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Cross-cultural sensitivity and change of perspectives in home care nursing:

The development and evaluation of a training intervention to improve the working conditions and quality of care in home care nursing services

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Abbreviations

approx.	approximately
e.g.	for example (exempli gratia)
GKV	German national health insurance (gesetzliche Krankenversicherung)
ICC [1,1]	one-way random single measure intraclass correlation coefficient
i.e.	that is (id est)
PerKuTam	Perspektivwechsel und Kultursensibilität in der ambulanten (Alten-)Pflege (change of perspective and cultural sensitivity in home care nursing)
PROSPERO	International Prospective Register of Systematic Reviews
PSG II	Second Long Term Care Strengthening Act (Pflegestärkungsgesetz II)
QATSDD	Quality Assessment Tool for Studies with Diverse Designs
t1	first assessment
t2	second assessment

Publication list

Filmer, T., & Herbig, B. (2018). Effectiveness of Interventions Teaching Cross-Cultural Competencies to Health-Related Professionals With Work Experience: A Systematic Review. *Journal of Continuing Education in the Health Professions*, 38(3), 213-221. http://dx.doi.org/10.1097/CEH.0000000000000212

Filmer, T., & Herbig, B. (2020). A training intervention for home care nurses in cross-cultural communication: An evaluation study of changes in attitudes, knowledge and behaviour. *Journal of Advanced Nursing*, 76(1), 147-162. http://dx.doi.org/ 10.1111/jan.14133

Summary

Introduction

The German home care nursing system allows patients to receive professional care in their own homes. Working with people that show a great diversity – not only because of their cultural backgrounds – home care nurses need cross-cultural competencies to be able to adapt the care to their patients' needs and wishes regardless of their affiliation to specific cultural groups to ensure a high quality of care. The objective of this thesis is to investigate the effectiveness of cross-cultural competency interventions in health professions and to evaluate whether a training in cross-cultural sensitivity can positively influence the cross-cultural attitudes and knowledge of home care nurses as well as their behaviour in cross-cultural encounters.

Methods

To evaluate the results of the training appropriately, it is vital to investigate how effective such interventions in general are. The effectiveness of interventions teaching cross-cultural competencies to health-related professionals was thus investigated in a systematic review. Subsequently, a training for cross-cultural competencies was developed and changes in home care nurses' cross-cultural attitudes, knowledge and communication behaviour after participation in the training were analysed.

Results

The systematic review shows that many cross-cultural competency interventions primarily use subjective assessment methods which leads to a one-sided view about their effectiveness. The main conclusion is that studies on cross-cultural competencies should also use objective assessment methods and focus on the quality of their study designs as well as exploring different intervention types. The evaluation of the developed training shows mostly positive

but not significant improvements for initially quite high subjective outcome variables such as self-rated cross-cultural attitudes, while objective assessments of cross-cultural knowledge and communication behaviour show predominantly significant positive changes.

Conclusions

The results of this thesis confirm that a training intervention for home care nurses to improve cross-cultural competencies and to enable them to change their perspective can be effective. Furthermore, it became evident that cross-cultural communication skills and the ability to understand patients' cultural values, perspectives and needs are important to guarantee a high quality of nursing care, especially in home care nursing.

Zusammenfassung

Einleitung

Das System der ambulanten Pflege in Deutschland ermöglicht es Pflegebedürftigen eine professionelle Pflege und Betreuung im eigenen Zuhause zu erhalten. Aufgrund der Arbeit mit einer großen Vielfalt von Menschen – nicht nur aufgrund deren kulturellen Hintergrunds – benötigen Pflegekräfte kulturübergreifende Kompetenzen, die es ihnen ermöglichen, die Pflege an die Bedürfnisse und Wünsche der Pflegebedürftigen anzupassen, unabhängig von deren Zugehörigkeit zu bestimmten kulturellen Gruppen, um eine hohe Pflegequalität zu garantieren. Das Ziel dieser Dissertation ist es die Effektivität von Interventionen zur Förderung von kulturübergreifenden Kompetenzen in Gesundheitsberufen zu untersuchen und zu evaluieren, ob ein Training in Kultursensibilität für ambulante Pflegekräfte deren kulturübergreifende Einstellungen und Wissen sowie ihr Verhalten in interkulturellen Begegnungen positiv beeinflussen kann.

