinking about taking your life	Σκέφτομαι να δώσω τέλος στη ζωή	Thinking of ending one's (my) life	Myśli samobójcze	Suicidal thoughts
19	Feeling trapped	Osjećali ste sekao da ste u klopci	You have felt as if trapped	Αισθάνομαι παγιδευμένος	Feeling trapped	Poczucie uwięzienia	Feeling of entrapment
20	Worrying too much	Bili ste previše zabrinuti	You have worried too much	Αισθάνομαι παγιδευμένος	Worrying too much	Zamartwianie się	Excessive worrying
21	Feeling no interest	Bez interesa za bilo što	Without interest in anything	Αισθάνομαι ότι τίποτε δεν είναι ενδιαφέρον	Feeling no interest	Poczucie braku zainteresowań	Feeling of lack of interests
22	Feeling that everything is an effort	Sve vam je bilo naporno	Everything seemed too hard for you	Αισθάνομαι ότι για το καθετί χρειάζεται να κάνω προσπάθεια	Feeling that everything requires an effort	Uczucie, że wszystko jest ciężarem	Feeling that everything is a burden
23	Worthless feeling	Osjećali ste se bezvrijedno	You have felt worthless	Αισθάνομαι ότι δεν αξίζω τίποτε	Worthless feeling	Poczucie, że jest się bezwartościowym	Feeling of low self-esteem
24	Poor appetite	Imali ste slab apetit	You have had poor appetite	Μείωση της όρεξης	Poor appetite	Słaby apetyt	poor appetite
25	Sleep disturbance	Imali ste problema sa spavanjem	You had problem sleeping	Διαταραχές ύπνου	Sleep disturbance	Zaburzenia snu	Sleep disorder

Table 6: Forward/backward: Croatian, Greek, Polish

Accepted after two rounds

	Original english version	Croatian		Greek		Polish	
		Forward	Backward	Forward	Backward	Forward	Backward
Adjective	Not at all	Nimalo	Not at all	Καθόλου	Not a bit	Brak	None
	A little	Malo	A little	Λίγο	A little	Trochę	Some
	Quit a bit	Dosta	Quite a bit	Αρκετά	Quite	W dużym stopniu	Considerable
	Extremely	Jako	A lot	Πάρα πολύ	Very much	Bardzo mocno	Very strong
1st explanatory sentence	<p>The HSCL-25 score is based on pencil-and-paper self-report of 25 questions about the presence and intensity of anxiety and depression symptoms over the last week. Participants answer to one of four categories for each item on a four-point scale ranging from 1.00 to 4.00</p>	<p>HSCL-25 skor sastoji se od 25 pitanja koja se rješavaju jednostavno olovkom i papirom, a temelji se na samoprocjeni prisutnosti i intenzitetu anksioznih i depresivnih simptoma tijekom prošlog tjedna. Ispitanici odgovaraju jednom od četiri kategorija za svako pitanje na skali od 1-4</p>	<p>HSCL-25 score consists of 25 items easily completed with pencil and paper, and is based on self-assessment of presence and on intensity of anxiety and depression symptoms in the past week. The respondents answer by one out of four categories for each item on a 1-4 scale</p>	<p>Η βαθμολογία του HSCL-25 βασίζεται σε γραπτό ερωτηματολόγιο αυτοαξιολόγησης 25 ερωτήσεων σχετικά με την παρουσία και την ένταση των συμπτωμάτων άγχους και κατάθλιψης κατά τη τελευταία εβδομάδα. Οι συμμετέχοντες απαντούν σε μία από τις τέσσερις κατηγορίες για κάθε ερώτηση σε μια κλίμακα εύρους τεσσάρων βαθμών με τιμές από 1 μέχρι 4</p>	<p>The HSCL-25 score is based on a written self-assessment questionnaire of 25 questions about the presence and intensity of anxiety and depression symptoms during the last week. Participants answer to one of four categories for each question on a scale of four points which ranges from 1 to 4</p>	<p>Ocena testu HSCL-25 oparta jest na kwestionariuszu 25 pytań, w którym zakreśla się na papierze obecność i nasilenie objawów lęku i depresji w ciągu ostatniego tygodnia. Badani odpowiadają na jedno z czterech możliwych opcji na skali mierzącej wartości od 1 do 4</p>	<p>The evaluation of the HSCL-25 test is based on a questionnaire consisting of 25 questions where the respondents mark on paper the presence and intensity of the symptoms of fear and depression during last week. Respondents choose one of the four options on the scale from 1 through 4</p>

Table 6: Forward/backward: Croatian, Greek, Polish

3.4.10. German

All items were accepted in the first round Delphi but several translations required comments the most discussed items were the second explanatory sentence, item 1, 7, 10, 11, 16, 21 and 25.

