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Primary care physicians' decision-making processes in the context of multimorbidity: protocol of a systematic review and thematic synthesis of qualitative research

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ABSTRACT

Introduction Good patient outcomes correlate with the physicians' capacity for good clinical judgement. Multimorbidity is common and it increases uncertainty and complexity in the clinical encounter. However, healthcare systems and medical education are centred on individual diseases. In consequence, recognition of the patient as the centre of the decision-making process becomes even more difficult. Research in clinical reasoning and medical decision in a real-world context is needed. The aim of the present review is to identify and synthesise available qualitative evidence on primary care physicians' perspectives, views or experiences on decision-making with patients with multimorbidity.

Methods and analysis This will be a systematic review of qualitative research where PubMed, CINAHL, PsycINFO, Embase and Web of Science will be searched, supplemented with manual searches of reference lists of included studies. Qualitative studies published in Portuguese, Spanish and English language will be included, with no date limit. Studies will be eligible when they evaluate family physicians' perspectives, opinions or perceptions on decision-making for patients with multimorbidity in primary care. The methodological quality of studies selected for retrieval will be assessed by two independent reviewers before inclusion in the review using the Critical Appraisal Skills Programme (CASP) tool. Thematic synthesis will be used to identify key categories and themes from the qualitative data. The Confidence in the Evidence from Reviews of Qualitative research approach will be used to assess how much confidence to place in findings from the qualitative evidence synthesis.

Ethics and dissemination This review will use published data. No ethical issues are foreseen. The findings will be disseminated to the medical community via journal publication and conference presentation(s).

PROSPERO registration number ID 91978.

Strengths and limitations of this study

- Systematic review of physicians' perceptions on forces that play a role on decisions they make with patients with multimorbidity.
- Focus on decision-making processes and dysrationality promoting factors.
- Potential to impact health practice and policy by identifying the main barriers and promoting factors to good decision-making in primary care with patients with multimorbidity.
- Limited to primary care physicians' experiences in decision-making with patients with multimorbidity. Another review with patient perspectives would complement the phenomena and better inform the development of implementation strategies.

INTRODUCTION

Rationale

Research reveals that the quality of medical decision-making is highly related to patient safety and reports state that bad clinical decisions lead to considerable morbidity and mortality.[1] Medical decisions are at the core of the clinical encounter and good patient outcomes correlate with a physician's capacity for good clinical judgement.[2]

The paradoxical reality of primary care

In primary care, patients with multiple chronic disease are the rule and not the exception.[3–5] Despite the actual predominance of multiple chronic conditions, medical care remains centred on the diagnosis and treatment of single diseases.[6] Medicine moved into an era of accountability, scrutiny, measurement, pay for performance and market-based principles.[7] While these developments aimed to increase quality, they reinforced fragmentation and disease-centred healthcare and make the holistic, integrated and person-centred decision-making a difficult goal to accomplish.[8]

Patients with multimorbidity have complex needs that challenge evidence-based medical

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decision and not surprisingly generalist specialties are the ones most prone to erroneous medical decision.[9 10] First, for many years, medical research excluded patients with multimorbidity from clinical trials.[11] This undermines and generates uncertainty and doubt in clinical decision with these patients.[12] Second, quality is defined by clinical practice guidelines written by authoritative specialty organisations which aim to improve medical care but tend to focus on a single organ or system and it is not clear how physicians estimate benefits and harms when applying them to patients with multimorbidity.[13] Third, a complex web of positive (eg, accreditation, pay for performance) or negative reinforcement (eg, administrative sanctions or loss of income) are built around disease-specific quality indicators. Fourth, productivity is measured by the number of clinical contacts or medical procedures per unit of time thereby decreasing consultation times.[14] All these factors create a primary care clinical encounter surrounded by high levels of uncertainty, complexity and a particularly demanding medical decision-making context.[15] Qualitative research confirms that physicians feel less than confident in applying the guidelines and recommendations. They perceive that guidelines ignore contextual variables, seldom consider multimorbidity, sociopersonal context and patient preferences, and ultimately are not considered useful because they add to the complexity of real-world decision-making.[16 17]

In summary, multimorbidity is ever more common and challenges physicians with increased uncertainty and complexity. Yet, healthcare systems have evolved towards a fragmented, single-disease care, failing to answer to this epidemiological transition.[18] This is the paradoxical reality of primary care under which healthcare decisions are made.

