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Self-assessment of nursing competencies – validation of the Finnish NCS instrument with Italian nurses

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Self-assessment of nursing competencies – validation of the Finnish NCS instrument with Italian nurses

Aim: Research focusing on competence assessment of practicing nurses has recently increased. However, few generic instruments are available for this purpose. This study reports cultural validation of the Italian version of the Nurse Competence Scale (NCS, English version) by exploring nurses' perceptions of the use of the NCS instrument.

Methods: Content validity of the Italian version of the NCS was assessed during the translation and back-translation process. Thereafter, cultural validity was further explored by conducting self-assessments and semi-structured interviews with 10 nurses, who practise medicine, cardiology and intensive care wards. First, the Italian version of the 73-item NCS was used to assess nurses' competence levels and the frequency of using competencies in practice settings. Second, semi-structured interviews were conducted to evaluate nurses' perceptions of the use of the instrument.

Results: The advanced beginners obtained a high overall competence level and the experienced nurses a very high overall competence level. These results are similar with the earlier findings of nurse competence levels with the NCS. The overall frequency of using NCS competencies in clinical practice indicated good cultural validity of the instrument. The instrument was considered easy to understand and to complete, and the Italian version was considered to express the domain of nursing. However, a need to make semantic specifications for some items for the Italian version was pointed out.

Conclusions: This explorative pilot study reports a first phase cultural validation process. Carefully performed translation alone does not ensure validity of translated instrument. Interview method is recommended to deepen the understanding of concept in question and the content validity of the instrument. The results support previous research findings of the use of the NCS instrument and show that it could be very useful in competence assessment for Italian nurses.

Keywords: instrument development, evaluation research, cultural issues, practice development, professional development, reflective practice.

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Introduction

Assessing nurse competence profiles is a fundamental prerequisite for guaranteeing qualified nursing care to the patients and to identify areas for the development of nursing practice. Competence is an essential factor for assuring quality, safety and cost-effective health care (1).

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This requires, on the one hand, a continuous revision of knowledge and skills to properly deal with patients' needs, and on the other hand, a systematic activation of self-assessment processes of practice competencies to keep care standards high. Numerous studies have proven that the use of scales for competence self-assessment encourages practice improvement and continuing education, increases work satisfaction and can help reduce nurses' turnover (2–5).

Despite the importance of competence assessment, the debate in Italy has started very recently. The need to improve various practice levels has been identified since the end of the 1990s, as a consequence of passing the law of university reform. This reform allowed the introduction

of nursing training courses of second level (graduate and postdegrees) and has played an important role for nursing practice. It has enabled nurses to take up training courses to acquire specialized competencies in various fields: clinical competence, management and education competence. Development of these training courses has created prerequisites to improve nurse education and to prepare more qualified practising nurses to cope with higher care complexity. However, inside healthcare organizations there is not yet structured monitoring and differentiation systems of competence, in relation to education background and work experience (6).

An intense debate over the meaning of nurse competence is still going on (7, 8). Competence, performance, ability and capability are often terms, which are used to define the same concept, and this represents a major limit in the comparison of the research findings. The traditional definition of competence, which is mainly based on a technical aspect and is conceived as actions and behaviours, was heavily criticized for its excessive simplification (8–10). The most recent approach is based on a holistic definition of competence, where knowledge, abilities, personal aptitudes and values are combined to perform a task in a particular work environment. What makes the difference to the level of competent performance is the actual clinical experience, which allows a nurse to merge the know that with the know how. According to Benner (11), nurse competence develops throughout the time together with work experience, inside a continuum, which leads from beginner to expert. According to this model, the term experience refers not only to the passing of time or the length of service, but also to the examination of theoretical frameworks and competencies, which derive from real clinical experiences. Benner encourages nurses to speak about caring in nursing to inform the public and profession about the great decision-making, critical thinking, and, often, life-saving caring practices. The clinical wisdom obtained by nurses' valuable experiential learning possibilities during clinical practice can be made public, collective and cumulative (12).

