RESEARCH PAPER

Disciplinary concepts in use by undergraduate and master's students in nursing

Conceitos disciplinares em uso por estudantes de licenciatura e de mestrado em enfermagem

Conceptos disciplinarios en uso por los estudiantes de grado y máster en enfermeira

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Abstract

Background: The use of a disciplinary language and concepts is part of the integration into the scientific community.
Objectives: To identify the terms used to define nursing, the set of concepts in use and its alignment with core concepts and patterns of knowing so that education is more in line with the state of the art of the theory.
Methodology: Descriptive study with content analysis using two samples of undergraduate and master's students.
Results: The dispersion of terms and concepts showed difficulties in defining nursing; the term and concept of caring was used more often; the concepts of transition and well-being were not used by beginning master's students; the term of transition was not central to undergraduates, but they greatly valued well-being; both undergraduate and master's students easily perceived nursing as a science, emphasising the empirical pattern of knowledge; beginning master's students, by being absent from formal education for a longer period, used disciplinary terms and concepts proposed by the nursing theory less often.
Conclusion: Initial, postgraduate and lifelong training should contribute to and benefit from the systematisation of the theory produced and expressed in specific disciplinary language.

Keywords: nursing theory; nursing education.

Resumo

Enquadramento: A utilização da linguagem disciplinar, de conceitos, faz parte da integração na comunidade científica.
Objetivos: Diagnóstico da situação quanto aos termos usados para definir enfermagem; o conjunto de conceitos em uso e o seu alinhamento com conceitos centrais e padrões de conhecimento, com vista a direcionar a formação em maior consonância com o estado da arte da teoria.
Metodologia: Estudo descritivo, com análise de conteúdo, em duas amostras de estudantes de licenciatura e de mestrado.
Resultados: Encontrámos dispersão de termos e conceitos a revelar dificuldade na definição de enfermagem; o cuidar é o termo e conceito com maior utilização; os conceitos de transição e bem-estar não estão apropriados pelos estudantes a iniciar o mestrado; os estudantes da licenciatura não dão centralidade ao termo transição mas valorizam com relevância o bem-estar; ambos facilmente percecionam a enfermagem como ciência, valorizando o padrão empírico; os estudantes a iniciar o mestrado, por afastados do ensino formal há mais tempo, apresentam uma menor apropriação de termos e conceitos disciplinares propostos pela teoria de enfermagem.
Conclusão: Torna-se relevante que a formação inicial, pós-graduada e a contínua, contribua e beneficie da sistematização da teoria produzida e expressa em linguagem disciplinar específica.

Palavras-chave: teoria de enfermagem; educação em enfermagem.

Resumen

Marco contextual: El uso del lenguaje disciplinario de conceptos forma parte de la integración en la comunidad científica.
Objetivo: Diagnosticar la situación con respecto a los términos utilizados para definir la enfermería, el conjunto de conceptos en uso y su alineación con los conceptos centrales y los patrones de conocimiento, con el fin de que la formación esté en consonancia con los últimos avances científicos de la teoría.
Metodología: Se trata de un estudio descriptivo, con análisis de contenido, en dos muestras de estudiantes de grado y máster.
Resultados: Así, encontramos una dispersión de términos y conceptos que muestra la dificultad de definir la enfermería. El término y el concepto más usado es atender; los conceptos de transición y bienestar no son apropiados para los estudiantes que comienzan el máster; los estudiantes de grado no dan primacía al término transición, pero sí un valor relevante al bienestar; ambos entienden la enfermería como ciencia y valoran el patrón empírico, y los estudiantes que van a empezar el máster, por llevar más tiempo desconectados de la educación formal, presentan una asignación más baja de términos y conceptos disciplinarios propuestos por la teoría de enfermería.
Conclusión: Se considera relevante que la formación inicial, de posgrado y continua, pueda aportar y beneficiarse de la sistematización de la teoría producida y expresada en el lenguaje disciplinario específico.

Palabras clave: teoría de enfermería; educación en enfermería.

