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

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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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**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-
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

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

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”.

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 заболяванята, 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.

Table 2. GPs’ assessment of translated definition

<table>
<thead>
<tr>
<th>Rank</th>
<th>Statement 1</th>
<th>Statement 2</th>
<th>Statement 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>11</td>
<td>9</td>
<td>11</td>
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<tr>
<td>8</td>
<td>14</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3. Delphi first round results

<table>
<thead>
<tr>
<th>Statement</th>
<th>N</th>
<th>Nb</th>
<th>CP - %</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td>30</td>
<td>100.00</td>
<td>Accepted</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>30</td>
<td>100.00</td>
<td>Accepted</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>29</td>
<td>96.67</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

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

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.
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. 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 criteria: 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. 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 and Poland.

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.

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).

ACKNOWLEDGEMENTS

The authors would like to thank all the physicians who participated in the study.

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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