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THÈSE D'EXERCICE

Pour le

DOCTORAT DE MÉDECINE

DE SPÉCIALITÉ MÉDECINE GÉNÉRALE

Par

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What are the Topics of Definition for Multimorbidity in Greek General Practice?

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Maître de stage

Professeur des universités à la faculté de médecine de Brest

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Maître de conférences associé à la faculté de médecine de Brest

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Résumé

Introduction : Actuellement, la multimorbidité est au centre des multiples recherches étant donnée le taux de sa prévalence dans la population générale. L'organisation mondiale de la santé définit la multimorbidité comme la coexistence d'au moins deux maladies chroniques chez un même individu. Cette définition est devenue simpliste et inadéquate pour les médecins généralistes. L'European General Practice Research Network (EGPRN) a établi une nouvelle définition de la multimorbidité, qui est ensuite traduite en 10 langues européennes. La Grèce faisait partie des pays participants. L'objectif de cette étude était d'évaluer quels étaient les critères de multimorbidité reconnus par les médecins généralistes grecs afin de savoir s'ils différaient de ceux de la définition académique.

Méthode : Des groupes de focus intégrant des médecins généralistes grecs ont été pratiqués. Le recueil des données respecte l'hétérogénéité des caractéristiques comme le sexe, l'âge et l'urbanisation ainsi que la saturation des données. Le codage ouvert et thématique a été réalisé par deux chercheurs indépendants dans une perspective phénoménologique.

Résultats: Les 3 groupes de focus intégraient 19 médecins généralistes grecs. 472 codes ont été extraits. La totalité des thèmes proposée par EGPRN a été retrouvée. Deux nouveaux thèmes étaient identifiés : l'expertise du médecin généraliste et la relation médecin-patient.

Discussion: Tous les thèmes intégrés dans la définition de la multimorbidité ont été identifiés par les médecins généralistes grecs. Deux nouveaux thèmes se sont ajoutés. L'implémentation de la nouvelle définition a comme objectif d'aider les médecins généralistes grecs d'identifier les patients multimorbides.

Summary

Background: The new concept of multimorbidity is the main objective of a lot of research. It has a high prevalence in general practice. Multimorbidity is defined by the World Health Organisation as the co-existence of two or more chronic disease. This definition becomes simplistic and inadequate for the general practitioners (GPs). The European General Practice Research Network (EGPRN) designed a new definition of multimorbidity, which was translated into 10 European languages. Greece was one of the participant countries. The aim of this study was to ensure that the topics for multimorbidity recognized in Greek general practice did follow or differ from the academic definition.

Method: Focus group interviews of Greek GPs were carried out, with heterogeneity in characteristics such as sex, age and urbanization. Two researchers performed the analysis as an iterative process, based on verbatim transcripts and by applying the technique of constant comparative analysis. Data collection proceeded until saturation was reached.

Results: Three focus groups were conducted with 19 participating Greek GPs. 472 codes were extracted. All the themes designed by the EGPRN's definition were identified. Two new themes regarding the GPs were identified: GP's expertise and Doctor-patient relationship dynamic.

Discussion: All the definition themes have been recognized by the Greek GPs. Two new themes appeared. The implementation of the new definition is intended to help Greek GPs to identify multimorbid patients.

1.Introduction

The concept of multimorbidity was published for the very first time in a German publication. It was an addition to the concept of comorbidity. Feinstein defined comorbidity as “any distinct additional clinical entity that has existed or may occur during the clinical course of a patient who has the index disease under study”[1]. In 1990 the concept became internationally recognized through research [2]. The progress of modern medicine has substantially increased life expectancy and improved the outcome of previously fatal disease. As a consequence, chronic medical conditions and multimorbidity are increasing.

Today, multimorbidity is turning into a major medical issue for both, individuals and health care providers. Multimorbidity has been defined by the World Health Organisation (WHO) as the co-existence of two or more chronic diseases [3] where one is not necessarily more central than the others [4-7]. This definition becomes simplistic and inadequate [8]. Because there is a lack of agreement on definitions of complexity and not all current definitions include non-medical dimensions, this term is considered challenging. A more holistic definition is required.