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Introduction

Disciplines have their own language, a communication structure of their phenomena of interest and their interpretation of reality that is expressed through terms and concepts. Given their interpretive, explanatory and symbolic power, some concepts become central to the discipline, providing accuracy from a unique perspective to the subject of interest, thus being essential to identify the disciplinary matrix. "A scientific discipline is determined by a mental organization. It is that which in philosophy of science is known as disciplinary matrix or paradigm, that is, a mental structure, conscious or not, that is used to classify the world and approach it." (Fourez, 2008, p. 111). It is on the basis of this understanding that, as a constructed, synthesised and recognised language with a meaning in a specific universe, i.e. the *scientific community*, allowing for narrated readings of reality and their systematisation, the concepts embody "a series of assumptions, norms, instruments, outlooks,... which give shape to the knowledge that is structured by that discipline" (Fourez, 2008, p. 111).

Nowadays, there is a dynamic idea of concepts, which ought to relate to their specific, but contextualised usage. "Theorists now understand that conceptual meaning is created by scholars to assist in imparting the meaning to other readers" (McEwen & Wills, 2009, p. 76). The appropriation of concepts and the use of disciplinary language are part of the process by which neophytes, students or professionals, are integrated into the scientific community, thus creating and recreating knowledge into action based on a practical-reflective rationality (Medina, 1999).

In this study, we aimed to identify the terms used by undergraduate and beginning master's students to define nursing; list the concepts pointed out as being specific or with a specific meaning in nursing; provide an overview of the terms and concepts used; and describe the terms and concepts which are in line with the core concepts and nursing knowledge patterns found in the nursing literature.

Background

Concepts play a structural role in the disciplines. Through concepts, clusters are defined and the disciplinary language is created and enriched.

Concepts have two main roles: focusing on the objective of a given body of knowledge, its own perspective of a given reality; and providing narratives built within the scope of such unique interpretation. "Concept-related narratives give people «words to say it». Words to convey their experience" (Fourez, 2008, p. 276).

As mental formulations or ideas used to represent experiences, concepts "are formulated in words that enable people to communicate their meanings about realities in the world" and, therefore, "explicate the subject matter of the theories of a discipline" (McEwen & Wills, 2009, p. 76).

Science is the establishment of a type of language aiming at an economy of thought and communication, "a gigantic operation of standardisation of knowledge, reading frames, notions, procedures, values, etc. Disciplinary matrices may be seen with this type of normalisation" (Fourez, 2008, p. 127). Concepts may be specific and emerge from the discipline, but they "also 'propagate' themselves... from one discipline to the other, thus strengthening new points of view..." (Fourez, 2008, p. 119).

In 1975, the pioneers Yura and Torres proposed nursing, the individual (*man)*, society and health as the core concepts of the discipline. McEwen and Wills (2009, p. 67) refer that "Fawcett first wrote on the central concepts of nursing in 1978 and formalised them as the metaparadigm of nursing in 1984". In 2005, Fawcett kept the concepts: nursing, health, environment (which had previously derived from society) and human being (which evolved from the concept of person). In 2002, the Board of Nursing of the *Ordem dos Enfermeiros* (Portuguese Nurses Association) used the concepts of health, people, environment and nursing care to provide a conceptual framework to nursing care.

Accepting the person, health, environment and nursing as a metaparadigm of nursing is not consensual (McEwen & Willis, 2009). In 1983, Newman pointed out that the major components of the discipline were "nursing (as an action), client (human being), environment (of the client and of the nurse-client), and health" (p. 389). In 2010, Kim identified a typology and organisational structure with four domains: patient, patient-nurse, practice and environment. In 1994, by stating that nursing consisted of facilitating the processes of transition to increase the sense of well-being, Meleis and Trangenstein moved the terms

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of facilitation, transition and well-being towards a conceptual centrality. Meleis (2012) summarised seven core concepts: interaction, nursing patient, transitions, nursing process, environment, nursing therapeutics and health.

Because it has characteristics of social and behavioural sciences, as well as biological sciences, nursing must rely on multiple ways of knowing (McEwen & Wills, 2009), i.e. different patterns of knowing. The epistemology of nursing is concerned with "the study of the origins of nursing knowledge, its structure and methods, the patterns of knowing of its members and the criteria for validating its knowledge claims" (Schultz & Meleis, 1988, p. 21).

