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Developing competencies among health professions students related to the care of people with disabilities:

a pilot study

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This is a two-phase study, the first was a literature review that aimed to identify a set of competencies for professional practice that would be relevant for the health care of People with disabilities (PwD). These competencies were then used to plan a thirty-hour multidisciplinary course for undergraduate health care students. The educational intervention led to improvements in the students' learning experiences, including the development of empathy and knowledge related to the care of PwD, improved knowledge around accessibility, and an awareness of the need to humanize the care of PwD. Students reported enhanced learning experiences and an increase in knowledge related to the care of PwD, and also highlighted the need to humanize the care.

Keywords: Health education. Disabled persons. Health care.

Este é um estudo de duas fases, a primeira foi uma revisão da literatura buscando identificar um conjunto de competências para a prática professional, relevantes para o cuidado em saúde das Pessoas com deficiências (PcD). Estas competências foram utilizadas na segunda fase, para planejar um curso multidisciplinar de trinta horas para estudantes de graduação da área da saúde. A intervenção educacional levou a melhorias em experiências de aprendizagem dos alunos, incluindo o desenvolvimento de empatia e de conhecimentos relacionados com cuidados de PcD, melhorar o conhecimento sobre a acessibilidade, e consciência da necessidade de humanizar o cuidado de PcD. Estudantes relataram experiências de aprendizagem melhoradas e maior conhecimento relacionado com o cuidado de PcD, e destacaram a necessidade de humanizar o cuidado.

Palavras-chave: Educação em saúde. Pessoas com deficiência. Assistência à saúde.

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Introduction

The biomedical model of healthcare has had an important influence on health professions education[1], which has been problematic for health care in general. The concern is that it presents the person as a purely biological being, excluding other important dimensions such as the social[2], psychological[3] and environmental[4] factors that influence therapeutic outcomes. The biomedical approach is also problematic because it places the disability within the person [5] rather than seeing it as the result of the interactions between the person and the environment[6]. By limiting our understanding of the factors involved we also limit the intervention possibilities, thereby making management of the patient more difficult.

This understanding of the concept of disability may result in the unsatisfactory management of PwD. Therefore, if health students are taught with an understanding of disability that is influenced by the biomedical model, they will reproduce this problematic understanding in their practice and PwD will continue to receive inadequate health care. For that reason, it is important to replace the biomedical model of disability with the bio-psychosocial model in the undergraduate curriculum[7]. The incorporation of innovative educational interventions that aim to improve the care of PwD have produced encouraging results. These include positive changes in the attitudes of students towards PwD[8], more comfort in dealing with PwD[9], and improvement in the knowledge and attitudes of students towards PwD[10].

The purpose of this paper is to provide an overview of an educational intervention that aimed to improve the understanding and competencies required by students in the holistic management of PwD, that moves beyond a biomedical model of understanding disability.

Methods

This study used a qualitative survey design with open-ended questions to determine if the new teaching intervention led to any changes in students' holistic understanding of the management of PwD.

The study was divided into two phases. The first phase used a review of the literature and the national curriculum guidelines for Brazilian undergraduate health courses to identify the competencies that health professionals need for the holistic management of PwD. These competencies were then categorized by profession (Medicine, Nursing, Nutrition, Occupational Therapy (OT), Physiotherapy, Psychology and a set of competencies that were common to all health professions).

In the second phase, we used these identified competencies to plan a multidisciplinary, thirty-hour elective course for a variety of health professional students. The course was presented by a physiotherapist and an occupational therapist and aimed to strengthen the competencies that had been identified as being necessary for the holistic management of PwD. Chart1 presents the overall structure of the course.

A convenient sample of twelve students enrolled in the course. At the end of the course, participants completed a questionnaire that gathered qualitative data about their learning experiences in the course using the following open-ended questions: 1) "Do you think this course provided you with knowledge or experience that will help you as a professional? Please explain your answer."; 2) "In your opinion, what do you think was the most important point in the course that influenced your professional formation? Please explain your answer." Responses to these open ended questions were transcribed and analyzed using the Discourse of the Collective Subject method, described as a qualitative data organization technique carried out through a speech synthesis. This speech is written in the first person singular and prepared with the most significant similar sense of testimonials extracted from the qualitative data. It is based on the theory of social representations and aims to analyze the main ideas, anchors and key phrases that are present in the individual responses[15], but it could be used to extract the key concepts from an open response[16].

