

Protocol

Learning from patients about Patient-centeredness in medical education: A realist review

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Sources of Support

Not applicable.

2. Abstract

Background: A patient-centred way of working is an essential part of contemporary medicine/medical practice. Research has been done to how professionals and students learn to become patient-centered, but a difficulty in this research is the lack of insight in how such learning occurs. **Objective:** we aim to understand learning processes toward patient-centeredness through interventions in which the patient is essential for the learning experience. We aim to identify (learning) mechanisms of educational interventions. We will define Patient-centeredness by the dimensions of Scholl et al, 2014. **Methods:** For this review we will use Realist Synthesis, answering the question: 'What works, for whom, in what circumstances, in what respect and why?' We will search for relevant articles in PubMed, PsycINFO, ERIC, CINAHL and Embase for all years before and through 2016. We will include observational studies, case reports, interviews, and journal articles.. Included papers will be about interventions where participants are students, residents, doctors and nurses and dentists. Appraisal of the quality of the studies will be done by the method of Johanna Briggs. Extracting the data from different studies will be done with different tools, using Nvivo predominantly. Data will be extracted about **context**, used **intervention**, described **mechanisms** and **outcomes**. Inductive and deductive coding will be used. By deductive coding we will verify expected mechanisms found in the scoping phase. **Translation into daily practice:** This review will add to the knowledge of how learners learn about patient-centeredness from interaction(s) with patients. This knowledge will benefit several stakeholders. Students will be better prepared for their future work, doctors and nurses will develop a more contemporary way of working, teachers will have tools to realise their objectives in education, and patients will learn about their value for medical education.

3. Background

An essential characteristic of professionals in health care is the capacity to consider the individual patient. A doctor should make the patient feel that his personal situation has been taken into consideration and his personal values, preferences and needs are heard. It is all part of contemporary clinical decision making. This patient-centred approach has been recognised as indispensable in the work ethics of physicians (IOM 2001).

What we already know

From the moment the concept 'patient-centeredness' has been introduced, literature appeared about how medical professionals may learn the concept. Moreover, many courses have been developed with the intention to help physicians and other health-care workers to practice in a patient-centred way. Diverse definitions of the concept of patient-centeredness and a huge diversity in educational designs make it difficult to investigate the effect of such courses (Smith 2010, Robinson 2012).