Based on the seminal work of Carper (2006) who identified the empirical, aesthetic, personal and ethical patterns for nursing knowledge, several authors, with similarities and dissimilarities, propose new ideas and different formulations. This is the case with the clinical and conceptual patterns (Schultz & Meleis, 1988); experiential, interpersonal and intuitive knowing (Moch,1990); context (White, 2006); procedural, relational, cultural and tacit patterns (Abreu, 2008). "Nursing has both scientific knowledge and knowledge that can be termed conventional wisdom (knowledge that has not been empirically tested)" (McEwen & Wills, 2009, p. 37). Or, according to Kim (2010), "public knowledge" and "private knowledge". The empirical knowledge pattern forms the public knowledge; while other patterns of knowing such as the aesthetic, ethical, personal, clinical, conceptual, interpersonal, intuitive, contextual, procedural, relational, cultural and tacit patterns are structured as private knowledge. Both forms, which are part of the identity of nursing knowledge, are geared in spiral in a constant translation movement between research/theory and action in clinical practice. Building knowledge from reflection on their practices as "practical-reflective professionals whose action is based upon a practical and tacit knowledge that is actived during the action and which may, under an heuristic point of view, distinguish three components: knowledge in action, reflection in action and reflection on the reflection in action" (Moya, 2005, p.487-490). Since nursing is an essentially practical activity, as Waldow (2009) states, the process of care in the caring moment provides reflection in action.

Methodology

A qualitative descriptive study, based on Bardin's content analysis (1995), examined the answers given by two convenience samples to simple and direct questions. The research question was: *How do you define nursing and which are the concepts and terms used?*. The answers' coding process followed the cutting technique with registration of basic units (of register), analysing repeated, similar, ambiguous, group and enumeration units and calculating relative and absolute frequencies, and the aggregation in different categories (without *a priori* categories).

In the academic year 2012-2013, a group of students initiating the course unit of Nursing Theory of the master's degree in Medical-Surgical Nursing at a nursing school was asked to answer the following question: *What is nursing?*. At the same school, 4th-year undergraduate students of Nursing initiating classes of the optional course unit of Therapeutic Self-care Management were first asked to answer the same question, and then, at another session, to list the concepts that they considered to be specific or with a specific meaning in nursing. The combination of these two samples (group I and group II) resulted in three series of data: I A, II B and II C. The first two refer to the terms obtained from the definitions of nursing given in each group, and the last one refers to the concepts perceived by group II as specific or having a specific meaning). The definitions in series A and B were analysed, and the terms used to define nursing were extracted and arranged in order of decreasing frequency. In series C, the same procedure was used for students' concepts. The three series were jointly analysed and arranged in order of decreasing frequency. Reference indices were determined for all series. Finally, the terms and concepts mentioned in all series were compared to the core concepts and nursing knowledge patterns referred to in the literature. Participants were informed of the objectives of the study and permission was requested for subsequent data use, maintaining their anonymity. The group of beginning Master's students was composed of 26 nurses, with a mean age of 30.65 years, ranging between 22 and 42, and a mean of 8.27 years of service. The undergraduate group was composed of 24 students aged between 21 and 39 years, with a mean age of 22.5 years. In this study, *term* refers

to the information (words) extracted from the definitions of nursing, whereas *concept* refers to the information related to the specific question on the concepts perceived as specific or with a specific meaning.

Results

Of the definitions of nursing provided by beginning master's students (group I), 66 terms were extracted, in a total of 221 references (Table 1).

Table 1
Terms used by master's students and their frequency in the definition of nursing

caring	15	Basic human needs	3	healing	1
scientific	14	psychological	3	development of skills	1
person	12	help/empathetic relationship	3	emotional	1
health	12	know how, behave, do	3	physical	1
profession	10	replace the patient	3	physiology	1
discipline	9	stage of life	2	groups	1
promote	9	focuses	2	interaction	1
art	8	healthy lifestyles	2	interdisciplinarity	1
disease	8	objectives	2	environment	1
life cycle	7	data collection	2	social and cultural environm.	1
technician/technology	7	treatment	2	work method	1
knowledge	6	independence	2	multidisciplinarity	1
holistic	6	interdependent activities	1	look and see	1
individual	6	helping others	1	guiding	1
prevention	6	anguish	1	potential	1
health teaching/education	5	learning skills	1	quality of life	1
family	5	professional authenticity	1	complaint	1
evaluation	3	biopsychocultural	1	recovery	1
well-being	3	client	1	social reintegration	1
nursing diagnosis	3	community	1	biopsychosocial being	1
human	3	health-disease continuum	1	life situation	1
interventions	3	healer	1	social	1
				TOTAL	221