The theoretical framework of medical decision-making

Cognitive psychology's most consensual and known model for human decision-making is the *dual process theory*.[19] This model states that decision-making is the result of the integration between two cognitive systems. System 1, or the *intuitive approach,* is experiential and works based on fast and frugal heuristics and pattern recognition that triggers an automated mode of thinking.[20] System 2, or the *analytical approach,* is characterised by being a deliberated, slower and rational thinking process. Under this system, people use deductive reasoning to test hypotheses and solve problems.[20 21] This theory has been adapted for clinical decision-making and proposes that clinical reasoning and decision-making are the result of a permanent interaction between the two systems.[22]

Croskerry defined optimal medical decision-making as the one that is logical, evidence based, follows the laws of science and probability and leads to decisions that are consistent with rational choice theory.[22] Under this definition, rationality is an essential characteristic of good decision-making. Resulting from the analysis of different theories and models, a core set of five principles of *rational decision* has been proposed.[23] These principles determine rational decision as the one that weights benefits and harms in order to achieve a goal; it is usually surrounded by uncertainty; it is informed by human cognitive architecture (dual processing system); it depends on the context and epistemological, environmental and computational constraints of human brains and finally the decision is closely linked to ethics and moral values.[23] Substantial gaps still limit our understanding of how these principles interact with cognitive bias leading to dysrationality in our decisions.[22 24] Multimorbidity (with its implicit uncertainty and complexity) is an interesting condition to explore these gaps.[25]

The need for real-world research

Research in clinical reasoning and medical decision in a real-world context is needed, particularly with experienced physicians and how to embrace uncertainty in primary care.[11 15 21 22 26–28] This research is particularly demanding in a chronic diseases context. Outcomes are not immediate and, in many circumstances, have to be defined case to case as in the complex or frail patient, making decision awareness and self-evaluation difficult tasks for the clinician.

In primary care, qualitative research on decision-making with patients with multimorbidity has explored physicians' perspectives on patient management,[29] organisational issues[30] and prescribing decisions.[9] To our knowledge, no review has compiled information regarding the way clinicians think and *rational decision-making* promoting factors. To improve good clinical judgement by ensuring it is more rational, but at the same time tailored to each patient's unique characteristics, we need to better understand the way primary care physicians think, and which forces play a role and affect each of their medical decisions.

Objectives

The aim of the present review is to identify and synthesise available qualitative evidence about primary care physician decision-making when attending patients with multimorbidity.

The main research question under study is the following:

According to available qualitative research, which facilitators and barriers are perceived by primary care physicians on decision-making with patients with multimorbidity?

METHODS

Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocol (PRISMA-P) guidelines were followed to elaborate this protocol.[31] See online supplementary additional file 1 for PRISMA-P checklist application on this protocol.

A thematic synthesis approach will be used to allow identification of key categories and themes from the qualitative data. This method aims to generate descriptive themes from line-by-line coding and the translation of

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concepts from one study to another, as well as analytical themes, allowing new insights and interpretations beyond the content of the original studies.[32 33]

Eligibility criteria

Types of studies

The current review will consider qualitative research studies. This includes any study that uses qualitative methods for data collection such as interviews (individual and focus group), observation as well as qualitative methods for data analysis such as thematic analysis. Mixed-method studies will be considered if the applied qualitative methodology was as previously described.

Types of participants

The review will consider qualitative studies enrolling general practitioner/primary care physicians/family physicians.

Context and phenomena of interest

The context of the studies is primary care and the review will include studies that evaluate family physicians' perspectives/opinions/perceptions on decision-making concerning the management of patients with multimorbidity. For this purpose, 'multimorbidity' will be considered as the co-occurrence of more than one chronic condition in an individual. We recognised that many studies until now did not made a clear distinction between multimorbidity and comorbidity and for that reason studies considering comorbidity may be included.[34] Also, 'decision' will be considered a situation where a course of action or recommendation was followed among one or several possible alternatives.

Information sources

The databases to be searched include PubMed, CINAHL, PsycINFO, Embase and Web of Science. The search for unpublished studies will include ProQuest dissertations and theses. We aim to find both published and unpublished studies.

We will also search other resources such as the reference list of included studies, grey literature including government or non-governmental organisation reports. The original study authors will be contacted for clarification if needed.

Search strategy

We will include studies published in Portuguese, Spanish and English language (due to limited funding for translators) and there will be no date limit. Since decision-making has been studied for decades, this broad timeframe will ensure that all relevant studies on this topic are included in the systematic review.

The search strategy is presented in online supplementary additional file 2.

Patients and public

Patients and the public were not involved in this study.

STUDY RECORDS

Data management

Study screening and selection will be conducted using Mendeley software and Google spreadsheets.

Selection process

Two authors (DSR and PFS) will independently screen titles and read the abstracts for papers with relevant titles. Full papers will be retrieved for papers with relevant abstracts and reviewed by the two researchers. The full text of potentially eligible articles will be screened for inclusion in the review by DSR and NB. Disagreements will be resolved by discussion and consensus or with a third author (BH). The reasons for exclusion of studies in this last screening stage will be recorded, tabulated and published with the final paper. If the included studies are 50 or more, a purposeful sampling method will be used to select the ones from which data will be extracted.[35]

Data collection process

DSR and NB will consider and collect all of the text labelled as findings/results and discussion/conclusions/interpretations in the original study reports selected for inclusion in the review.[32] Data will be extracted verbatim from study papers directly into NVivo-11 software (QSR International).