For that, in 2012, a research team, including 8 national groups (Belgian, French, German, Greek, Italian, Dutch, Polish, and Spanish), all active within the EGPRN, defined multimorbidity in an academic way: *Multimorbidity is defined as any combination of chronic disease with at least another disease (acute or chronic) or a bio psychosocial factor (associated or not) or somatic factor. Bio psychosocial factor, risk factor, social network, burden of diseases, health care consumption and patient’s coping strategies may function as modifier. Multimorbidity may modify the health outcomes and lead to an increased disability or a decreased quality of life or frailty [9],[10].* This new definition helps family physicians (FPs) to identify multimorbid patients [9]. Understanding how to manage care and design the health system for patients with multimorbidity may lead to improvements in quality of life (QOL), utilization of healthcare, safety, and mortality [11].

The simultaneous occurrence of various health problems in a given individual, which is defined as multimorbidity, has become the norm rather than the exception [12, 13]. A review conducted by Marengoni showed that the prevalence of multimorbidity in the elderly population is as high as 98% [14]. However, this phenomenon is not confined to elderly populations; its prevalence is also higher than expected for younger age groups and for both sexes [12, 15].

Multimorbidity has extraordinary importance not only for the general population but also for healthcare systems. It has been shown to be associated with increased mortality [16], poor functional status [17], lower quality of life [18], overloaded care, especially at the primary care level [19] but also in the emergency room [20], and the greater use of specialized care [21]. Patients with multimorbidity account for most consultations in primary care [22]; they present more intercurrent morbidity in doctor visits than

patients with single diseases [23], and general practitioners (GPs) deal with the majority of these 'additional' patient visits [24].

Many countries encounter major primary care reforms requiring a holistic approach for the care of multimorbid patients and multimorbidity care. So, multimorbidity became a central item for many international researches. Greece is one of the participating countries at the European research.

Once having defined multimorbidity, and translated the definition into each of the languages of the national groups, qualitative research was planned. The aim of this paper was to ensure that the definition is clear and useful for Greek GPs. The research question was: What are the topics for multimorbidity recognized in Greek general practice?

2. Method

Study design and participants

Employing a qualitative research design, a study with Greek GPs was designed, in order to explore the full range of meaning of the concept of multimorbidity for GPs. New topics about GP's multimorbidity definition and the added value of the concept, for Greek GPs was also researched. The multimorbidity academic definition (translated into Greek language) was the model to perform the analysis in a deductive way.

Focus groups interviews with Greek GPs were carried out – two focus groups were composed by six GPs and one of seven GPs. An interview guide was used to cover items addressing the research question (Table 1). Its construction was based on discussions in research team and a test session with junior researchers and residents in the university department of general practice. Member checking to improve validity was performed informally during focus group sessions [25]. Participants were recruited among GPs through telephone contact. All GPs consented to participate and anonymity and confidentiality were ensured. A senior researcher moderates the focus groups. Also, external open-ended questions, formulated prior to the interview, were asked [26]. All focus groups interviews were audio taped and fully transcribed verbatim. The participants had the possibility to read the verbatim and confirm it. The aim of clustering together the focus groups interviews was triangulation [27, 28] to obtain the GPs different points of view. The number of participants in each focus group was six to seven, thereby allowing all GPs to express their ideas.

Data analysis

Focus groups interviews were carried out until data saturation was reached. Stepwise sampling was performed [29], as in qualitative research, sampling, data collection and analysis typically occur, in an iterative process.

To analyze data a phenomenological perspective was applied [28], using a grounded theory framework [30]. Firstly, an open coding to conceptualize the data. Codes was performed and then connected in an axial coding phase. At the highest level of abstraction a selective coding was achieved, in which the core data led to additional, related coding.

The first level of multimorbidity codebooks was done in native language. Then each code was related to one or several identical concepts in the verbatim. The Greek team translated that level of coding and sent it to the French team as their first coding book. Consensus between the French and the Greek teams and validation of codes were achieved via mail. During the meeting the final coding book was finalized and validated. Thematic coding was confronted with the definition of multimorbidity which was used as concept maps. The concept maps are tools that allow graphical representation of concepts and their relationships by a connecting line [31].