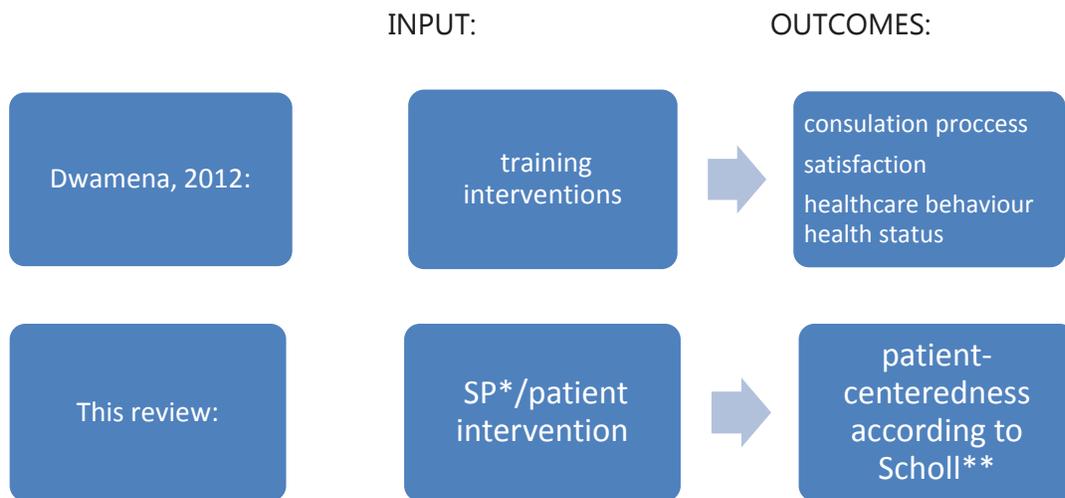
Former reviews focused on the effect of the interventions to promote patient-centred care. They looked at patient-centred care or certain aspects of this concept and their outcomes on the consultation process or patients. Outcomes on patients could be satisfaction, healthcare behaviour, health status, adherence to treatment plans, or quality of life (Dwamena 2012, Michi 2003, Robinson 2012). A Cochrane Review, originally from Lewin et al. (2001), updated in 2012 by Dwamena, looked into interventions to promote a patient-centred approach in clinical consultations, taking papers from 1966 to 2010 into account. They included different course designs for different target groups, such as residents, physicians and nurses and found positive effects of the interventions on patient-centeredness in the consultation process. The results on satisfaction, health status and behaviour were partly positive but less evident. A drawback mentioned in this review was the heterogeneity of the studies because the analysis technique used differed: dichotomous measures, continuous measures or descriptive results. The review concludes that interventions for providers to improve patient-centred care are largely successful in transferring new skills to providers. So, the conclusions for a patient-centred approach in medical education are supportive, taking in account the difficulties mentioned above it turns out to be difficult to analyse this type of educations with a quantitative approach. Thinking about the next step we want to look into the mechanisms through which learners learn about patient-centeredness in this type of education. We want to know not only which educational design works but also why a certain educational design is effective to learn about a patient-centred approach. For feasibility we decided to only look into interventions in which learners learn from patients. The reason for this selection of interventions is that patients might be the right ones to teach about patient-centeredness. and we assume these interventions are more related to daily practice.

What we do not know

It is still unclear how educational interventions contribute to the success and in which contexts interventions work best. Looking into these mechanisms might give us more information that we

need to develop educational interventions, for example, courses, which will be more effective to train students to become doctors with a patient-centred way of working.

For this review we choose a different approach than the Cochrane review, ours is being grounded in a realist paradigm instead of positivistic paradigm. Moreover, for this review, we will restrict ourselves to a smaller set of interventions, including only interventions in which real patients are involved, and we will on the other hand look into a broader set of outcome measures. The figure below shows these differences. Reasons for these choices made are mentioned in the section about the scoping search (under Search sources and strategy).



- SP: standardised patient
- Scholl: see glossary

Glossary

Patient-centeredness: the concept of patient-centeredness was introduced by different professionals, (e.g. Balint 1969 and Rogers 1946). Since then, much has been written about the concept of patient-centeredness. Maud and Bower (2000) performed a review of the literature regarding definitions and different dimensions of the concept. They cite five dimensions of patient-centred care: the bio-psychosocial perspective, the patient-as-a-person, sharing power and responsibility, the therapeutic alliance, the doctor-as-a-person. Stewart et al. (2003) defined patient-centeredness by six elements: exploring both disease and illness, understanding the whole person, finding common ground, incorporating prevention and health promotion, enhancing the patient–doctor relationship, and being realistic. In a recent systematic review, Scholl et al. (2014) did not define the concept but developed a model to capture the concept of patient-centeredness and to be able to do interventions and to do measurements with tis model. They divided 15 dimensions into three levels of care: principles, enablers and activities to the concept of patient-centeredness. The dimensions are described in

the box below. We choose the dimensions of Scholl et al. (2014) to define patient-centeredness in this review.

Dimensions by Scholl et al.:

Principles	Enablers	Activities
Essential characteristics of the clinician	<i>Clinician-patient communication</i>	<i>Patient information</i>
<i>Clinician-patient relationship</i>	<i>Integration of medical and non-medical care</i>	<i>Patient involvement in care</i>
<i>Patient as a unique person</i>	<i>Teamwork and team building</i>	<i>Involvement of family and friends</i>
Biopsychosocial perspective	<i>Access to care</i>	<i>Patient empowerment</i>
	<i>Coordination and continuity of care</i>	<i>Physical support</i>
		<i>Emotional support</i>

Context: In our review, we use the word context to denote medical, dental and nursing settings in which patient-centeredness is educated or investigated.

