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CROSS-CULTURAL VALIDATION OF THE DEFINITION OF MULTIMORBIDITY IN THE BULGARIAN LANGUAGE

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КУЛЬТУРАЛЬНАЯ ВАЛИДНОСТЬ ОПРЕДЕЛЕНИЯ ПОЛИМОРБИДНОСТИ В БОЛГАРСКОМ ЯЗЫКЕ

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ABSTRACT

Introduction: Multimorbidity is a health issue with growing importance. During the last few decades the populations of most countries in the world have been ageing rapidly. Bulgaria is affected by the issue because of the high prevalence of ageing population in the country with multiple chronic conditions. The **aim** of the present study was to validate the translated definition of multimorbidity from English into the Bulgarian language. **Materials and methods:** The present study is part of an international project involving 8 national groups. We performed a forward and backward translation of the original English definition of multimorbidity using a Delphi consensus procedure. **Results:** The physicians involved accepted the definition with a high percentage of agreement in the first round. The backward translation was accepted by the scientific committee using the Nominal group technique. **Discussion:** Some of the GPs provided comments on the linguistic expressions which arose in order to improve understanding in Bulgarian. The remarks were not relevant to the content. The conclusion

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of the discussion, using a meta-ethnographic approach, was that the differences were acceptable and no further changes were required. **Conclusions:** A native version of the published English multimorbidity definition has been finalized. This definition is a prerequisite for better management of multimorbidity by clinicians, researchers and policy makers.

Key words: *general practice, long-term care, multimorbidity, comorbidity, public health*

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РЕЗЮМЕ

Введение: Значение полиморбидности становится всё более существенным. За последние несколько десятилетий наблюдается всё более значительное старение населения большинства стран в мире. Проблема касается и Болгарии, ввиду высокого распространения стареющего населения со множеством хронических заболеваний. **Целью** данного обследования является валидизация определения полиморбидности в переводе с английского на болгарский язык. **Материал и методы:** Настоящее обследование является частью международного проекта, включающего участников из восьми стран. Исследование основано на переводе определения с применением процедуры Дельфи. **Результаты:** Участвующие в обследовании врачи приняли определение на первом этапе с высоким процентом согласия. Перевод с болгарского языка на английский принято исследовательским комитетом с использованием техники Номинальной группы. **Дискуссия:** Частью общепрактикующих врачей были обсуждены конкретные выражения с целью лучшего понимания на болгарском языке. Отправленные замечания не касаются содержания. Проведённый мета-этнографический подход привёл к заключению, что различия приемлемы и нет необходимости в дальнейших изменениях. **Заключение:** Болгарский перевод определения полиморбидности осуществлён. Данное определение является предпосылкой для лучшего управления полиморбидностью клиницистами, исследователями и политиками.

Ключевые слова: *общая медицина, долгосрочный уход, полиморбидность, коморбидность, общественное здравоохранение*

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INTRODUCTION

Multimorbidity (MM) is a health-related issue of growing importance.[1-3] During the last few decades the populations of most countries in the world have been ageing rapidly. As a result of the growing proportion of elderly people in the community, the prevalence of chronic conditions is expected to rise further. Moreover, it is becoming increasingly common for patients to have two or more concomitant medical conditions.[4]

Bulgaria is affected by the issue because of the high prevalence of ageing population with multiple chronic conditions in the country.

The concept of MM has been developing since the 1980s and is being constantly enriched. Initially the concept was studied in Germany with expanding interest worldwide.[5]

MM has been studied in many different settings, in different population groups, using different definitions and different means of assessment. As a result, there is no generally accepted concept of MM.[6]

Multimorbidity has been defined by the World Health Organization (WHO) as people being affected by two or more chronic health conditions.[7]

Such an approach is simplistic, inadequate and often represents the norm in older age groups. A more holistic definition is required that includes not only chronic disease 'labels' but also other 'morbidities' such as emotional and psychological distress, and even existential or spiritual distress, all of which are socially patterned. There is a need to incorporate the various levels of severity of the problems people face and recognize that many people living with MM manage well and do not require additional intervention.[8]

The phenomenon is of special interest in general practice which covers a broad spectrum of morbidity rather than focusing on specific disease categories. GPs have the opportunity and are required to handle the complex health situation of co-occurring diseases, the subsequent treatment and the effects of both on daily life.[9,10]

In Bulgaria the general practitioner (GP) is a gatekeeper who has a key role in coordinating all the patient's health problems.

Providing comprehensive care is a core competency of the GP identified by the World Organiza-

tion of National Colleges, Academies and Academic Associations of Family Physicians (WONCA).