The Nurse Competence Scale (NCS) was developed for nurse competence assessment in various work environments in Finland between 1997 and 2003. The content, construct and concurrent validity, inter-rater reliability and internal consistency of the instrument have been tested in several nurse populations in Finland (13–19). The NCS instrument has turned out to be an easy and useful instrument for assessing nurse competence in a variety of settings. It has proved to be sensitive in differentiating nurses with a wide range of work experience (15–18). Cross-cultural validation of the NCS instrument has been carried out in Australia (20). The purpose of this article is to examine the content validity of the NCS instrument which has been translated to Italian.

Background

Sound measurement instruments are essential for international comparisons. However, high-quality research depends on the quality of translation and validation of the measurement instrument. The aim of validation and validation processes is to obtain equivalence between the original and the translated tool (21–24). The traditional categories of validity are content, criterion-related validity and construct validity. One primary aspect of content validity is assessing the face validity and content validity of the instrument, particularly how it fits with a particular cultural group. If instruments are to be used across cultures, the items must not only be translated well linguistically, but must also be adapted culturally to maintain the content validity of the instrument and the conceptual level across cultures. One primary aspect of examining cultural validity is not only language as culture but also culture as in Italian nurses' beliefs, attitudes and customs. Several guidelines for the translation process are available to ensure equivalence of the original and translated instrument (21–24). Equivalence can be demonstrated in different ways, e.g. construct, content, experimental, cultural, scale and operational equivalence (21). However, carefully performed content validation does not ensure validity of a translated instrument. Validation requires further examination and the use of statistical methods to estimate the criterion-related validity and construct validity (21–24).

The difficulty reaching a consensus on the definition of nurse competence seems to be the main cause of the poor creation of instruments used to differentiate nurse competence during nurses' work experience. Even though the debate on this issue was lively in the United States at the end of the 1980s, the studies on nurse competence assessment were mainly focused on students and newly graduated nurses (25, 26). The use of nurses' self-assessments is recommended, in addition to other methods (27). At the moment, few valid and reliable measuring tools are available to assess competence of practising nurses, and the studies that have analysed competence profiles in different healthcare settings are still scarce (8, 20, 28, 29). We were interested in using a generic instrument for nurse competence assessment. The instrument should be easy to use and feasible for nurses with a wide range of work experience. As there are not, at the moment, any Italian instruments available for this purpose, we performed a careful literature search to identify possible instruments. Based on the literature search and discussions in the study group, we chose to validate the English version of the NCS (12) in Italy. The NCS instrument is a generic 73-item instrument distributed in seven competence categories: Helping role (seven items), Teaching-coaching (16 items), Diagnostic functions (seven items), Managing situations (eight items), Therapeutic interventions (10 items), Ensuring quality (six items) and Work role (19 items). The

categories were derived from Benner's (1984) competency framework (11). The level of competence is measured with a visual analogue scale (VAS), where zero means a very low level of competence and 100 means a very high level of competence. The frequency with which the competencies are actually used in clinical practice is indicated on a four-point scale (zero = not applicable, one = very seldom, two = occasionally and three = very often). The sum variables are formed out of seven competence categories. An individual overall VAS score is calculated as mean value of the average competencies assessed for the seven categories. For descriptive purposes, the VAS 0–100 is divided into four parts to represent level of nurses' competence as low (0–25), rather good (>25–50), good (>50–75) and very good (>75–100). Development and validation of the NCS instrument have been conducted in various nurse populations working in a variety of settings (e.g. wards, emergency and outpatient settings, intensive care units and operation rooms), and in a variety of acute care specialties, e.g. medical, surgical, neurological and psychiatric settings (13–18). NCS instrument has been used with samples of recently registered and experienced practising nurses and manager reviews (13–19).