Seven (15%) of the 46 items ranked below 7 are not commented and 22 (36%) of the 61 comments concern items ranked above 6.

The NIs sent the final German version of HSCL-25 to two independent translators who translated it back to English. The translator from Hannovers team translated the items and the one from Göttingens team the instructions. Their native language was German and they were knowledgeable about health care terminology, so the blind backward translation principle was respected.

4. Discussion

4.1. Main results

HSCL-25 was translated in 3 languages family: Romance (Galician, Castilian, Catalan, French, Italian), Slavic (Croatian, Bulgarian, Polish) and Greek. , a german version already existed.

About Romances language : the French was the language which the most that (18) were not accepted during the first round delphi, it was, most of the time, the tense used in common language, the present, which led to several modifications on the final translation, compared to the forward version that used the past tense. The meaning of the words, the syntax, the quotations and the strength of the proposals seemed to be different possibly in relation to the French language For the Hispanic languages (i.e Castilian, Catalan and Galician) and Italian, the translation had to be adapted on the gender, and more precisely on the male plural form for the Italian scale, which was the usual way of speaking in that country. Two round was necessary in Italy (5 items unaccepted) and Galicia (3 items unaccepted).

For the German, all items were accepted in the first round Delphi. Unfortunately, it was not possible to ensure the linguistic stability of the German version of the HSCL-25 in general practice, as a German translation already existed. Moreover, the number of experts at the end of the first Delphi round was insufficient (14).

About Slavics languages: for Croatia, 11 items were not accepted during the first round, most of the time it was used the present perfect, which is a tense of state and not of action. Regarding Polish and Bulgarian all items were accepted after the first round.

For the Greek 9 items were unaccepted after the first round, the HSCL-25 translation was mainly based on an adaptation according to the gender.

HSCL-25 was achieved. All translations were linguistic reliable of the original version. Previous translations of other forms of HSCL (HSCL-37) had failed to maintain this linguistic stability by their mode of translation (69, 70). This work was a real novelty, by the assured reproducibility of the translation result.

There was not need lot of round Delphi, in fact, only two rounds Delphi was necessary in Galicia, France, Italy, Croatia, Greece and only one in the rest of the countries. This low number of rounds is due to Hopkins Syndrom Check List which is very stable and a alpha of Cronbach very high (it is used as a lowerbound estimate of the reliability of a psychometric test like HSCL-25).

This study (under the auspices of EGPRN) proved that HSCL 25 is the best possible tool, in terms of efficiency, reliability and ergonomics, to diagnose depression in European Primary Care medicine in a research perspective; they used a RAND/UCLA methodology, based on an SRL (71) and a Rapid Review (72). HSCL-25 allowed collaborative research, subject to validate outpatients in primary care daily practice.

4.2. Teaching, research and practice future applications

The ergonomics of HSCL-25 will reassure students of the feasibility of such tests in Primary Care Medicine. Teachers could use this validated tool as the basis of their courses for depression diagnosis in FM. They could have enough confidence in the reliability and efficiency data to teach it to their students.

Translation in ten European language of HSCL-25 allows collaborative research, multi-centered in daily practice throughout Europe. This cross-sectional tool could allow transversal research between psychiatry and primary care.

The comparison between the backward and forward translation will allow: on the one hand, the ultimate control of the linguistic quality translation work of the whole process and on the other hand, to identify the differences between the two English versions which are not reducible despite the quality control.

Currently, migration is increasing in Europe (due to the complex geopolitical context, globalization...), HSCL-25 has already been used in clinical settings both for refugee and general populations (69, 70). These translations can help doctors in primary care to diagnose depression while not speaking the patient's language.

HSCL-25 will allow homogenization of diagnoses and can be the treatment of depressive patients later.

4.3. Strength and limits

4.3.1. Strength

The strength of the study is based on its methodology and the selection of GPs experts.

Quality of methodology:

The entire initial protocol was respected throughout the study. The translation of HSCL-25 was obtained using known and reputed tools for maintaining this stability, a Delphi process and a Likert scale (60, 61, 73, 74).

The scientific committee of the study choose the Delphi procedure because of its capacity to be conducted quickly and cheaply. Because the Delphi procedure does not require any face-to-face meeting, it preserves anonymity, limits leadership effect and conflicts of interest and allows a rich panel of experts without any geographical constraints (75-77).

Delphi process with FPs experts performed an expert consensus on Galician, Catalan, Castilian, French, Bulgarian, German, Croatian, Italian, Greek, Polish translation of the HSCL-25. It must integrate idiomatic expressions, colloquial health phrase and emotional terms in common use in order to be easy to use in GP practice and research.