Table 1: Interview Guide

Interview Guide	
1st Question	We have described what multimorbidity definition is. Could you describe one case of a multimorbid patient that comes from your practice?
2nd Question	Do patients need peculiar management?
3rd Question	How do you identify these patients?
4th Question	How do you feel these patients?
5th Question	These patients are difficult to spot or locate. What additional means could help you to do so?

3. Results

Sample description

Field work took place from November 2012 to March 2013 in Greece at the Health Center in Chrisoupolis and the Research Methodology School. Nineteen Greek GPs participated at the focus group interviews. The researchers presented themselves at the appointment. A purposive sampling strategy was applied to ensure heterogeneity in characteristics such as age, sex, and urbanization among the participants.

Of all 19 interviewed GPs 9 were female and 10 male. The mean age of the interviewed was 38.6 years (range 32-48 years). Characteristics of the participants are presented in Table 2.

Table 2

Characteristics of the 19 participating GPs	
Sex	
Male	10
Female	9
<hr/>	
Practice type	
Single	8
Duo or group	11
<hr/>	
Urbanisation	
Rural area	4
Urbanised rural area	7
Urban area	8
<hr/>	
Mean age, years (range)	34.5 (32-48)
<hr/>	
Experience as GP, years	
< 10 years	17
> 10 years	2
<hr/>	

Presentation of results

After 3 focus groups data saturation was reached. Four hundred and seventy two codes were extracted which permitted to identify all 11th academic themes (table 3). Two more themes were added and presented below in table 4.

Table 3: Thematic and axial coding of the results corresponding to the academic definition

Academic themes	Axial Codes
1. Chronic disease	Chronic condition/symptoms signs complaints
	Chronic disease
	Complexity characteristics of chronic disease
2. Acute disease	Acute disease
	Reaction to severe stress and acute disorders
3. Biopsychosocial factors and somatic risk factors	Demographic risk factor
	Lifestyle
	Patient's beliefs/expectations/culture
	Psychological risk factor
	Psychosocial risk factor
	Socio-demographic characteristics
	Somatic risk factor
4. Coping	(Behavioral and psychological) coping strategies
	Patient's basic compliance
5. Burden of diseases	Disease comorbidity
	Disease complication
6. Health care consumption	(Multidisciplinary) disease management
	Cost of care
	Health care
	Health care policy
	Health care services
	Health services/setting/treatment
	Malpractice
	Management
	Medical history
	Medical procedure
	Pain
	Polypharmacy (including polymedication)
	Prevention/education/detection
	Symptoms/signs/complaints (not pain)
	Treatment
Use of caregivers	
7. Disability	Functional impairments
8. Quality of life	Health status
	Impairment implications
9. Frailty	Frailty
10. Social network	Dependence on the network
	Family coping strategies
	Social isolation
	Support from the network
11. Health outcomes	Classification of morbidity statistics
	Medical research, epidemiology

	Health outcome
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Table 4: New themes and axial codes

Academic Themes	Axial Codes
FP's expertise	Comprehensive approach
	Holistic approach
	Intuition/gut feeling
	Primary care management
	Specific problem solving skills
Patient-doctor relationship dynamics	GP's and patient's experience

All themes and codes proposed by the multimorbidity academic definition and the new themes and codes found in this study are detailed below.

1. Chronic disease

Chronic condition/symptoms signs complaints – those are represented by “thyroid illness (without precision)” and “dyslipidemia”.

Chronic diseases are represented by conditions seen in general practice: “dementia”, “by-pass”.

Psychosomatic diseases – it was mentioned anxiety and depression “sometimes with symptoms of anxiety and depression”, “somatize”.

2. Acute disease

Acute disease refers to “acute urinary tract infection”.

Acute condition/ symptom, signs, complaints like “chest pain”.

Reaction to severe stress and acute disorders – “traffic accident”.

3. Biopsychosocial factors and somatic risk factor

Psychological risk factor – “showing distress” was named.

Patient's beliefs/culture/expectations – “they were more worried”.

Lifestyle – addiction like smoking “smoker of 2-3 cigarette packs per day”.

Psychosocial risk factor – “economic level”.

Socio-demographic characteristics – “age”, “woman”.

Somatic risk factors - somatic disorders “obese”.