Learning: in our review, we choose learning and related terms to denote general terms about education.

Interventions: In our review, we use the word interventions to denote possible programs/ways of educating or learning patient-centeredness.

4. Review Topic

Research objective

In this realist review, we aim to understand learning processes that enhance patient-centeredness. How do students and professionals learn the skills and attitudes, the key to the concept of patient-centeredness, during their studies and work? In the literature, we aim to identify (learning) mechanisms of educational interventions. The educational interventions included these in which patients are an essential part of the learning experience. We will use the identified mechanisms (how) to develop guidelines for the design of educational interventions which contribute toward patient-centeredness (what) in different contexts (for whom). These guidelines will be useful for teachers and curriculum designers in local contexts.

Research questions

- Which educational interventions facilitate learning processes toward patient-centeredness through which mechanisms, in different contexts of the medical domain, using standardized patients and patients?

Keywords

patient-centeredness, context, learning, intervention, essential characteristics of clinician, clinician-patient relationship, clinician-patient communication, patient as unique person, bio-psychosocial perspective, patient information, patient involvement in care, involvement of family and friends, patient empowerment, physical support, emotional support, integration of medical and non-medical care, teamwork and teambuilding, access to care, coordination and continuity of care

Methods

Education is a complex intervention in which outcomes are non-linear. Depending on the context there are different underlying mechanisms that (may) generate outcomes (Haidet et al. 2006). To understand how educational interventions become effective or become not effective, we need to clarify causation. (Wong 2012) Hence, we choose the Realist Synthesis as an approach for our review.

Realist Synthesis developed by sociologists Ray Pawson and Nick Tilley (1997) explores the underlying causal process by which programs achieve their outcomes by asking the question: 'What works, for whom, in what circumstances, in what respect and why?' (Wong 2012). An essential aspect of the Realist Synthesis is that the perspective of different stakeholders is taken into account, with a focus on the usability of research.

5. Search sources and strategy

We searched for relevant articles in PubMed, PsycINFO, ERIC, CINAHL and Embase for all years before and through 2016. The search strategy began by scoping with keywords, for example, patient-centeredness, patient-centred care. We used the mesh-terms used in the articles found to make our search more comprehensive. If the MeSH-term in our string included non-matching terms in their tree structure, we only included the relevant Mesh-terms below the main term. We combined the first string with keywords referring to context, learning and intervention (see tables below). In making this string, we used the same method. The table below illustrates the search we did in PubMed. The same strategy is used for all databases while adapting for idiosyncrasies of these databases. For details on the search string, see Appendix 1.

The number of articles found after running the search was too big, therefore carrying out the research would become not feasible. In this phase, the review group chose to narrow the focus of the interventions from 'all educational interventions' to 'interventions in which real patients or simulated or standardised patients are part of the intervention'. We decided upon this restriction because patients might be the right ones to teach about patient-centeredness. and we assume these interventions are more related to daily practice.

During the scoping process, we screened the articles to come to a shared understanding of the in- and exclusion criteria and to check the feasibility of these criteria. The first 50 articles were screened and discussed by two members of the team. When two members could not agree about a paper, it was screened by the other two members and discussed in the whole group. During these screening sessions and group discussions we refined and added in- and exclusion criteria to focus the review. For example, we found articles about veterinary medicine and because of the extreme difference in the setting we excluded these articles.

We found articles related to nurses. Because of their role, in which they stand close to the patient, we want to know what they learn about patient-centeredness assuming we might learn from this. Moreover, we think because their education is medical education in the broad sense we think similar mechanisms in learning might be found.

We also found articles in which an educational intervention was done but not evaluated or assessed for example protocols, editorials, or descriptions. We choose to include only articles in which interventions were evaluated or assessed to be able to say something about a possible mechanism. On the other hand, articles in which Patient-centeredness was only assessed but not educated were excluded.