The Likert scale is an international validated, qualitative and ordinal scale. The ranking 7 or above guaranteed an adherence to the translation (50, 64, 78, 79).

The HSCL-25 seems to be a very stable questionnaire because almost all excerpts translations were accepted in one round. Half of the countries needed two Delphi round: Greece, France, Galicia, Croatia, and Italy. All proposals were accepted in the second round.

The Delphi procedure was adapted to evaluate an issue quickly, with low cost and without geographical constraints.

It allowed a convergent tendency to be obtained from various subjective elements. It was also a reproducible consensus of opinion (47).

Quality of the panel

In this study, 11 Nationals leaders, 224 experts and 23 independants translators participated. The panel is very heterogeneous, cosmopolitan, it's a great strenght of this linguistic translation This very high proficiency guaranteed the Delphi procedure's high quality.

The average of international publications for national leaders was 13.8, for a total of 152 publications. The average of years of practice was 21.3 years, and 12.4 in terms of years of research. All leaders were research and 72,7% were teachers. Leaders were instrumental in selecting a varied and heterogeneous panel of experts.

The experts were 81,4% teaching and/or researching activity in a Family Medicine Training Unit. Their clinical experience was very high. They were all english fluent. This very high proficiency guaranteed the Delphi procedure's high quality.

The translators were specialized in the linguistics of their country and spoke very well English, they were selected by the national leaders.

The choice of a panel of general practitioners is made to have a vision of the primary care specialist useful in everyday practice. The Delphi protocol required that they be qualitatively representative and varied (60, 74).

Collaborative research work

This work was included in a European cooperative study responding to the need of general practitioners in Europe (35).

The repetition of translations in all the different languages strengthened the overall value of the results obtained.

One of the aims of this research was to create a diagnostic tool that can be used in different European countries in primary care research (80).

4.3.2. Selection bias

In order to constitute the panel, experts were chosen to ensure a maximum of heterogeneity and to increase its representativeness (56). According to Delphi procedure, GPs experts were sufficient and selection criteria were strictly followed: they were native of the country and it was their native language, they were English speaking and were in GP practice.

The experts were 81,4% teaching and/or researching activity in a Family Medicine Training Unit.

To constitute the panel, experts were chosen to ensure a maximum of heterogeneity, to increase its representativeness (56).

Males were more represented with 51, 6%.

About geographical heterogeneity, GPs experts were working in different locations. For example in Spain (Catalonia, Castille, Galice), no GPs' experts were working in a city <2000 habitants. It can be explained by the high proportion of academic researchers and by Spain health organization. In Spain there is at least one health center in each municipality but GPs' work in larger health centers, with usually 4-10 GPs for 6000-15000 patients. On the contrary, in Greece, 38.4% of GPs' work in cities <2000, a majority of GPs' were working in a rural environment.

So the number of experts, their geographical heterogeneity, their different ways of working, their experience reduced the selection bias.

4.3.3. Information bias

NIs' organized the Delphi round according to protocol: they sent the same documents to each expert, and they all received the whole protocol. No information bias was possible as every participant had a full access to the whole data. The proposed translation and the rules of procedure were clearly written. Furthermore, the short delay imposed by the Delphi process was respected, therefore avoiding information bias.

4.3.4 Confounding factors

Forward-Backward is an international consensual process of translation and adaptation of instruments. The Forward translation process aimed to respect the faithfulness of meaning in English and in ten European languages. A specific attention was paid to choose GP researcher and certified bilingual translator knowledgeable about health care terminology. To ensure homogeneity, a backward translation was necessary. The backward translator was working blind and was an academic official translator (47, 81). Each expert expressed his judgment individually and anonymously. The lack of face-to-face meeting avoided the "opinion leader" effect and limits conflicts of interest. All those arguments reduced the confusion bias.

Differences between the Original and the Back-translation appeared. Even if the linguistic translation was reliable, the meaning of some items could be not completely similar. Possible confounding bias could exist, related to the cultural differences. Those aspects will be analysed with a cultural check (82, 83, 84). The next step is a cultural analysis of the translation which will ensure the semantic reproducibility between the original version and the translation.

5- Conclusion

The third phase of FPDM, using a Delphi procedure and Forward-Backward translation, allowed the translation of HSCL-25 in Galicia, Catalan, Castilian, French, Italian, Bulgarian, Croatian, Greek and Polish. We performed a consensual translation of HSCL-25 in several European languages using a Delphi procedure adapted for a Forward-Backward translation. This procedure aimed to produce the best translation, taking into account cultural differences and special features. Delphi process was extensively used in many domains because it does not require any face-to-face meeting and preserve anonymity, so it limits domination effect and conflicts of interest effects.