The choice of terms used to define nursing is significant, and their relative dispersion is also worthy of mention. Almost half of the terms (32) were found to have only one reference, and seven terms had two references.
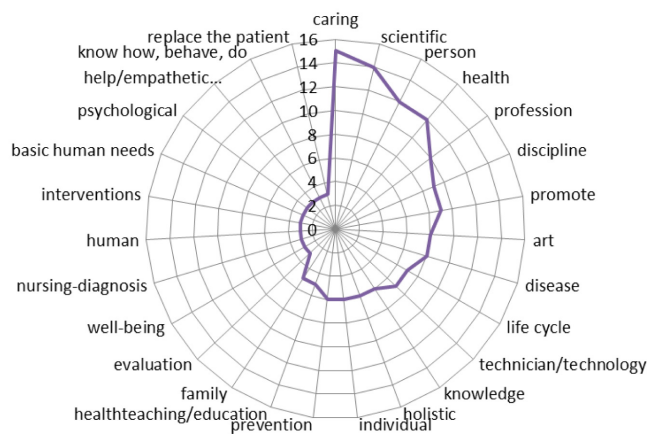

Figure 1. Terms used by master's students with the highest frequencies in the definition of nursing

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The frequencies show the most commonly used terms: caring (15); scientific (14); person (12); health (12); profession (10); discipline (9); promote (9); art (8); disease (8); life cycle (7); technician/technology (7) (Figure 1).

Fourth-year undergraduate students in Nursing attending the optional course unit of Therapeutic Self-care Management (sample II, series B) defined nursing using 100 terms, in a total of 309 references. The students of this sample defined nursing with greater terminology dispersion (309/24=12.87) than those of the previous sample (221/26=8.5). The top terms, with the highest frequencies, were: health (17); caring (16); patient (16); person (16); science (14); objective (13); human (10); transition (8); well-being (7); and promote (7). Other terms were also used, such as: art, help and processes (6); self-care and profession (5); life cycle and facilitate (4); culture, discipline and individual (3); and action and context (2). The list ended with a high dispersion, i.e., 51 terms had only one reference (Table 2).

Table 2

Terms used by undergraduates and their frequency in the definition of nursing

|					
health	17	psychological	3	family	1
caring	16	theoretical	3	stages	1
patient	16	action	2	foster	1
person	16	support	2	training	1
science	14	autonomy	2	functional	1
objective	13	capacity	2	fundamental	1
human	10	complex	2	general	1
transition	8	context	2	group	1
well-being	7	history	2	guide	1
promote	7	holistic	2	innate	1
help	6	motivation	2	inability	1
art	6	needs	2	influence	1
practice	6	qualities	2	intervene	1
processes	6	replace	2	maximum	1
be	6	experiences	2	context	1
independence/dependence	6	academic	1	model	1
self-care	5	achieve	1	monetary	1
profession	5	changed	1	natural	1
satisfaction	5	lifelong	1	other	1
activities of daily living	4	ability	1	role	1
biopsychosocial/cultural	4	assist	1	thought	1
life cycle	4	reach	1	procedures	1
facilitate	4	aid	1	achievement	1
provide	4	basic	1	recognition	1
social	4	components	1	recovery	1
areas	3	community	1	religion	1
culture	3	conditions	1	answers	1
discipline	3	knowledge	1	knowing	1
study	3	set	1	whole	1
physical	3	beliefs	1	provide care	1
focus	3	own	1	domains	1
individualised	3	meetings	1	life	1
individual	3	teaching	1	Total	309
prevention	3	implementation	1		
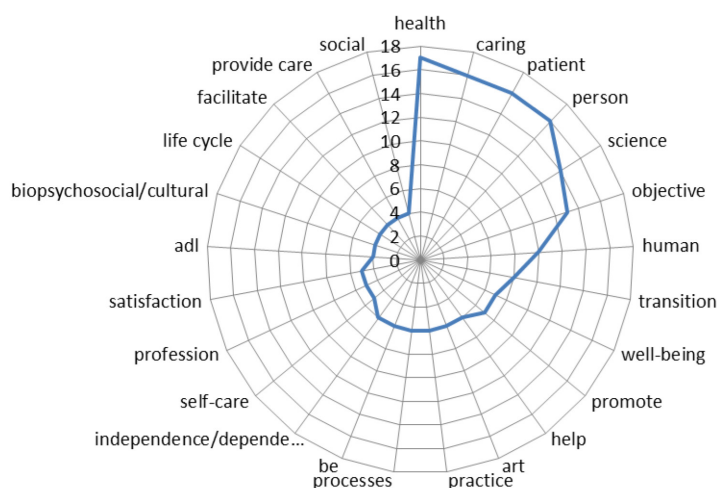
Figure 2. Terms used by undergraduates with the highest frequencies in the definition of nursing

Based on arranging the terms in order of decreasing reference, Figure 2 shows that nursing is defined using the terms: health, caring, patient, person, science, objective, human, transition, well-being, promote, help, art, etc.