The project was approved by the Ethics Committee of the Federal University of the Triângulo Mineiro (protocol number 2260/2012). The anonymity of participants was guaranteed by replacing student names with alphanumeric codes and participation in the study was voluntary. The participants signed a consent form after being provided with information about the study and were free to withdraw their consent at any time without any negative consequences.

Chart 1. Structure of the thirty hour course intervention.

Topic	Time	Content	Teaching methods
Concepts and policies related to disability	8 hrs	Historical development of the concept and definition of disability; The prevalence of disability in Brazil and in the world; Epidemiological transition and its impact on the occurrence of disability; Health policies and the rights of PwD; Accessible health services.	Lectures Movies[11] Discussion of clinical cases Debates[12] Role play[13]
Experience of disability	8 hrs	Students experienced controlled situations with restriction of senses (deprivation of hearing and vision) and with restriction of mobility (using canes or wheelchairs) in the university environment. We invited two persons with visual impairment and one with auditory impairment (together with sign language interpreters) to talk about life, work, school and difficulties due to their challenges.	Experiential learning[14] Lectures
PwD and clinical practice	8 hrs	Lecture from a physiotherapist who works with PwD, followed by a debate in order to discuss challenges in the care of PwD. We invited two men with visual impairment and a woman in a wheelchair to participate as "patients" in a role playing exercise where the students were the "blind patients", as if they were health professionals. At the end of this activity students, guests and professors debated the difficulties faced by PwD and students as part of the clinical encounter.	Lecture Debate Role play
Seminar presentations	6 hrs	Group 1: Discussed a movie about the life of a blind boy. Group 2: Presented a video with a testimony of a person with disabilities reporting difficulties in seeking health care. Group 3: Presented photos from a visit to a health service and an evaluation of appropriate adaptations for PwD. Group 4: Showed a video from a health professional reporting the difficulties that she faced in providing health care to a PwD. At the end of all the presentations, all attendees engaged in discussion.	Presentations Lectures Discussion

Results

In Chart 2 the competencies that were identified by the literature review in the first phase of the project are presented.
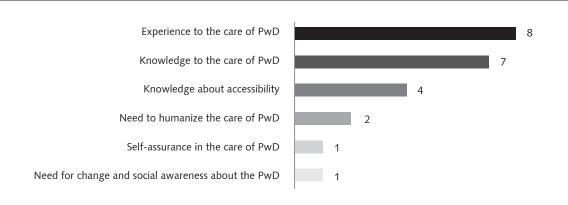
Chart 2. Health students competencies founded in the literature and documental review.

Competencies	Health profession[*]						
	Nur.	PT	Med.	Nutr.	Psyc.	OT	Gen.
Clinical knowledge[17-21]		x	x			x	x
Communicationn[17-31]	x	x	x	x	x	x	x
Critical thinking[17,24]		x				x	
Decision-making[22,23,25-29]	x	x	x	x	x	x	x
Ethical attitude[24]		x					
Health attention[22,23,25-28]	x	x	x	x	x	x	
Health professional and patient relationship[20]		x					
Interpersonal relationships[24]		x					
Knowledge and guidance on health policies[21]							x
Knowledge and abilities sharing[29]							x
Leadership[22,23,25-29]	x	x	x	x	x	x	
Management[23-31]	x	x	x	x	x	x	
Patient assessment[20]		x					
Patient-centered practice[24]		x					x
Continuing education[17,18,24-28]	x	x	x	x	x	x	
Planning and perform of the treatment[20,24]		x					
Problem solving[29]							x
Professional liability[17]						x	
Professionalism[19-21,30]		x	x				x
Quality of care[32]	x						
Respect[29]							x
Teamwork[29,31]			x				x
Theoretical knowledge[24,30-32]	x	x	x				

[*] Nur. – Nursing; PT – Physical Therapy; Med. – Medicine; Nutr. – Nutrition; Psyc. – Psychology; OT – Occupational Therapy; Gen. – all health professions.
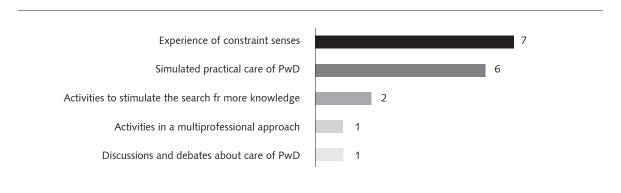
Participant responses to the questionnaire at the end of the course indicated that almost 90% reported that they had mastered the Communication competency; approximately 64% reported being competent with the Patient assessment competency; about 64% of participants identified the health professional and patient relationship as a competency that they had mastered; 58% reported having mastered the ethical attitude; about 48% reported being competent in patient-centered practice and quality of care; and about 27% reported being competent in their clinical knowledge.