The GPs' can exchange more objectively with healthcare authorities and psychiatrists on the prevalence, incidence and treatment of depression in primary care. The interest of HSCL-25 is in research, practice and teaching.

A cultural check will verify their validity, ensuring that the meaning of every translation remains the same compared to the original English version.

During the next step (fourth phase), every national team will test HSCL-25 to ensure its ergonomics in a general practice setting.

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7- Annex

Annex 1: HSCL-25 Hopkins Symptom Checklist



Département Universitaire de Médecine Générale
22, avenue Camille Desmoulins CS 93837 – 29238 – Brest CEDEX 3
Tél : 02 98 01 65 52 – fax : 02 98 01 64 74

Choose the best answer for how you felt over the past week:

Items	1: "Not at all"	2: "A little"	3: "Quite a bit":	4: "Extremely"
1	Being scared for no reason			
2	Feeling fearful			
3	Faintness			
4	Nervousness			
5	Heart racing			
6	Trembling			
7	Feeling tense			
8	Headache			
9	Feeling panic			
10	Feeling restless			
11	Feeling low in energy			
12	Blaming oneself			
13	Crying easily			
14	Losing sexual interest			
15	Feeling lonely			

16	Feeling hopeless				
17	Feeling blue				
18	Thinking of ending one's life				
19	Feeling trapped				
20	Worrying too much				
21	Feeling no interest				
22	Feeling that everything is an effort				
23	Worthless feeling				
23	Poor appetite				
25	Sleep disturbance				

The HSCL-25 score is calculated by dividing the total score (sum score of items) by the number of items answered (ranging between 1,00 and 4,00). It is often used as the measure of distress.

The patient is considered as a “probable psychiatric case” if the mean rating on the HSCL-25 is ³ 1,55.

A cut-off value of ³ 1,75 is generally used for diagnosis of major depression defined as “a case, in need of treatment”. This cut-off point is recommended as a valid predictor of mental disorder as assessed independently by clinical interview, somewhat depending on diagnosis and gender.

The administration time of HSCL 25 is 5 to10 minutes.

Annex 2: informed consent (to translate in your language)

Département Universitaire de Médecine Générale

22, avenue Camille Desmoulins CS 93837 – 29238 – Brest CEDEX 3

Tél: 02 98 01 65 52 – fax : 02 98 01 64 74

INFORMATION NOTICE

International Investigator Senior Coordinator

Name: Nabbe Patrice

Address: Département de médecine générale, Faculté de Médecine de Brest, 22, avenue Camille Desmoulins, 29238 Brest cedex 3

International Developer

Département Universitaire de Médecine Générale – 22 avenue Camille Desmoulins - 29238 Brest Cedex 3

National investigator senior coordinator:

Name:

Address:

National developer:

Dear Madam or Sir

You are invited to participate in a survey by A.AUGUSTIN (trainee in general practice, GP...). The department of general practice from BREST. is the national developer of that survey. He is responsible for it and assumes its organization.

Mrs/Mr will explain his/her work to you. If you decide to participate you will be asked to sign a consent form. This signature will confirm that you did agree to participate.

1. Course of study

A Delphi procedure. This Delphi procedure will be fully anonymized and it will be impossible for a study reader to identify you.

2. Potential risk of study

There are no risks associated with your participation in this study

3. Potential benefits of the study

There is no potential benefit to this study

4. Voluntary participation

Your participation to this study is entirely voluntary.

You are free to refuse to participate and to terminate your participation in the study at any time and without incurring any liability or any injury of this fact and without causing consequences.

In this case you must inform the investigator of your decision

In the event that you withdraw your consent, we will conduct a computer processing of your personal data unless written objection on your part.

During the study, your investigator will notify you, if new facts might affect your willingness to participate in the study.

5. Obtaining complementary informations

If desired, Patrice Nabbe or local national investigator (phone number), who can be reached at telephone number: 00 33 674 36 43 22 at any time can answer all your questions about the study.

At the end of the study, and at your request, your investigator will inform you of the overall results of this research.

6. Confidentiality and use of medical or personal data

As part of biomedical research in which the DUMG Brest, Patrice Nabbe and your national investigator offer to participate, a treatment of your personal data will be used to analyse the results of research in light of the objective of that study which was presented to you.

To this end, the data collected, including any survey and the data on your lifestyle will be forwarded to the promoter of the research where the data will be processed in this study.

Those data will be anonymized and their identification will be held with a code number.

Staff involved in the study is subject to professional secrecy.