The study

Aim

The purpose of this study was to examine the content validity of the NCS instrument which has been translated to Italian by exploring nurses' perceptions of the use of the instrument. The research questions served also as questions asked from the participants and were: (i) what is the level of self-assessed competence, (ii) what is the frequency of using competencies in clinical practice, (iii) point out the difficulties you encountered and (iv) highlight sentences and words that were difficult to understand or that could not be applied to an Italian work environment.

Design

Content validity of the Italian version of NCS was evaluated during the two-way translation and back-translation process (phase 1). It was further tested by conducting nurses' self-assessments with the NCS instrument with a survey and by using semi-structured interviews (phase 2). Two groups of Registered Nurses were selected; advanced beginners and experienced nurses to gain broad information of the use of the instrument. The translation process and the survey were performed according to the guidelines of the NCS instrument copyright holder. The qualitative inquiry was integrated to phase 2 interviews to deepen the understanding of the concept of competence as well as the cultural validity of the instrument, by interviewing the participants after conducting the survey.

Participants

Three independent, qualified translators, the researchers, one registered expert nurse and the developer of the instrument participated in the translation process (phase 1). For nurse competence assessment and interviews (phase 2) a purposive sample of 10 participants was identified from internal medicine, cardiology and intensive care setting (Table 1). Two groups of Registered Nurses were identified; one with work experience in current work setting from 1 to 2 years (n = 5) and second with work experience for more than 5 years (n = 5).

Data collection

The translation of the NCS instrument was performed in winter 2006 (phase 1). The aim of the translation was to ensure semantic and conceptual equivalence of the original and the translated versions. The translation process was as follows: forward translation, discussing or reconciliation, back-translation and discussing or reconciliation (30). Two independent Italian–English translators translated the English version into Italian. After that, the translations were reviewed and evaluated by one of the researchers (MD), the translators and a Registered Nurse with English expertise. They discussed the translation, the problems encountered during the translation process and selected translation passages which seemed most acceptable and easily understandable by an average Italian nurse. The developer of the instrument (RM) was consulted to verify that the translated version was in accordance with the original instrument. This produced the first Italian version of the NCS instrument. Back-translation was performed by a third independent qualified translator. Then a comparison between back-translation and the original version was made to verify that the translated version was in accordance with the original instrument. On the last analysis small modifications were performed to the Italian version of the instrument. For example the item 'Evaluating critically own philosophy in nursing' was translated in 'Evaluating critically own caring principles' because the term 'philosophy' is not common in Italian caring setting.

The survey was performed in May 2006 (phase 2). This aimed to test content validity of the Italian version of the NCS instrument by gaining information about nurses perceptions of conducting self-assessments by the NCS

Table 1 Work experience of the respondents in current setting (n = 10)

Setting	Nurses with more than 5 years	Nurses from 1 to 2 years
Internal medicine	3	2
Cardiac unit	1	2
Intensive care	1	1

instrument (n = 10). Content validity was tested in the survey by asking the nurses to assess the level of competence and frequency of using the competencies in clinical practice by submitting the 73-item NCS questionnaire. General demographic factors (gender, age, qualification, setting type, current setting and overall work experience) were asked. It took 30 minutes to assess the level of competence and the frequency of using competencies in clinical practice to fill in the NCS questionnaire. All questionnaires were returned and filled in thoroughly.

One of the researchers (MD) conducted semi-structured interviews with participants after they completed the NCS questionnaire. The informants were asked to point out the difficulties they encountered during the self-assessment and to highlight sentences and words that were difficult to understand, or that could not be applied to an Italian work environment. All interviews were recorded with the consent of the participants. The average length of the interview was 30 minutes.