During this phase, we also found grey literature, e.g. editorials, proceedings. We decided not to include these because we do not expect this literature to pay sufficient attention to mechanisms. In addition, exclusion of the grey literature was decided upon because we wanted to guarantee that our review would be feasible.

450 articles were screened by two members of the review team, and again articles they could not agree about were screened by two other screeners in the team and discussed with the whole group. After this, the in- and exclusion criteria were refined for a final version to work with.

We asked an expert opinion on how many articles should be screened by more than one screener in this type of review. Geoff Wong, a specialist in Realist Synthesis for Reviews advised screening 10% by two screeners. The rest of the screening could be done by one screener. We choose to divide the rest of the articles in the review group. The screening of each part will done by one screener, and every article which the screener cannot decide about will be screened by a second member of the group to decide on in- or exclusion. If no decision can be made by the first to screeners, the abstract will be screened by all group members to get to a decision.

In this stage of the review, we decided to include both quantitative and qualitative research papers. Most likely the qualitative papers give more details about possible mechanisms. However, to avoid exclusion of quantitative research in which possible mechanisms are described as well, we have included them and will decide on the inclusion or the exclusion of these articles in a later phase.

6. Study selection criteria

Inclusion criteria

- Articles are written in English and Dutch
- Context: medical graduate and undergraduate education, medicine, (professional) continuing education
- Participants: Students, residents, doctors, nurses, dentists
- Examines (aspects of) the concept 'patient-centeredness'. Key-terms in patient-centeredness according to Scholl: essential characteristics of clinician, clinician-patient relationship, clinician-patient communication, patient as unique person, bio-psychosocial perspective, patient information, patient involvement in care, involvement of family and friends, patient empowerment, physical support, emotional support, integration of medical and non-medical care, teamwork and teambuilding, access to care, coordination and continuity of care.
- Describes an educational intervention, in which the main aim of the intervention and/or the main outcomes of the study are about patient-centeredness. The intervention is evaluated. The intervention may be developed especially for the study or not.
- Explores (based on empirical work) in some detail the mechanism(s) behind the (educational) intervention.
- Observational study, case report, interview, journal article

Exclusion criteria

- Papers about a theoretical concept, without any empirical results
- Papers with a focus on patient outcomes only (without attention for the (learning) process).
- Papers which are about teaching – or learning about patient-centeredness, just the knowledge component ("what is PC").
- Papers in which a whole curriculum change is evaluated, with focus on curriculum change as a whole and not on (evaluation of) individual components of the curriculum that might contribute to PC
- Papers which are only about the assessment of patient-centeredness.
- Papers with another context than medical graduate and undergraduate education, medicine, (professional) continuing education,
- Participants: veterinary.
- (Simulated/standardised) patients are not part of the intervention
- Interventions were about training general communication skills only (for example bad news conversations) and not on patient centeredness.

7. Procedure for extracting Data

Appraisal of the quality of the studies will be done by the method of Johanna Briggs (<http://joannabriggs.org/>).

Extracting the data from different studies will be done with different tools, using Nvivo predominantly. We will extract data about characteristics of educational interventions (type of intervention, number of learners, objectives, length of intervention, type of assessment), about relevant aspects of the context in which these interventions have been investigated, about mechanisms (see section: synthesis of extracted evidence) and about outcomes related to the definition of Scholl (for example clinician-patient relationship, patient as unique person, bio-psychosocial perspective , see background section, glossary).

In the whole process of the data extraction, we will work in couples in the review-team to reason on all the decisions and use the whole group in each stage to reflect on each other's work. We will compose a working scheme in between doing our review because the manner of working will be influenced by a number of papers identified. When we will end up with a limited set of papers, all main researchers will judge all papers, when a large set has to be analysed, we will work in sets of two.