These data may also, under conditions ensuring their confidentiality be transmitted to the national or European health authorities.

Under the provisions of Law you have the right to access and modify. You also have the right to object to the transmission of data covered by professional secrecy.

If you agree to participate in this study, thank you to complete and sign the consent form. You will keep a copy of it.

Annex 3: Consent Form for each leader

Consent Form (for each leader with department of general practice, Brest, France)

Promoter : Département Universitaire de Médecine Générale – 22 avenue Camille Desmoulins - 29238 Brest Cedex

Dr: NABBE
Patrice.....
.....
.....

Address: Département de médecine générale, Faculté de Médecine de Brest, 22, avenue Camille Desmoulins, 29238 Brest cedex 3, FRANCE

National leader investigator name

Address:

University:

Asked me to participate in a Forward-Backward translation.

I had time to reflect on my involvement in this study. I am aware that my participation is completely voluntary and that the study will entail no additional cost to my charge.

I can, at any time, decide to leave the study without giving reasons for my decision and that it does without consequences.

I understood that the data collected during the research would be protected in accordance to confidentiality. They can only be accessed by persons subject to professional secrecy belonging to the team-investigating physician, mandated by the promoter.

I accept the computerized processing of personal data in accordance with the data protection act. I have been informed of my right to access and rectify data concerning me.

My consent does not absolve the responsibilities of the organizers of this research. I retain all my rights guaranteed by Law.

Done in two originals

at....., the dd/mm/yyyy

Name, first name of national leader: Name, first name of the interviewee:

Signature:

Annex 4: Consent Form for each national team

Consent Form (for each national leader with each member of local national team)

Promoter: Département Universitaire de Médecine Générale – 22 avenue Camille Desmoulins - 29238 Brest Cedex 3

Dr.....

Address:

.....

Local investigator name

Address:

.....

University:

Asked me to participate in a Delphi consensus.

I had time to reflect on my involvement in this study. I am aware that my participation is completely voluntary and that the study will entail no additional cost to my charge.

I can, at any time, decide to leave the study without giving reasons for my decision and that it does without consequences.

I understood that the data collected during the research would be protected in accordance to confidentiality. They can only be accessed by persons subject to professional secrecy belonging to the team-investigating physician, mandated by the promoter.

I accept the computerized processing of personal data in accordance with the data protection act. I have been informed of my right to access and rectify data concerning me.

My consent does not absolve the responsibilities of the organizers of this research. I retain all my rights guaranteed by Law.

Done in two originals

at....., the dd/mm/yyyy

Name, first name of investigator: Name, first name of the interviewee:

LE BRIS Tanguy - THE HOPKINS SYMPTOMS CHECKLIST IN 25 ITEMS : TRANSLATIONS IN CASTILIAN, GALICIAN, CATALAN, FRENCH, GREEK, ITALIAN, POLISH, BULGARIAN AND CROATIAN SYNTHESIS

54 pages, tables, annexes, Thèse Médecine: Brest 06/2017

RESUME / ABSTRACT

Introduction : Depression is the second most common chronic disorder in primary care. Inter-individual and cross-cultural variations can alter the expression of symptoms. The 25-item Hopkins Symptom Checklist (HSCL-25) was selected by the Family Practice Depression and Multimorbidity (FPDM) study of the European General Practice Research Network (EGPRN) as the most appropriate to diagnose depression according to criteria efficiency, reproducibility and ergonomics versus DSM. The objective was to synthesize the linguistic translations previously produced in Galician, Castilian, Catalan, French, Italian, Greek, Croatian, Bulgarian, German, Polish.

Method: Backward-forward translation by Delphi rounds was used to make consensus. A panel of general practitioners (Gp) experts was recruited by a national investigator (NI) in each country. The quantitative data was made with a Likert scale. Consents and anonymity were guaranteed by NI. The backward translation was carried out blind from the original.

Results : The panel complies with the inclusion criteria. A single round delphi was needed in Poland, Bulgaria, Germany, Castile and Catalonia, a German version already existed, items were accepted with commentaries. Two were necessary in France, Croatia, Greece, Galicia, Italy after experts disagreed on few items. No more rounds

MOTS CLES :

Depression Primary health care / Backward-Forward translation by Delphi process / Hopkins Symptom Checklist in 25-items/ Castilian, Galician, Catalan, Italian, Bulgarian, French, German, Greek, Polish, Croatian translations / synthesis

JURY :

PRÉSIDENT DU JURY Pr. JY LE REST

MEMBRES DU JURY Dr. NABBE

Pr LE FLOC'H

DATE DE SOUTENANCE :

Jeudi 8 juin 2017