4. Coping

Patient's basic compliance – “adherence to treatment”, “she checking her blood glucose and pressure on her own”.

Coping strategies – “they deny their problems”.

5. Burden of diseases

Disease complication – it were the consequences of multimorbidity: “decompensated diabetes mellitus”.

Disease comorbidity – “multy-sistemic disease”, “accompanied diabetes mellitus”.

6. Healthcare consumption

(Multidisciplinary)Disease management – difficulty of follow up “chronic illness follow up” .

Cost of care – mainly expensive cost of care: “frequent attenders”.

Health care – “general practitioners”.

Health care policy – it was mentioned as a solution of the health care policy: “a small questionnaire, which would be standardiezed”.

Healthcare services – it consists in collaboration with social workers: “collaboration with the social worker”.

Health services/setting/treatment – “upgrade of the primary healthcare services”.

Malpractice – “missed diagnosis”, “routine can lead to missing the important things”.

Management – mainly the management of the patient: “explaining to him the treatment, his lifestyle, his diet”, “to know his life very well”, ”follow-up”.

Medical history – the importance and complexity of medical history of the patient: “medical history”.

Medical procedure – it was mentioned the difficulty of managing a multimorbid patient, and the need of equipment: “dealing with the acute first and then with the chronic condition”, “equipment”.

Pain – follow up: “body aching all over”.

Prevention/education/detection – those notions were discussed: “10-15 minutes of walking”.

Symptoms/signs/complaints - “coughing”, “low saturation”.

Treatment – mainly drug treatment: “antidepressants”.

Use of caregivers – “pretending to have a headache”.

7. **Disability**

Impairments – mainly functional impairments as a consequence of multimorbidity: “paraplegic”.

Handicap – view like a “chronic disability”.

8. **Quality of life**

Health status - as perception of the patient condition: “the patient becomes aware of his condition”.

Quality of life - as a personal consequence of a lower life quality level.

9. **Frailty**

Frailty as a global consequence of multimorbidity: “age and persistence of the problem”, “vulnerability”.

10. **Social network**

Carers protection: “relatives, if they do exist”.

Family coping - includes coping strategies adapted or not: “parents and relatives”.

Social isolation – “we rely only on ourselves”.

Support from the network – supporting network: “provide information to the family”, “receiving help from others”.

11. Health outcomes

Classification of morbidity statistics – “dealing with the acute first and then with the chronic condition”.

Mortality – “not to lose a patient”.

Medical research – “filling the gaps”.

12. FP’s expertise

Holistic approach – the medical decision based on different arguments was recurrent: “trust in his doctor”, “entering inside their homes”.

Intuition/gut feeling - as a factor of detection of multimorbidity: “sixth sense”.

Primary care management – “prone to infections”.

Specific problem solving skills – adopting a specific approach of the patient: “delivering bad news”.

13. Doctor- patient relationship dynamics

FP’s and patient’s experience – The holistic approach of multimorbid patients is very complex by its duration of follow up: “indifferent patient”.

4. Discussion

Overview of results

The aim of this qualitative study was to identify the topics for multimorbidity in Greek general practice. It was applied the grounded theory for data analyze. Thematic coding of the three focus groups led to the identification of all 11th academic themes already included in the EGPRN definition. In addition, two more themes were extracted: GP's expertise and doctor-patient relationship dynamics.

Study contribution

At the end of this study we found 13 integrated themes in the definition of multimorbidity for Greek GPs. Some academic codes were suppressed (Psychological distress, Aging, Physiology, Family history, Assessment, Indicator) as a result of Delphi consensus. Codes like: Psychosomatic disease, Complexity characteristics of chronic disease, Complexity characteristics of acute disease, Demographic risk factor, Pain, Polypharmacy, Impairment implication were not mentioned by the Greek GPs.

Comparing to EGPRN definition, two new themes appeared: GP's expertise and patient-doctor relationship dynamics.

Strengths and limitations

Information bias

Verbatim codes were validated by interviewed GPs. Coding was realized independently by two researchers pooling of the results. The researchers took part in group workshops which were directed by an EGPRN member. All these steps limited the information bias.