In a total of 248 concepts, fourth-year students (sample II, series C) identified 75 concepts to define nursing, either specific or with a specific meaning to the discipline. The index of concepts 248/24 (10.33) was lower than the index of terms extracted from the definitions of nursing 309/24 (12.87). Thus, the definitions were conceptually richer than the concepts, which by nature are more synthetic.
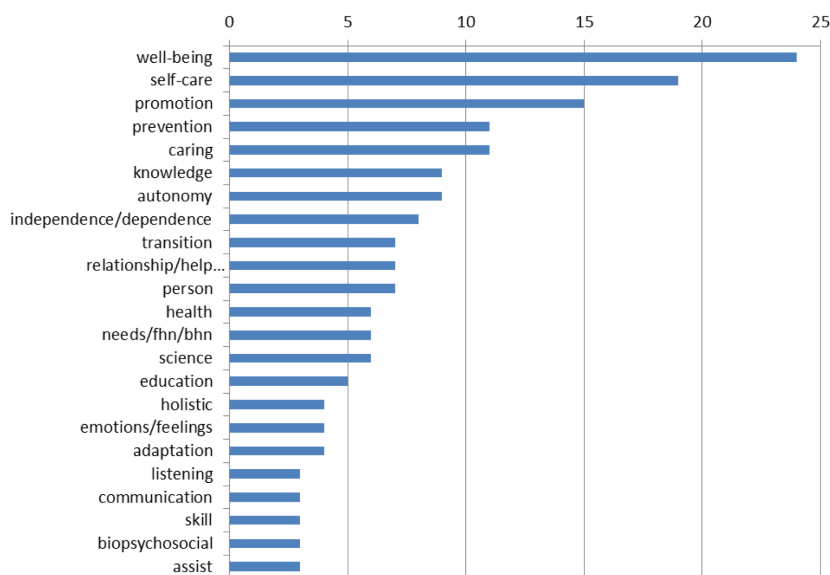

Figure 3. Specific concepts or with a specific meaning in nursing that were most frequently used by undergraduates, and their frequency

The most commonly used concepts were: well-being (24), self-care (19); promotion (15); caring (11); prevention (11); autonomy (9); knowledge (9); independence/dependence (8); person (7); relationship/help relationship (7); and transition (7). They were followed by the concepts of science, needs and health (6); education (5); adaptation, emotions/feelings and holistic (4); and assist, biopsychosocial, capacity, communication and listening (3) (Figure 3).

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Other concepts with two references were: therapeutic adherence; art; activities of daily living; long-term care; palliative care; diagnoses; disease; empathy; teaching; family; training; functionality; interventions; research; motivation; potentiation; salutogenesis; transculturality; and will.

The concepts with one reference were: help; evaluation; behaviour; continuity; creativity; discipline; team; facilitate; phenomenon; philosophy; focus; management; humanisation; equality; monitoring; critical thinking; care plan; prescribe; pro-active; process; profession; rehabilitation; recovery; reflection; responsibility; satisfaction; decision-making; transaction; and train.

The sequence of terms that were most commonly used by Master's students (I A) to define nursing was: caring, scientific/science, people, health, profession, discipline, promote, art, and disease. The sequence of terms used by undergraduate students (II B) was as follows: health, caring, patient, person, science, objective, human, transition, well-being, and promote. The most commonly used terms mentioned by both

groups were: caring, scientific/science, person, and health. The terms autonomy, transition and self-care were not mentioned by Master's students. The remaining 15 terms were mentioned by both master's and undergraduate students.

When comparing the specific concepts or concepts with a specific meaning to the discipline mentioned by undergraduates, it was observed that only the term objective was not mentioned.