8. Synthesis of extracted evidence

The review is informed by existing theories on learning (Lave and Wenger 1991, Bandura 1971) which we expect that will be relevant in educational interventions aiming for patient centeredness. Also, during the scoping phase, we have identified possible mechanisms. By deductive coding, we will verify and expand these mechanisms. Mechanisms found by reading existing literature were that receiving feedback from patients provides constructive feedback to students (to support their learning process) (Wykurz 2002) By experiencing patient-contact students understood more of the context of the patient and saw them more as people than numbers or diseases (Henry-Tillman et al 2001).

Inductive coding will be used to find new mechanisms by which students and health professionals learn about patient-centeredness in the context of the literature found.

Interpretation of the literature leads to the development of and refinement of a programme theory: What works for whom, why and in what circumstances? This will result in recommendations for designers of future interventions to teach patient-centeredness in a certain context.

9. Orientating literature review

In 2015 we started searching literature about different educational interventions, such as Longitudinal Integrated Clerkships and Patient panels to read about the objectives of these interventions. These studies showed that studies have been published about an educational intervention that aim for more patient centeredness but that an overview of the mechanisms that contribute to such outcomes is lacking.

After this, in the fall of 2015, we start to construct our search string. I refer to the paragraph 'search sources and strategy' for the explanation of our search strategy in this phase.

10. Translation into Practice

Worldwide, there is an interest in patient-centeredness. During many years, all over the world, several courses to develop a patient-centred way of working have been designed, but the results on outcomes of the investigation so far are mixed. Because of that, it is essential to know how learners learn in these courses. Knowing more about effective ways to facilitate learning about patient-centeredness would serve medical schools when designing their courses. This review will add to the knowledge of how learners learn about patient-centeredness by learning from patients. From this knowledge several stakeholders will benefit. Students will be better prepared for their future work, doctors and nurses will develop a more contemporary way of working, teachers will have tools to realise contemporary objectives in education, and patients will learn about their value for medical education.

11. Project timetable

Timeframe	
January - September 2016	Literature review, search string, start writing protocol, forming review team.
October 2016	Topic registration
November 2016	Try-out screening
January 2017	First 1% screening and discussing inclusion and exclusion criteria with review group,
February 2017	9% screening and discussing final inclusion and exclusion criteria with review group
February 2017	Presenting protocol
February- May 2017	Total title and abstract screening and discussing the included articles with the research group.

May-June 2017	Full-text reviewing, coding and analysing
July-October 2017	Pregnancy leave lead reviewer
November -December 2017	Full-text reviewing
December 2017	Discussing full-text reviewing with the review group
January-April 2018	Coding and analysing
April 2018	Discussing the results of the review study and the answers to the research questions with the review group
May-July2018	Writing the draft paper
August 2018	Discussing, reviewing and revising the draft paper with the review group
September-November 2018	Changes in draft paper
December 2018	Submitting the review

12. Conflict of interest statement

No conflict of interest to declare for any member of the review group.

13. Plans for updating the review

Five years after the publication of this review a new search will be done with the search strategy used in this review. If necessary, the review will be updated with the new evidence available.

14. Changes to the protocol

It is possible that during the process of doing this review, because of new points of view, it is necessary to make changes to this protocol. In this case, the reasons and date of change will be marked down. Significant changes will be submitted to BEME for approval.

Expected changes to the protocol are:

- In the phase of full-text screening Katrien Bombeke (from Belgium) and Kirstin van den Bogerd (from Belgium) will participate in this review.
- We anticipate that a broad spectrum of educational interventions has been studied. To make the process feasible, we will look into interventions with standardised and real patient involvement. However, when the number of articles is too large, we will reconsider our inclusion criterion and limit ourselves in the phase of analysis to only Interventions with real patients.