Confusion bias

Focus groups were conducted in Greek language. Representative examples needed translation, which may have caused loose of some refining. To avoid this effect as much as possible the translation was performed by a native English speaker. References themes and codes were in English as so thematic and axial coding. Sub-codes were in native language (Greek). An expert translated the verbatim. Some translations could be imperfect.

Sample characteristics

The selection criteria (sex, practice type, urbanization, and experience) were chosen in order to ensure a maximal variation sample.

Discussion of results

During this last years Greece gone through many attempting of modernization and improvement of national health services [32]. Primary care is confronted to the largest deficiency of all Greek health care system [33]. Presently there is a dual system of primary health care (PHC): PHC centers and hospital ambulatory services which belong to the National Health System (NHS) and primary care units that belong to IKA (social insurance organization). Primary health care provided by the private sector includes physicians who are under contract with different insurance funds or autonomous physicians in private practice [34]. Between those two providers there is no coordination and for that the efficiency of PHC services gave a very bad press. Moreover there is no gate keeping system [35]. An integrated primary health care system has not been yet established. One of the main reason could be the very low number of GPs compared with specialists – in 2006 from 59571 doctors only 1540 (2.6%) were GPs [34].

The costs in primary care are expensive mainly due to the repetition of tests and prescriptions as there is no information transfer between the public and private providers. In urban areas a GP-based network is not yet developed while in rural areas patients refer directly to urban hospitals as there is no possibility of a direct passage between primary and secondary care. For this reason it was found in this study that disease management for acute Greek patients is considered as a national specificity, especially for emergency room that helps to detect multimorbidity.

Despite of all problems of Greek primary health care system, this study's findings show that Greek GP's considerations are in line with their colleagues from other participants countries. They believe that a holistic approach is very important in their care for patients with multimorbidity. Our study elicits the clinical importance of GP's expertise concept which has an active contribution to identify the risk patients and so it providing the multimorbidity modulation role. Every day GPs are confronted in their practice with difficult situations and difficult decision making. Therefore primary care is very complex and it demands expertise to detect or manage patients with multimorbidity. Due to its prevalence multimorbidity is routine for the primary care professionals. Consequently they developed different approach to manage those patients.

Core competencies of GPs and gut feeling appear as a complementary tool to the diagnostic flow chart. Core competencies as they were defined by WONCA [36] are essentials for the management of multimorbid patients. Primary care management, specific problem solving skills, holistic modeling were frequently named by interviewed GPs. Person centered care and comprehensive approach weren't cited. It was not surprising to observe that community orientation wasn't named giving the fact that the study is about multimorbid patients. This study also highlights the gut feeling

as an intuition form of non-analytical medical reasoning, medical decision-making and medical problem-solving. In general practice, it was shown that this concept is based on the interaction between the patient information and GPs own knowledge and experience [37].

The concept of doctor-patient's relationship dynamics wasn't anticipated. However it is known that communication and GP's and patient's experience are important for the management of multimorbidity [38].

Integrating the definition in concept map

In order to a better understanding of definition of multimorbidity academic themes were included in a concept map (*Figure 1*) [31]. Multimorbidity is defined by chronic disease, acute disease and bio-psycho-social factors and somatic risk factor. Increased disability, decreased quality of life and frailty appears as consequences (effects) of multimorbidity. Those can lead to modifications of the health status. The bio-psycho-social factor and somatic risk factor, the social network, the burden of disease, using health care services, and the patient's coping strategies play as modifiers of multimorbidity and modulator factors. The bio-psycho-social and somatic risk factor are common to the definition of multimorbidity and modifiers. GP's and doctor-patient relationship dynamic were integrated as modulator factors.

There is an active interaction between those four concepts. The consequences of multimorbidity are applied retrospectively on multimorbid status itself: a patient with a chronic disease and hospitalized could decompensate through this event. Gp's expertise and doctor-patient relationship dynamic are acting on multimorbidity: core competencies of GPs and GP's and patient experience could be regarded as a "support-tool" to multimorbidity management. Interaction of multiple disease and medication demands a careful and coordinated care.