The most frequently mentioned concepts (II C) were: well-being, self-care, promote, prevention, and caring. The four most frequently mentioned terms in series I A and II B were: caring, scientific/science, person and health. However, of these terms, only caring ranked in the first positions as a specific concept (in II C). The other concepts occupied the 7th or 8th positions. Conversely, the concepts well-being and self-care, which occupied the first two positions in series II C, were only ranked in lower positions in the other two series: well-being occupied the 10th position in I A and 7th position in II B, whereas self-care ranked at 9th in series II B (Table 3).

Table 3

Terms and concepts used and mentioned by undergraduate and master's students, in order of degreasing frequency

Sample/ series	I A		II B		II C	
Caring	1st	15	2nd	16	4th	11
Scientific/science	2nd	14	3rd	14	(8th	6)
Person	3rd	12	2nd	16	(7th	7)
Health	3rd	12	1st	17	(8th	6)
Profession	4th	10	(9th	5)	(13th	1)
Discipline	5th	9	(11th	3)	(13th	1)
Promote	5th	9	(7th	7)	3rd	15
Art	6th	8	(8th	6)	(11th	2)
Disease	6th	8	2nd	16	(12nd	2)
Objectives	(11th	2)	4th	13		
Independent/dependent	(11th	2)	(8th	6)	6th	8
Knowledge	(8th	6)	(13th	1)	5th	9
Autonomy			(12th	2)	5th	9
Prevention	(8th	6)	(11th	3)	4th	11
Human	(10th	3)	5th	10	(13th	1)
Transition			6th	8	(7th	7)
Well-being	(10th	3)	(7th	7)	1st	24
Self-care			(9th	5)	2nd	19

The total references of the 18 most frequently mentioned terms and concepts in the three series resulted in the following order of degreasing frequency: caring; person; health, scientific/science; well-being;

promote; disease; self-care; prevention; profession; art; independence/dependence; knowledge; objectives; transition; human; discipline; and autonomy (Figure 4).
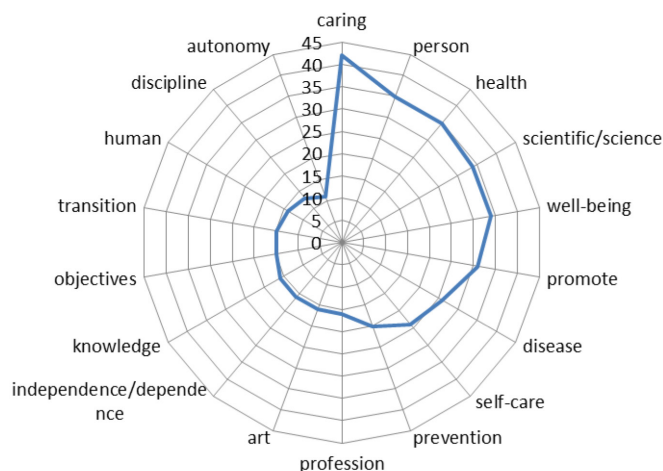
FIGURE 4. Most frequently mentioned terms and concepts used by undergraduate and master's students in the total of the three series

The terms and concepts emerging in this study were compared to the concepts found in the nursing literature as core concepts. The following studies were taken into account: Yura and Torres (1975); Fawcett (2005); Newman (1983); Kim (2010); Ordem dos Enfermeiros. Conselho de Enfermagem, (2002); Schumacher and Meleis (1994); Meleis and Trangenstein (1994); Meleis (2012). Based on this comparison, it was observed that the concepts of society, nursing, patient, patient-nurse, and nursing therapeutics did not match the terms and concepts found in the three series of data of this study. The concept of nursing care/caring occupied the first position with a total of 42 references, followed by the concepts of person and health, both with a total of 35 references. The concept of well-being occupied the third position, with 34 references, not distant from the previous ones. Transitions occupied the fourth position, with significantly less references, 15 in total. The following concepts were arranged as follows: fifth position, nursing process (7); sixth position, practice (6); seventh place, facilitation (5); and eighth place, environment and interaction (1 each) (Table 4).