Ethical considerations

Permission to undertake the study was obtained from the manager of the nurse department at the hospital. Permission to translate the English version of the NCS instrument was granted by the copyright holder. Nursing coordinators of the units gave a list of nurses working in the units to one researcher (MD). Participants were selected on the basis of their work experience in current work setting. A limited number of participants were selected to gain information about content validity of the NCS instrument for this pilot study. The nurses were contacted on the phone during their working hours, were informed about the aims, the anonymity guarantee and the use of data exclusively for the study. The voluntary nature of the participation was emphasized. All contacted nurses gave informed consent. On the same day an appointment was made, outside working hours, for the submission of the questionnaire and the interview.

Data analysis

Quantitative data was analysed using descriptive statistics (frequencies, percentages and mean values). An individual overall VAS score of competence was calculated as mean value of the average competences assessed for the seven categories. Qualitative data of the collected interviews was analysed to identify possible difficulties in responding to the questions, and sentences and words that were difficult to understand, or cannot be applied to an Italian work environment. Each interview was given a letter code from A to J. Interviewing allowed understanding in depth what the participants think about the questionnaire and, furthermore, it gives information about critical points and possible improvements. To analyse the interviews, which

were transcribed verbatim, the following method was used. The set of interviews was scrutinized to get a general and broad sense of the whole statement. Once the sense of the whole had been grasped, the researchers came back to the beginning and analysed the texts in a detailed way, specifically aiming at identifying 'meaning units' as regards the matter of inquiry (31). During the analysis, the researchers did not formulate hypotheses, to avoid own pre-understandings. During the process of analysis, they wrote down some reflections about their analytical methods and beliefs of the self-assessment process.

Results

The participants undergoing the survey and interviews were Registered Nurses working in internal medicine ward (n = 5), cardiac unit (n = 3) and intensive care unit (n = 2). One nurse had additionally a master's degree in geriatric nursing. Work experience in the current ward setting ranged from 16 to 162 months and in health care from 16 to 172 months (Table 2). Four of the participants had had no earlier work experience. The age of the participants varied from 24 to 40 years (mean 29.0 years). The results will be discussed in the areas of research questions: the level of self-assessed competence, the frequency of using competencies in clinical practice, the difficulties encountered and sentences and words that were difficult to understand, or that could not be applied to an Italian work environment.

Self-assessments of respondents indicated high or very high overall competence levels (Table 3). For the experienced nurses the overall VAS mean scores 81.2 indicated a very high competence level, and also in each competence category (range 73.7–90.2). For advanced beginner group the overall VAS mean score was somewhat lower (VAS 71.2), and the range in competence categories was from 64.3 to 78.6. This indicated a high level of competence in every competence category. The Helping role, Work role and Managing situations categories were assessed as highest for advanced beginners, and additionally the category of Therapeutic interventions for the experienced nurses. Smallest differences in competence scores between these two groups were in the categories of Helping role and Diagnostic functions. From individual items, the main differences between the experienced nurses and advanced beginners focused on following competencies: 'developing orientation programmes for new nurses', 'coaching other team members in mastering rapidly changing situations', 'providing consultation for the care team' and 'mentoring novices and advanced beginners'.

The self-reported frequency of using NCS competencies in clinical practice indicated good content validity of the NCS instrument, and shows that nursing practice in the Italian culture is similar to the original sample of nurses for which the NCS instrument was developed. The

Table 2 Demographic variables of the respondents (n = 10)

Length of work experience	Age in years (mean)	Range	Work experience in current environment in months (mean)	Range (in months)	Work experience in overall environment in months (mean)	Range (in months)
Advanced beginners						
Work experience from 1 to 2 years in current setting (n = 5)	25.6	24–28	18.2	16–24	21.4	16–28
Experienced nurses						
Work experience more than 5 years (n = 5)	33.6	30–40	120.2	85–162	133.4	109–172

Table 3 The VAS mean levels of competence for advanced beginners and experienced nurses

NCS, competence categories	VAS mean advanced beginners (n = 5)	VAS mean experienced nurses (n = 5)
Helping role	78.6	83.2
Work role	76.3	90.2
Managing situations	75.3	85.1
Diagnostic functions	69.7	73.7
Teaching-coaching	68.2	77.3
Therapeutic interventions	66.4	84.0
Ensuring quality	64.3	75.3
Overall competence	71.2	81.2

VAS, visual analogue scale; NCS, Nurse Competence Scale.