Data items

For each of the included study, the following additional information will be collected by DSR: authors; title; year(s) of data collection; year of publication; study population; phenomena of interest; study setting; study country; theoretical framework; data collection method used (eg, interviews, focus groups, document analysis, etc.). NB will assess original studies for confirmation. Disagreements will be resolved by discussion and consensus or with a third author (BH). The researchers will look for family physicians' views/perspectives on situations where a course of action or recommendation was followed among one or several possible alternatives. These data will be recorded, tabulated and published with the final paper.

Outcomes and synthesis strategy

The data will be analysed according to established guidelines on thematic synthesis.[32] This method consists of a three-step approach to the synthesis of qualitative data. First, the results from qualitative studies will be coded line by line according to content and meaning.

This process will require rereading and recoding, as well as discussion between the research team to determine the need for new codes or the re-evaluation of existing ones. The analysis will be theoretically driven by the literature on cognitive reasoning models such as the dual process theory[22] through a deductive approach. Moreover, the researchers will remain aware of new concepts that may emerge from the data itself. Accordingly, the construction of descriptive themes will be based on the translation of concepts from one study to another, which means recognising the same concepts across studies, and in the

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development of a hierarchical coding structure based on the similarities and differences between the codes.

The third stage of thematic synthesis, as described by Thomas and Harden,[32] implies an iterative analysis of the results of stages 1 and 2 generating new themes that emerge transversally to all review studies. This last step of thematic synthesis goes beyond the content of the original studies, with new concepts and understandings emerging from the descriptive themes being organised into analytical themes.

This process will be carried by DSR and NB consulting with the research team. At this point, interpretations of information and barrier themes that primary care physicians value when making decisions with patients with multimorbidity will emerge. All these stages of data synthesis will be recorded in NVivo-11 to allow for an auditable track. The findings of the synthesis process will be presented by grouping textual excerpts from included studies that represent similar meanings or themes. Whenever that grouping is not possible, a narrative form will be used.

Risk of bias in individual studies

The methodological quality of the studies selected for retrieval will be assessed by two independent reviewers (DSR and NB) before inclusion in the review using the CASP tool.[36] Any disagreements that arise between the reviewers will be resolved through discussion, or with a third reviewer (AA). Quality assessment will not be used to exclude studies.

Confidence in cumulative evidence

The Confidence in the Evidence from Reviews of Qualitative research (CERQual) approach will be used to assess how much confidence to place in findings from the qualitative evidence synthesis.[37] This assessment of *confidence* in the review findings is based on four components: the *methodological limitations* of the qualitative studies contributing to a review finding; the *relevance* to the review question of the studies contributing to a review finding; the *coherence* of the review finding; and the *adequacy* of data supporting a review finding.[37] Findings will be classified as having *high, moderate, low* or *very low* confidence. DSR and NB will independently apply the CERQual tool to the review findings. Disagreements will be resolved by discussion and consensus. If disagreements persist, a third author (BH) will be consulted. CERQual Qualitative Evidence Profiles and Summary of Qualitative Findings table will be recorded and published with the final paper.

REPORTING

This protocol was created using the PRISMA-P Statement for reporting systematic review protocols.[31]

The qualitative systematic review study report will follow the Enhancing Transparency in Reporting the synthesis of Qualitative research statement for reporting syntheses of qualitative studies.[38]

DISCUSSION

Research in clinical reasoning and medical decision in a real-world context is needed, particularly with experienced physicians[10 21 26–28] This review will increase knowledge and awareness by more accurately identifying physicians' perceptions about the factors that play a role in their decision-making. It will focus on decision-making processes and rationality-promoting factors. This different 'lens' will allow us to enhance existing systematic reviews of qualitative research about multimorbidity which so far have mostly focused on organisational issues.

We have reasons to believe that the main flaws in decision-making are probably inherent in the way physicians think, rather than in clinical knowledge deficits. For example, it could be predicted that, among other *dysrationality* promoters, the tendency to avoid the complexity of multimorbidity may play a significant role. This systematic review will provide evidence that will support or contradict that idea.

Results from this systematic review will have the potential to impact health practice and policy by identifying the main promoters and barriers of decision-making in primary care with patients with multimorbidity. The results may allow the improvement of knowledge transference strategies or the creation of new ones. Ultimately, they will be useful for informing practice physicians, in creating tools that can help decision-making, in improving medical education, in further academic research and for private industry or public health policy decision-makers .

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Contributors DSR is the guarantor. DSR conceived the review and led the drafting of the protocol. BH and MIS assisted with framing the research question and objectives and contributed to the drafting and revision of the protocol. PFS and NB contributed to the drafting and revision of the protocol. AA assisted with planning the methodological approach and contributed to the drafting and revision of the protocol. MdLA assisted with the search strategy and contributed to the drafting and revision of the protocol. All authors read and approved the final manuscript.

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