We also identified six central ideas (cited 23 times) after analyzing the transcribed data from the first survey question, at the end of the course, which are presented in Graph 1.

Graph 1. Central ideas that emerged from the question "Do you think this course provided you with some knowledge or experience that will help you as a professional?". Numbers represent participants who answered "Yes".

In response to the second question, participants reported five central ideas (cited 17 times), which are presented in Graph 2.

Graph 2. Central ideas that emerged from the question: "In your opinion, what do you think was the most important point in the course that influenced your professional formation?"

Discussion

Literature review to identify generic health professional competencies in the management of PwD

Communication and decision-making were identified from the literature as competencies that are common to all health professions. In the clinical context communication not only means keeping patients informed by using a common language but also listening to them as participants in the health care relationship. As part of interprofessional health care, communication is an essential component

of providing better patient outcomes in shorter time frames, higher satisfaction among patients, and improvement in the work environment[33]. Moreover, effective communication is positively correlated with patient adherence to treatment[34,35], preventative action by patients[36] and can lead to improvement in patients' quality of health[37].

Decision-making as a competence is about combining the desires and beliefs of the team in order to choose a course of action. This process includes the following components: courses of action; beliefs about objective states, processes, and events; and desires, values, or utilities that describe the consequences associated with the outcomes of each action-event combination[38]. This competency, when present in the process of health care, could mitigate the inequalities in the use of health services[39], resulting in benefits to all stakeholders in the system. If used properly, effective decision-making can make the health professional team more productive and coordinated, resulting in improved health care.

The literature review also identified other common competencies across the health professions, including: Health attention; Leadership; Management; and Continuing education. Health attention is the ability to develop preventive, promotional, protective and rehabilitation interventions while considering the individual patient and the community. This competency promotes continuous and integrated health care at the individual and community levels[40]. It should occur continuously and be integrated with critical thinking that is focused on general social problems that exist in the community[20]. If this competency is adequately developed in undergraduate health professionals education, new graduates will be better prepared to face real-world clinical environments[41] in which the holistic management of PwD is prioritized and made more effective.

Leadership is defined as "the process of influencing an organized group toward accomplishing their goals"[42]. The presence of this competency in a multi-professional health team can improve the efficiency of the health care system[43] resulting in more effective management processes by the health team and an improved patient experience in the health system.

Management is related to the ability to deal with members of the health team, physical and material resources, and with information. At the same time managers should be able to engage in dialogue with employers and other health professionals in leadership positions[23]. Along with the Leadership competency, the Management competency could be a key feature for successful teamwork in the health care system.

Continuing education has as one of its goals the improvement of professional practice in order to enhance health care[44]. Therefore, it should not only direct health professionals to seek new knowledge and skills but also to carry out changes in the process of care[45]. There is also evidence that a lack of continuing education among health service professionals may increase the costs of patient care, thus making it more expensive, together with a reduction in quality[46]. Continuing education appears to improve the acquisition and retention of knowledge, attitudes, skills, behaviors and clinical outcomes[47] all of which have a positive impact on patients health.

The review of the literature therefore served to highlight a range of generic competencies that have been shown to improve health service delivery in ways that may be beneficial for PwD. The next phase of the project was to develop a teaching intervention that aimed to develop in students these competencies, with specific reference to the holistic management of PwD.

Outcomes of the educational intervention, based on student responses in the survey

The results of the open-ended questions in the survey (see Charts 1 and 2) presented concepts related to students' knowledge and experience regarding the care of PwD. These were key points that had been highlighted by the literature and it is important that they are addressed in the development of undergraduate students in order to offer better health care for PwD. Furthermore, students identified that clinical knowledge was their least frequently mastered competency in this intervention.

Knowledge related to accessibility was also reported by students as having improved as a result of the educational intervention. The concept of accessibility is an important characteristic of health

services that can act either as a barrier or a facilitator for PwD and an understanding of it is essential for health professionals to work effectively with PwD. Physical accessibility is a central point because it influences the quality of the health care service and the willingness of PwD to use health systems[48,49]. If health professionals are aware of the challenges related to accessibility, they would be better prepared to reduce the barriers experienced by PwD, and therefore offer a better health care service. In other words, awareness of this concept would make health services more accessible leading to improvements in responsiveness[50] and will be more closely aligned with the principle of equality in the Brazilian National Health System (SUS)[51].