Table 4 The frequency of using NCS competencies in clinical practise (n = 10)

Competence categories	Percentage of using competencies occasionally/very often in my work
Helping role	94.3
Diagnostic functions	86.2
Work role	85.7
Therapeutic interventions	79.0
Teaching-coaching	76.2
Managing situations	74.0
Ensuring quality	73.3
Overall frequency	81.2

NCS, Nurse Competence Scale.

respondents reported frequent use of all NCS competencies in clinical practice. The overall frequency of using the competencies very often or occasionally was 81.2% (Table 4). Most often in their clinical practice the nurses reported that they used Helping role (94.3%), Diagnostic functions (86.3%) and Work role (85.7%) category competencies, while Ensuring quality category competencies was least frequently used in clinical practice (73.3%).

Interviews confirmed that the translation process had been appropriate. All respondents indicated that the NCS instrument was easy to use and the questions were clear and easy to understand. The instrument was considered very useful and interesting. The instrument helped the respondents to understand and specify their needs for continuous training. While answering the questionnaire the nurses thought about their way of working:

> I like this instrument because it makes you think about your way of working…unfortunately you don't always have time to do it. It seems very useful and interesting. Even though I try to do my best, perhaps there is something that could be done better (L). I find this instrument useful in reflecting upon training, it could be used at current work and even when a very experienced nurse is changing workplace (I).

By the interviews it was examined that is nursing practice in the Italian culture similar to the original sample of nurses for which the NCS instrument was developed. The respondents indicated good content validity of the NCS categories and NCS items. All competence category items were indicated by the respondents as reflecting the topic of nursing care. The planning of care and teaching and coaching of patients, relatives and novice nurses seem to be the most important competencies for a nurse. The respondents regarded that most important for nursing is planning and organization of patient care; managing emergency situations; managing the relationships with patients' family and coaching other staff members:

> The planning of care and teaching and coaching of patients, relatives and novice nurses seem to me to be the most important competencies for a nurse (H). Planning of care and therapeutic interventions and managing emergency situations best stand for nurse competence (D). I think that for a nurse it is essential to plan patient care and to modify it according to changes in patients' condition. While the patient education in intensive care is not so relevant, the relationship with relatives is. They need more support than the patient himself/herself (L). Helping role is the most important part of the questionnaire. The exchange of views with the team is fundamental since a

nurse does not always act alone (C). Making decisions is important because nurses often intervene when the doctor is absent (D).

Some respondents indicated difficulties in choosing the right response alternative in the frequency scale. Some respondents suggested that the frequency scale options should be made clearer:

> There is a gap between very seldom, occasionally and very often. I would add another column for the adverb frequently (A). Related to frequency, there are things we always do, such as for example planning patient care according to individual needs. I would have added always, otherwise we cannot understand the difference between always and very often (H).

Some respondents suggested that there should be a space for free comments to explain own scores:

> For example, if one possess a good Teaching-coaching competence, my score was 80, but if I can and if I have time I would like to improve it, and I will also do it; however, as regards frequency, I wrote occasionally, because I am not always very competent, it depends on the day, on the tasks I have to do (B).

A nurse with little work experience commented that great attention is focused on coaching patients and colleagues:

> I agree with it, even if time does not always enable us to do this. So far I have supervised only two students, and I have never supervised a new employee. This explains my low scores, but perhaps it would be useful to have some space to write this (F).

The difficulties the respondents encountered were related to self-assessment. Practicing nurses are not much used to reflecting on their nursing practice. Some of the respondents suggested that it was difficult to self-assess the quality of their own actions and they would have been liked to comment and explain own scores with free space. Some respondents indicated that it was sometimes hard to choose the right response alternative in the frequency scale.