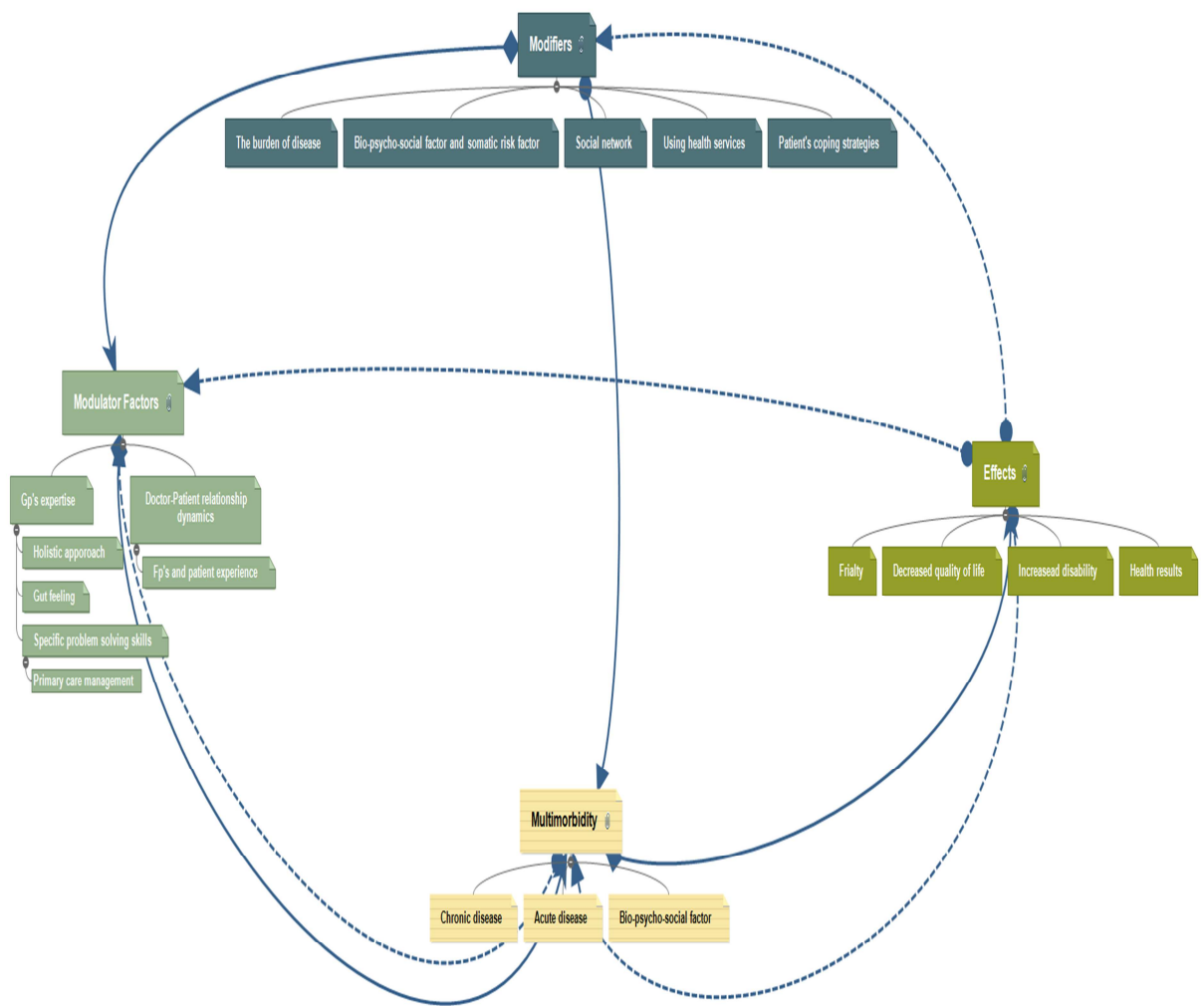


Figure 1 Concept Map of Multimorbidity using MidView 5 Business Copyright © 2002/2013 MatchView A/S

5.Conclusion

All 11th multimorbidity themes already defined by the literature systematic review were identified. Two more themes were added: GP's expertise and Doctor-patient relationship dynamics.