Table 4

Identification of the terms and concepts in the three series with the core concepts found in the literature

Authors	Concepts found in the literature	I A	II B	II C	Total
Yura and Torres, 1975 OE, 2002 Fawcett, 2005	Person (human being)	12	16	7	**35**
Yura and Torres, 1975	Society				
Yura and Torres, 1975 Newman, 1983 OE, 2002 Fawcett, 2005 Meleis, 2012	Health	12	17	6	**35**
Yura and Torres, 1975 Newman, 1983 Fawcett, 2005	Nursing				
Kim, 2010 Newman, 1983 OE, 2002 Fawcett, 2005 Meleis, 2012	Environment	1			**1**

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Reference	Concept	A	B	C	Total
Kim, 2010 Newman, 1983 Meleis, 2012	Patient (client)				
OE, 2002	Nursing Care (Caring)	15	16	11	**42**
Kim, 2010 Newman, 1983	Patient-nurse (client-nurse)				
Kim, 2010	Practice			6	**6**
Meleis, 2012	Interaction	1			**1**
Meleis and Trangenstein, 1994 Schumacher and Meleis, 1994 Meleis, 2012	Transition		8	7	**15**
Meleis, 2012	Nursing Process		6	1	**7**
Meleis, 2012	Nursing Therapeutics				
Meleis and Trangenstein, 1994 Meleis, 2012	Facilitation		4	1	**5**
Meleis and Trangenstein, 1994 Meleis, 2012	Well-being	3	7	24	**34**

A total of 778 terms and concepts were mentioned in this study (series A B C). The total of terms and concepts that were found in the literature was 171 (sum of the total of series A B C in Table 4), that is, 21.97% of the terms were identified. We compared the percentage of concepts identified in series II C (9.67%, 24 concepts) with the total of concepts mentioned in this series (248 concepts). This highlights the relative terminology richness of some terms used to define nursing in comparison with the significant concepts mentioned by the students.
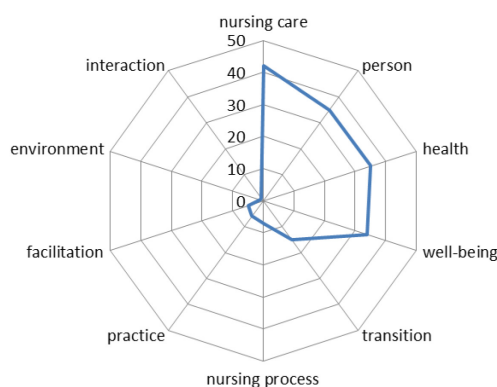

Figure 5. Identification of the most frequently used terms and concepts in the three series with the core concepts found in the literature

In both samples and in the three series of data, the core concepts (Figure 5) are arranged in order of decreasing frequency: nursing care/caring, person, health and well-being, with higher frequencies; transition, with intermediate frequency; and nursing process, practice, facilitation, environment and interaction, with lower frequencies.

We were also interested in knowing the extent to which the terms in the definitions of nursing and the significant concepts were identified and in line with the patterns of knowing found in the nursing literature. As examples of patterns of knowing found in the literature, we considered the works of Carper (2006); Shultz and Meleis (1988); Moch (1990); White (2006); and Abreu (2008). It was observed that 36 terms and concepts were identified with the empirical pattern of knowing (science, scientific, research); 16 with the aesthetic pattern; 11 with the relational pattern; 7 with the procedural pattern; 5 with the cultural pattern; 3 with the conceptual (theoretical) pattern; and 2 with the context. No references were found for the following patterns of knowing: personal, ethical, clinical, experimental, interpersonal, intuitive and tacit. Although, on a less categorical analysis, some

similarities may be found between some concepts, namely between personal knowledge and the concept of one's own (II B), interpersonal knowledge and interaction (I A) and even for some concepts such as clinical and experimental knowledge (Table 5).

Table 5

Identification of the terms and concepts in the three series with the patterns of knowing in nursing found in the literature

Authors	Patterns of knowing	I A	II B	II C	Total
Carper, 2006 Shultz and Meleis, 1988 White, 2006 Abreu, 2008	Empirical (science/scientific/research)	14	14	8	36
Carper, 2006 White, 2006 Abreu, 2008	Aesthetic	8	6	2	16
Carper, 2006 White, 2006 Abreu, 2008	Personal Knowledge				
Carper, 2006 White, 2006 Abreu, 2008	Ethical				
Shultz and Meleis, 1988	Clinical				
Shultz and Meleis, 1988	Conceptual (theoretical)		3		3
Moch, 1990	Experimental				
Moch, 1990	Interpersonal				
Moch, 1990	Intuitive				
White, 2006 Abreu, 2008	Context		2		2
Abreu, 2008	Procedural		6	1	7
Abreu, 2008	Relational	4		7	11
Abreu, 2008	Cultural		3	2	5
Abreu, 2008	Tacit				

Discussion

Nursing undergraduates used more terms to define nursing than master's students and more terms to define nursing than concepts with specific meaning. Still, both groups presented a strong dispersion of terms and concepts, which revealed some difficulties in defining nursing in an accurate and objective manner.