Appendix 1: Search String

PubMed

Patient-centeredness

main thesaurus term + tiab	Sub-thesaurusterm, in PubMed not specifically included because part of tree structure, in another database added as thesaurusterm or tiab	comments
Terms are combined with OR		
Patient centered* [tiab] Patient centred* [tiab]		
Patient-centered care [mesh]		
Bio-psychosocial approach [tiab]		
patient-physician relations [mesh] patient-physician relation* [tiab] patient physician relation* [tiab] doctor patient relation* [tiab]		
Client centered*[tiab] Person centered therapy [mesh] Person centered* [tiab] Person centred* [tiab]		
Patient participation [mesh] Patient participation [tiab] Client participation [tiab] Consumer participation [mesh] Consumer participation [tiab]		
Patient Preference [mesh] Patient Preference* [tiab]		Individual's expression of desirability or value of one course of action, outcome, or selection in contrast to others.
Integrative approach [tiab]		
Holistic health [mesh] Holistic health [tiab] Holistic approach [tiab]		
((Social support [mesh] Social support [tiab]) AND (Patients [mesh] Patients [tiab]))		Social support: Support systems that provide assistance and encouragement to individuals with physical or emotional disabilities in order that they may better cope. Informal social support is usually provided by friends, relatives, or peers, while formal assistance is provided by churches, groups, etc.

Context

Main thesaurus term + tiab	Sub-thesaurusterm, in PubMed not specifically included because part of tree structure, in another database added as thesaurusterm or tiab	Comments
Medical education [mesh] Medical education [tiab]		
Clinical clerkship [mesh] Clinical clerk* [tiab] Preceptorship [mesh] Preceptorship[tiab]		

	Graduate medical education	
Medical intern* [tiab]		
	Internship and residency	
Medical residenc* [tiab]		
	Undergraduate medical education	
Professional continuing education [mesh] Professional continuing education [tiab]		
Continuing education [mesh] Continuing education [tiab]		
Medical school [tiab]		
Clinical intern* [tiab] Clinical residenc* [tiab]		

Learning

Main thesaurus-term	Sub-thesaurusterm, in PubMed not specifically included because part of tree structure, in another database added as thesaurusterm or tiab	Comments
Learning [mesh] Learning [tiab]		
Cognition [mesh] Cognition [tiab]		A highly customized interactive medium or program that allows individuals to learn and practice real world activities in an accurate, realistic, safe and secure environment.
Training [tiab]		A group of people who meet in an unstructured setting to learn about themselves, interpersonal relationships, and group processes and about larger social systems.
Socialization [MesH] Socialization [tiab] Socialisation [tiab]		The training or molding of an individual through various relationships, educational agencies, and social controls, which enables him to become a member of a particular society.
Teaching [mesh] Teaching [tiab]		

Interventions

Main thesaurus-term	Sub-thesaurusterm, in PubMed not specifically included because part of tree structure, in another database added as thesaurusterm or tiab	Comments
Interven* [tiab]		
Teaching method* [tiab]		
Curriculum [mesh no-exp] Curriculum [tiab]		Note 1
Course content[tiab]		
Simulation training [mesh] Simulation training [tiab]		
Simulation games [tiab]		
Educational games [tiab]		
Simulation [tiab]		
Role playing [mesh] Role play* [tiab]		
Educational program* [tiab]		

Communication skills training [tiab]		
Training method* [tiab]		
Social skills training [tiab]		
Learning activit* [tiab]		
Design* [tiab]		
Approach* [tiab]		
Technique* [tiab]		
Strateg* [tiab]		
Method* [tiab]		
Program* [tiab]		
Format* [tiab]		
Field work [tiab]		
Non traditional education [tiab]		
Nontraditional education [tiab]		
Competency based education [mesh]		
Competency based education [tiab]		

Note 1: curriculum [mesh no exp]: The MeSHterm curriculum includes non-matching terms in the tree structure. We only included the main keyword, using 'Do not include MeSH terms found below this term in the MeSH hierarchy [no-exp]'. The tree-structure of 'curriculum' contains the relevant keyword: 'competency-based education', which we added to our search separately.

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