Multimorbidity for Greece could be defined:

“Multimorbidity is defined as any combination of chronic disease with at least one or other disease (acute or chronic) or with bio-psycho-social factors (associated it or not), or somatic risk factor. Any bio-psycho-social 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) as it also does the GP's expertise and doctor-patient relationship dynamic. Multimorbidity may modify health outcomes and lead to an increased disability or a decreased quality of life, or frailty.”

It is highlighting the specific role of the general practitioner as the expert of multimorbidity.

It is not yet known to what extent these findings are related to specific primary care. The current findings can serve as a starting point in this respect. More studies are needed to develop best practice in multimorbidity management.

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Faculté de Médecine & des Sciences de la Santé

**

AUTORISATION D'IMPRIMER

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Présentée par M le Professeur

Titre de la thèse:

What are the topics for multimorbidity recognized in Greek general practice?

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

En foi de quoi la présente autorisation d'imprimer sa thèse est délivrée à
Monsieur MITRAN Alexandru, interne en médecine générale.

Fait à BREST, le

VISA du Doyen de la faculté

Le Président du Jury de Thèse,

A BREST, le

Le Doyen, Professeur C.BERTHOU

MITRAN (Alexandru) – What are the topics for multimorbidity recognized in Greek general practice?

Th.: Méd.: Brest 2014

ABSTRACT:

Introduction: The new concept of multimorbidity is the main objective of a lot of research. It has a high prevalence in general practice. Multimorbidity was defined by the World Health Organisation as the co-existence of two or more chronic disease. This definition becomes simplistic and inadequate for the general practitioners (GPs). The European General Practice Research Network (EGPRN) designed a new definition of multimorbidity, which was translated into 10 European languages. Greece was one of the participant countries. The aim of this study was to ensure that the topics for multimorbidity recognized in Greek general practice did follow or differ from the academic definition.

Method: Focus group interviews of Greek GPs were carried out, with heterogeneity in characteristics such as sex, age and urbanization. Two researchers performed the analysis as an iterative process, based on verbatim transcripts and by applying the technique of constant comparative analysis. Data collection proceeded until saturation was reached.

Results: Three focus groups were conducted with 19 participating Greek GPs. 472 codes were extracted. All the themes proposed by the EGPRN's definition were identified. Two new themes regarding the GPs were identified: GP's expertise and Doctor-patient relationship dynamic.

Conclusion: All the definition themes have been recognized by the Greek GPs. Two new themes appeared. The implementation of the new definition is intended to help Greek GPs to identify multimorbid patients.

RESUME:

Introduction : Actuellement, la multimorbidité est au centre des multiples recherches étant donnée le taux de sa prévalence dans la population générale. L'organisation mondiale de la santé définit la multimorbidité comme la coexistence d'au moins deux maladies chroniques chez un même individu. Cette définition est devenue simpliste et inadéquate pour les médecins généralistes. L'European General Practice Research Network (EGPRN) a établi une nouvelle définition de la multimorbidité, qui est ensuite traduite en 10 langues européennes. La Grèce faisait partie des pays participants. L'objectif de cette étude était d'évaluer quels étaient les critères de multimorbidité reconnus par les médecins généralistes grecs afin de savoir s'ils différaient de ceux de la définition académique.

Méthode : Des groupes de focus intégrant des médecins généralistes grecs ont été pratiqués. Le recueil des données respecte l'hétérogénéité des caractéristiques comme le sexe, l'âge et l'urbanisation ainsi que la saturation des données. Le codage ouvert et thématique a été réalisé par deux chercheurs indépendants dans une perspective phénoménologique.

Résultats : Les 3 groupes de focus ont intégrés 19 médecins généralistes grecs. 472 codes ont été extraits. La totalité des thèmes proposée par EGPRN a été retrouvée. Deux nouveaux thèmes étaient identifiés : l'expertise du médecin généraliste et la relation médecin-patient.

Discussion : Tous les thèmes intégrés dans la définition de la multimorbidité ont été identifiés par les médecins généralistes grecs. Deux nouveaux thèmes se sont ajoutés. L'implémentation de la nouvelle définition a comme objectif d'aider les médecins généralistes grecs d'identifier les patients multimorbids

MOTS CLES :

MULTIMORBIDITY ; FAMILY MEDICINE ; DEFINITION; PRIMARY CARE

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