Overall, the respondents considered that all the NCS items could be applied to an Italian work environment. However, a need for semantic specifications for some items for the Italian version was pointed out. Some respondents expressed the wish for some items to be more context specific, e.g. type of patients, care complexity level or to various work settings (intensive care units, internal medicine wards). Some respondents indicated that the use of examples would have made the questions even clearer, e.g. the meaning of debriefing, mentoring and acting autonomously:

> Mentoring is too specific word, which not every colleague knows (H). Acting autonomously in a routine situation my competence level could be 90 but in emergency situations it could be lower because I am sure that I get into panic more easily than someone else (E). The term supporting patients' coping strate-

gies could be substituted with the term favouring. The item 'decision-making guided by ethical values' might give a rather expected answer. The ethical aspect is not so much considered. I would add 'discussion as regards to the choices at the end of life or aggressive therapy' because it is a prominent problem in intensive care setting (L).

The item 'taking care of myself in terms of not depleting my mental and physical resources' was pointed out and stated that it is sometimes difficult to safeguard physical and mental resources, because the work pace is very fast:

> For me it is easier to safeguard mental resources and organize work on the basis of priorities while I safeguard less physical resources. A patient can be mobilized without any lift because we are in a hurry and I am not able to spare myself when there is a lot to do (D). Physical resources are concrete like positioning a patient or lifting burdens and mental resources are more subjective. You cannot help getting emotionally involved with patients' situation. Patients can stay in hospital even for 2 to 3 months. I have noticed that more experienced do not get so easily involved because they have learned to defend themselves or because of their character (C).

Some respondents indicated that the cooperation relationship with the nurse and his/her support workers was not concrete enough in the NCS instrument:

> It seems that the doctor is absent in this questionnaire. A question related to what aspects can be discussed or which decisions can be taken together could be added (A). I would add some questions on the collaboration with the doctor in order to improve the patients' care, but also on the relationship with the colleagues and support workers (D). Perhaps a good relationship with the colleagues and the team is lacking. I find it important; if there is a good relationship with your work shift colleagues you work better. I mean a good work relationship, but also of reciprocal respect (C). A question could be added 'I take decisions as regards patients' care with the collaboration of the doctor' (A).

Discussion

The results of the study show evidence that the content validity of the Italian version of the NCS instrument was high. Nursing practice in the Italian culture shows similar features to the original sample of nurses for which the NCS instrument was developed. Although there are certain cultural differences between Italy and Finland, the healthcare systems are publicly funded based on taxation in both countries. Nursing and medical education systems are close to each other. Nursing education is nowadays based on polytechnic education in both countries as a consequence of the university reform during the 1990s. This passage has played an important role for nursing

practice in Italy and has enabled practising nurses to acquire specialized clinical, management or education competencies. Development of these training courses has created prerequisites to improve nurse education and to prepare more qualified practising nurses to cope with higher care complexity. However, inside Italian healthcare organizations there is not yet structured monitoring and differentiation systems of competencies.

Some of the nurses pointed out very high competence scores. It is interesting that even some advanced beginners assess their competence level in some categories as high as the experienced nurses. However, when comparing the overall competence levels the group of advanced beginners obtained a high overall competence level and the group of experienced nurses a very high overall competence level. This result could lead us to understand that work experience plays a fundamental role in the development of nurse competencies. However, as Benner (11) highlights, experience becomes a requirement for competence: 'It does not refer to the mere passage of time or longevity. Rather, it is the refinement of preconceived notions and theory through encounters with many actual practical situations that add nuances or shades of differences to theory'. According to Benner (11), a proficient nurse is able to grasp through perception the subtle aspects of a situation, and it is thanks to experience that she is able to identify events in their overall dimension and assess variables that are considered more or less important. Our results support the above theory, in that experienced nurses expressed higher competence score than the advanced beginners. This finding that experienced nurses grade their scores higher than those with less experience is supported by earlier study findings in an acute care setting in Finland (13, 16, 18). However, although this finding is similar to earlier studies, the sample in this study was extremely small and further research is necessary. The self-reported frequency of using NCS competencies in clinical practice shows evidence that nursing practice in the Italian culture has similar features to the original sample of nurses for which the NCS instrument was developed and indicates good content validity of the Italian version of the NCS instrument.