GPs need specific strategies to handle patients with MM. To offer proactive guidance and treatment and to improve the quality of care for patients with MM, GPs should be able to identify MM patients.

The MM concept has been enhanced by the European General Practice Research Network (EGPRN) multilingual working group. Based on a systematic literature review, Le Reste and co-authors propose a definition of MM which focuses on clarifying the description, identifying modifiers of the burden and highlighting the outcomes of MM. A more comprehensive definition leads to better focused research, especially for quality of care and cost of care.[11-13]

The aim of the study was to validate the translated definition of multimorbidity from English into the Bulgarian language.

MATERIALS AND METHODS

Study design

The present study is part of an international project involving 8 national groups, all active within the EGPRN, for the purpose of clarifying the concept of MM for General Practice and Long Term Care throughout Europe.

The first step was the review of scientific literature (published between 01/01/1990 and 31/12/2010) according to PRISMA guidelines[14] in order to propose a comprehensive definition of MM.

The current study is based on a forward and backward translation of the original English definition using a Delphi consensus procedure.[15] The forward translation of MM definition was undertaken from English into the Bulgarian language by two translators (one physician and one official translator). Forty-five emails providing a short description of the project were sent to GPs randomly selected from the list of contract partners of the National Health Insurance Fund.

Inclusion criteria

GPs, fluent in English, currently employed in general practice, with or without teaching or research activity commitment.

The local research team proposed the English definition and its translation into Bulgarian language to the GPs, by email (each participant was contacted separately to avoid contamination). Participants ranked the translation using a Lickert-type scale ranging from 1 = absolutely no agreement to 9 = full agreement. A rate of less than 7 had to be justified by the participant that made it.

Consensus was defined as at least 70% of the participants rating the consensual definition 7 or above. Once the consensual Bulgarian definition was reached one physician and one official translator did a backward translation into English. The backward translation was approved by the scientific committee of the study and the leader of the native group in the EGPRN meeting in Antwerp Oct 2012 using the Nominal group technique. Then a cultural check was undertaken by the international research team in the EGPRN meeting in Kusadasi in May 2013. A meta-ethnographic approach[16] was used for analyzing the cultural differences.

Research population

30 native expert GPs and two official translators were involved in the Delphi procedure.

10 GPs from seven European countries and one linguist participated in the backward translation procedure.

The data were obtained following the guidelines of the Delphi procedure, the Nominal group technique and the meta-ethnographic translation. Quantitative data were analyzed using the SPSS, version 17 for descriptive statistics.

RESULTS

The response rate, based on the number of involved participants, was relatively high (66.67%).

The characteristics of the proposed sample of participating general practitioners are presented in Table 1. Thirteen of the participants had additional qualifications in specialties such as internal medicine (N = 5), pediatrics (N = 3), psychology (N = 2), obstetrics and gynecology (N = 1), ENT (N=1), dermatology (N = 1).

All the participants had a good, or very good,

The original English version of the definition consists of three statements:

Multimorbidity is defined as any combination of chronic disease with at least one other disease (acute or chronic) or biopsychosocial factor (associated or not) or somatic risk factor.

Any biopsychosocial factor, any somatic risk factor, the social network, the burden of diseases, the health care consumption and the patient's coping strategies may function as modifiers (of the effects of multimorbidity).

Multimorbidity may modify the health outcomes and lead to an increased disability or a decreased quality of life or frailty.

Table 1. Characteristics of the purposed sample of the participating general practitioners

Characteristics	N of GPs
Participants	30
Gender	
Men (male)	11
Women (female)	19
Type of medical practice	
Single	23
Group	7
Workplace	
Less than 2000 inhabitants	3
Between 2000 and 5000	3
More than 5000 inhabitants	24
Mean age, years	47.0
Sd	1.5
Minimum–maximum	28-63
Range	35
Mean work experience , years	21.8
Sd	1.4
Minimum–maximum	4-35
Range	31
Involvement in teaching activities	
Yes	13
No	17

command of English and some were involved in research activities.

Every participant ranked each statement of the proposed definition. 96.67% of the participants rated the definition by at least 7 points and only one participant allocated a score below 7 to any of the statements. (Table 2.)

It took only one round to reach consensus because of the high level of agreement. (Table 3.)

Six participants commented on the accepted or rejected statements. One colleague described the definition as too heavy and cumbersome. The analysis showed that five of the comments were related to the third statement. Both the first and second statements had one comment. Minor linguistic alterations were proposed, especially about the notion of "frailty".