In the overall analysis, caring, person, health, and science were the most commonly used and mentioned terms and concepts. Caring was indeed the most commonly used term (1st position in series I A; 2nd in series II B; 4th in series II C; and 1st in the overall analysis). It was also the term which was most in line with the core concepts found in the literature (42 references).

The term transition was not mentioned by beginning master's students. In relation to undergraduate students, it was mentioned eight times to define nursing (in a modest 6th position), being even less frequently mentioned as a concept with meaning (7th position, with 7 references) and occupying the 15th position in the total of the three series. We observed that there was no appropriation of the term and concept as it would be expected considering the state of the art.

For beginning master's students, the term well-being was even more distant from the top positions than the term transition; however, it occupied the first position among undergraduates. In the total of the three series, well-being occupied the 5th position. Meleis and Trangenstein's (1994) idea of nursing as a facilitator of the transition processes aiming at well-being had not

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been incorporated by beginning master's students. The lack of appropriation is even clearer when it comes to well-being, with already some references to the term of transition. Conversely, undergraduate students ranked well-being as the first concept, whereas the same did not happen to the concept transition. Of the seven core concepts suggested by Meleis (2012), only the concepts of nursing patient and nursing therapeutics were not used by students. Instead, they preferred other concepts such as person and caring/care.

The results of comparing the concepts of the literature with the terms and concepts used by the students show that caring comes first, followed by person, health and well-being. Environment and society are concepts found in the literature which were not in line with the students' concepts and terms. It should be noted that only 21.97% of the references were in line with the concepts of the literature. If the analysis were restricted to meaningful concepts (II C), the percentage would drop to 9.67%. This shows a deficient incorporation of the concepts found in the literature on nursing theory.

The empirical knowledge pattern included the most frequently mentioned terms and concepts, which is in line with the use of the term science (4th position in the total, 2nd and 3rd positions in the nursing definitions).

The aesthetic knowledge pattern occupied the second position, although it obtained less than half of the references compared to the empirical pattern, shortly followed by the relational pattern. The ethical pattern was not relate, possibly because it was so intimately internalised that there was no need for students to theorise it. It may still have happened for other reasons, such as those presented in the study of Correia and Costa (2012) with final-year students, where the moral or ideal imperative was the least valued dimension in the meaning assigned to caring. Similarly, there was no incorporation of terms and concepts that directly reveal personal, intuitive and tacit knowledge patterns. The term and concept of art did not occupy the top positions: 8th position for master's students and 12th position for undergraduates, with only two references as a concept. Students easily perceived and defined nursing more like a science and less like an art.

The term health came 1st for undergraduates and 4th for master's students, and was mentioned six times as a concept. It was also well in line with the concepts of the literature (with thirty-five terms). It was found to be a more central concept than well-being in every series of data. The term disease occupied the 6th position in the group of master's students, but was 2nd in the group of undergraduate students and 12th in the group of concepts.

The term self-care emerged in the 2nd position (II C) and it was only mentioned five times by undergraduate students as a term used to define nursing. However, it was not used by beginning master's students. The term self-care, with an undisputable conceptual richness from a theoretical perspective, was mentioned by undergraduates but not by master's students. We believe that there is less appropriation of theories and core concepts by beginning master's students since they have been away from formal education for a longer period.

Conclusion

To sum up, the great dispersion of terms and concepts shows that students experience difficulties in defining nursing in an objective and accurate manner. Caring was the most commonly used term and concept with the highest level of appropriation. Meleis's theory about nursing, especially about the concepts of transition and well-being, was not incorporated by beginning master's students. The term of transitions was not central to undergraduates; however, well-being was highly valued. In general, there was a poor appropriation of the nursing disciplinary concepts provided by the literature. Undergraduate and master's students easily perceived and defined nursing more like a science, valuing the empirical knowledge pattern, and less like an art, relegating other patterns. Beginning master's students adopted less terms and disciplinary concepts proposed by the nursing theory because they were away from formal education for a longer period. It is, therefore, important that initial, post-graduate and lifelong education, either formal or on-the-job, contributes to and benefits from the systematisation of the theory produced and be conveyed using a specific disciplinary language.

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