A hypothesis, which is corroborated by literature review, could be newly graduated nurses' tendency to overrate their level of competence (32), at least in some competence categories (33). Our findings show that advanced beginners rate their competence scores almost as high as experienced nurses for Helping role and Diagnostic functions categories. However, competence scores in other categories become much higher with longer work experience.

The interview results allowed us to carefully analyse perceptions of self-assessment by using the NCS. The instrument was considered useful to reflect one's way of working and to help nurses understand their education needs better. Although the questionnaire was regarded rather long, this aspect does not represent a limit. On the contrary, it is a positive element as it allows assessing a wide amount of aspects in nursing. The interviewed nurses did not find the NCS questionnaire difficult to answer, although it was originally developed in a different country. Research findings also pointed out that most of NCS competencies were frequently used in clinical practice and this finding is supported by earlier study findings in Finland (13). It seems that generic instruments do not necessarily require substantial changes because of cultural differences. However, the sample size in this study was extremely small and further research is necessary to gain more evidence of the content validity of the Italian version of the NCS.

The interviewed nurses regarded that the instrument represented all aspects of nursing well. However, the collaboration relationship between a nurse and a doctor was pointed out. The possibility of discussing with a doctor some issues or some decisions was regarded as important, as not only to create a collaboration relationship, but also to improve the patient care. It might be that differences in nurse/doctor ratios have an effect on this matter. In Italy, the practising nurse/doctor ratio is very low when compared with OECD countries. In Italy, the ratio was in 2005 1.8 and in Finland 3.1. The OECD average for nurse/doctor ratio at that time was 2.9 (http://www.oecd.org). The high number of doctors in Italy may increase the collegial collaboration between nurses and doctors and intensify common decision-making processes.

Although there is not yet a structured monitoring and differentiation system of competencies inside Italian healthcare organizations, the interviewed nurses showed great interest and enthusiasm for this study. The use of self-assessment instruments could give a very important chance for Italian nurses to reflect their behaviour, to reassess their knowledge and abilities periodically and systematically, and to encourage professional development and continuous training, and thus improve the quality of patient care. This information could be very useful for healthcare organizations to identify the competencies needed for a successful nursing practice. Additionally, it is important to outline the different aspects of nurse competence, and thus create the assumptions to attract and retain nurses in health care.

Conclusion

This explorative pilot Italian study examined the content validity of the Italian version of the Finnish NCS instrument. A mixed method combining translation, survey and qualitative interviews proved to be useful in assessing the cultural differences and deepening the understanding of the concept on competence. The NCS categories were considered to express to domain of nursing care. The

Italian participants used the NCS competencies frequently in clinical practice. The results support previous research findings of the use of the NCS instrument and show that it could be very useful in competence assessment for Italian nurses. However, further examination and use of statistical methods is needed to draw conclusions about the validity of the Italian version of the instrument. Although psychometrically tested instruments are useful for international evaluations, cultural differences should be taken into account as part of the content validity when comparisons on international level are made. The high-quality validation process, including the translation phase, is essential for providing equivalence between the original and translated instruments and should not be ignored.

Author contributions

Marisa Dellai was responsible for the study's conception and design, data collection and analysis and the drafting of the manuscript. Luigina Mortari was responsible for the study's conception and design, critical revisions of the manuscript for important intellectual content and supervision. Riitta Meretoja was responsible for the study's conception and design, critical revisions of the manuscript for important intellectual content and supervision.

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