The need to humanize health care was another point that students raised, which is important to note as it is a central component of the SUS, not only for PwD but for all citizens. In 2003 the SUS introduced a National Policy of Humanization[52] that aimed to improve the quality of national health care[53] and which led to positive outcomes in the management of patients[54]. The results of this study highlight the fact that students believed that humanization is an important competency in their professional development[55].

Self-assurance related to the care of PwD and the need for change regarding an increased social awareness about PwD were also reported by participants as important outcomes of the educational intervention. There is evidence that students who have received instructions and experiences related to disability care feel more confident in the care process[56] and that social awareness could be a factor that acts towards decreasing barriers if working in the health care services environment[57].

The students' experience of having their senses limited put them into a similar circumstance that patients find themselves in and was cited as one of the most important aspects of this educational intervention. The simulation of health care situations are commonly used in undergraduate courses and have been shown to improve health care[58]. In addition, there is evidence that the development of empathy in undergraduate students can have a positive effect on student learning, reducing the risk of burnout and promoting student well-being[59]. As part of the development of a healthcare professional who is capable of enhanced social and interpersonal skills, helping students to understand how others' experience their interaction is an important part of health professional training[60].

The requirement to conduct additional research during the program was also cited by students as one of the most important aspects of the intervention. This is directly related to the concept of continuous education for health professionals, which has been shown to reduce the incidence of adverse events[61], as well as improve the quality of care[62] and knowledge acquisition[63].

The students also reported that the discussion and debate about the care of PwD were important components of the educational intervention. These are common strategies used as learning tools in health professions education[64,65] and can stimulate critical thinking in students, as well as promote an interest in complex and controversial issues[66].

Learning activities that were conducted from a multi-professional perspective were also reported by the participants as being especially important. Participation in the multi-professional team is an important aspect of professional practice that should be reinforced as a skill to be developed among students[46,47,49]. This kind of collaborative work brings additional benefits like novel insights and points of view, the development of respect and equality for other members of the team, improvement of communication skills and a more holistic approach to health[67]. These all lead to increased patient satisfaction, a reduction in error rates and more effective teamwork[68].

It is important to stress that the students pointed out that the most important points of the course included a positive influence on their professional identity, learning about alternative methods and strategies of teaching and learning, an increased focus on sensory experiences, simulations, and activities that stimulate research, in the benefits of a multi-professional approach, and discussions and debates about the care of PwD. This result reinforced the innovative character of the course and shows that students are sensitive and attentive to new teaching methods, which is in line with the literature[69-71].

Limitations of the study

The first limitation is that the research was only conducted in one university and we believe that a larger sample size that is spread across multiple universities would lead to an outcome that could more confidently be asserted. In addition, the participation of students from a greater variety of health disciplines would offer better opportunities in the design of the educational intervention.

Conclusions

This paper describes a plan for designing an innovative educational intervention that aimed to help health students to develop important competencies that are relevant for the holistic management of PwD. Students reported an increase in experience and knowledge related to the care of PwD, the need to humanize the care of PwD, and also described the need for educational change to increase social awareness about PwD in the undergraduate program.

The study also highlighted the set of competencies needed for the satisfactory holistic management of PwD and described an educational intervention that aimed to develop those competencies in undergraduate health professions students. This experience could be used as a starting point by others to improve the educational approach by developing the main competencies and abilities of health professions undergraduate students in the care of PwD.

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Este es un estudio de dos fases, la primera fue una revisión de la literatura buscando identificar un conjunto de competencias para la práctica profesional, relevantes para el cuidado de la salud de las PcD. Estas competencias se utilizaron para planificar un curso multidisciplinario de treinta horas. La intervención educativa llevó a experiencias de aprendizaje de los alumnos, incluyendo el desarrollo de la empatía y de conocimientos relacionados con cuidados de las PcD, mejorar el conocimiento sobre la capacidad de acceso, y conciencia de la necesidad de humanizar el cuidado de las PcD. Los estudiantes relataron experiencias de aprendizaje mejoradas y mayor conocimiento relacionado con el cuidado de las PcD, y subrayaron la necesidad de humanizar el cuidado de las PcD.

Palabras clave: Educación en salud. Personas con discapacidad (PcD). Prestación de atención de salud.