Table 2. GPs' assessment of translated definition

	Number of participants n = 30		
Rank	**Statement 1**	**Statement 2**	**Statement 3**
9	11	9	11
8	14	15	15
7	5	6	3
6	0	0	1

Table 3. Delphi first round results

Statement	N	Nb	CP - %	Result
1	30	30	100.00	Accepted
2	30	30	100.00	Accepted
3	30	29	96.67	Accepted

N: Number of participants, Nb: Number of scores of 7 or above, CP: Consensus percentage of accepted statement.

The final translation into the native language, Bulgarian:

Полиморбидност се определя като всяка комбинация от хронично заболяване, с поне едно друго заболяване (остро или хронично) или свързан или не със заболяването био-психо-социален фактор или друг соматичен рисков фактор.
Всеки био-психо-социален фактор, всеки рисков фактор, социалната среда, тежестта на заболяванията, използването на здравни услуги и стратегии на пациента за справяне могат да оказват влияние върху ефектите на полиморбидността.
Полиморбидността може да доведе до промяна на очакваните резултати и до по-висока степен на инвалидност, понижено качество на живот или слабост.

Taking into consideration the remarks of the GPs, the Bulgarian research team proposed the following definition.

The backward translation was accepted by all the experts (100%) of the study scientific panel and the leader of the native group at the EGPRN meeting in Antwerp in Oct 2012. Its homogeneity with the original English definition was confirmed at the EGPRN meeting in Kusadasi in May 2013.

The backward translation into English-final native definition:

Multimorbidity is defined as any combination of a chronic disease combined with at least one other disease (acute or chronic) or bio-psychosocial factor (connected or not with the disease) or somatic risk factor.
Any bio-psychosocial factor, any risk factor, the social environment, the burden of the diseases, the health care consumption and the patient's strategies for coping may modify the effects of multimorbidity.
Multimorbidity can lead to a change of the health outcomes and to a higher level of disability, decreased quality of life or frailty.

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DISCUSSION

The majority of GPs who were selected to participate in the study responded to the invitation. We believe that the high response rate is due to the topicality of the problem. MM is directly related to GPs' daily activities. GPs face major problems when they encounter patients with MM. In general practice MM represents the rule rather than the exception among elderly patients.

MM is closely related to a concept for Long Term Care and for General Practice.[17]

The positive aspect of the Bulgarian model for monitoring patients with chronic diseases is that it acts on a national level but, on the other hand, it does not address the full needs of people with MM. Patients with MM often receive care that is fragmented, incomplete, inefficient, and ineffective. This problem also concerns other EU countries.

The GPs who were invited to participate were homogenous, in terms of gender, with extensive work experience. They had previously worked as pediatricians and internists before starting their practice as GPs. The mean age of the participants was relatively low, which could be explained by one of the inclusion criterion: a good command in English.

The physicians involved accepted the definition with a high percentage of agreement on the first round. Some provided comments on the linguistic expressions which arose in order to improve understanding in Bulgarian. The remarks were not relevant to the content.

The notion "frailty" evoked the GPs' interest. The link between MM and the concept of frailty has already been discussed in relation to helping physicians identify de-compensating patients.[18]

During the meetings related to the acceptance of backward translation, all the phrases which had differences from the original version in English were discussed.

In the Bulgarian translation, the general phrase 'any risk factor' was preferred by the GPs instead of 'any somatic risk factors,' as the last phrase was included in the general one.

Another comment concerned the word "network", which is replaced by the word "environment" in the native, translated version. In Bulgarian this is a broader concept than 'social network' as it refers not only to family members or friends but also to living conditions and other social conditions.

The conclusion of the discussion was that the differences were acceptable and no further changes were required. It was also the case for Italy[19] and Poland[20].

Strengths and limitations

The strength of the study is that it is the first one in the field to include the participation of GPs who play a crucial role in the management of MM. There was no information bias as all the documents were given to all the participants. There was no selection bias as the study protocol was very carefully followed to ensure a broad spectrum of expert GPs from Bulgaria. Some confounding factors are always possible in the Delphi consensus procedure.[15]

CONCLUSIONS

This study will promote research in this area, as well as further establishment of general practice as a specialty in Bulgaria. It has finalized a native version of the published English multimorbidity definition which is a prerequisite for the better management of MM by clinicians, researchers and policy makers.

This advanced and comprehensive definition will facilitate detailed study of the problem and improve the care of MM patients. The validated definition enables the research team to proceed to the next step which is qualitative research in order to find the value added by GPs to the concept of MM, as well as achieving the main goal – the introduction of a code for MM in the International Classification of Primary Care (ICPC).

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ETHICAL APPROVAL

The study protocol has been approved by the Ethics Committee of the Medical University Plovdiv (Approval-No1/21.02.2013). All participants have had the study protocol explained and have given written informed consent.

CONFLICTS OF INTEREST

Authors affirm that they have no competing interest with this article.

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