Methoden

Um die Ergebnisse des Trainings evaluieren zu können, ist es nötig zu untersuchen, wie effektiv solche Interventionen im Allgemeinen sind. Aus diesem Grund wurde die Effektivität von Interventionen, die Beschäftigten im Gesundheitswesen kulturübergreifende Kompetenzen vermitteln sollen, in einem Systematic Review untersucht. Nachfolgend wurde ein Training kulturübergreifender Kompetenzen entwickelt und Veränderungen in kulturübergreifenden Einstellungen, Wissen und Kommunikationsverhalten von ambulanten Pflegekräften nach der Teilnahme an diesem Training analysiert.

Ergebnisse

Der Systematic Review zeigt, dass viele Interventionen, die kulturübergreifende Kompetenzen vermitteln sollen, vorrangig auf subjektive Erhebungsmethoden zurückgreifen,

was zu einem einseitigen Bild über deren Effektivität führt. Eine zentrale Erkenntnis ist, dass Studien im interkulturellen Bereich auch objektive Erhebungsmethoden verwenden, sich auf die Qualität ihrer Studiendesigns fokussieren sowie verschiedene Interventionsarten untersuchen sollten. Die Evaluation des entwickelten Trainings zeigt vorrangig positive aber nicht signifikante Verbesserungen für zu Beginn bereits sehr hohe Werte in den subjektiven Zielvariablen wie selbst eingeschätzte kulturübergreifende Einstellungen während objektive Messungen von kulturübergreifendem Wissen und Kommunikationsverhalten vorwiegend signifikante positive Veränderungen aufzeigten.

Schlussfolgerungen

Die Ergebnisse dieser Dissertation bestätigen, dass eine Trainingsintervention für ambulante Pflegekräfte mit dem Ziel, kulturübergreifende Kompetenzen zu verbessern und einen Perspektivwechsel zu ermöglichen, effektiv sein kann. Ebenfalls wurde deutlich, dass kulturübergreifende Kommunikationsfähigkeiten und die Fähigkeit, die kulturellen Werte, Perspektiven und Bedürfnisse von Patienten zu verstehen, wichtig sind, um eine hohe Pflegequalität zu garantieren, besonders im Kontext der ambulanten Pflege.

Introduction

Home care nursing in Germany

The German home care nursing system is rather unique compared to other nursing systems worldwide. Instead of living in nursing facilities, approximately 70% of care recipients receive nursing care in their own homes (Isfort et al., 2016; Statistisches Bundesamt, 2018a). Even though this is not unusual in a lot of countries where long-term care is primarily provided by family members (OECD/European Union, 2013), the German system is rather exceptional in providing professional care in the homes of their patients or clients via home care services – either by supporting relatives or taking over the care completely. Several legislative changes such as the Second Long Term Care Strengthening Act (PSG II) in 2017 support German home care nursing by enabling care recipients to stay in their own homes while in need of professional care (Bundesgesundheitsministerium, 2016).

Most recent figures show that in Germany approximately 390,000 health care professionals provide care for approx. 830,000 patients or clients in their residences (Statistisches Bundesamt, 2018b). Thus, the ratio between care recipients and care providers in home care nursing is higher than in inpatient care in the sense that, on average, home care nurses provide care for more patients than their colleagues in inpatient care (Prognos AG, 2012). The absolute number of persons in need of care will grow further in the next years due to the increasing life expectancy, changes in family structures and the demographic change. Accordingly, the need for qualified nurses will increase as well (Augurzky et al., 2006; Isfort et al., 2016).

In the future, nurses will also be working with care recipients from a greater variety of cultural backgrounds. In 2018, one quarter of German citizens had a migration background (approx. 21 million out of a total of approx. 82 million) (Statistisches Bundesamt, 2018c). Thereof, approx. 2 million were 65 years of age and older. While this figure currently

represents 11.5% of all German citizens in this age group, the number will increase considerably in the near future according to the German Federal Office for Migration and Refugees (Kohls, 2012), and will consequently be leading to a great demand for cultural sensitivity in nursing (Bundesamt für Migration und Flüchtlinge, 2019; Kohls, 2015; Sachverständigenrat deutscher Stiftungen für Integration und Migration, 2015). However, this does not necessarily mean that care recipients with a migration background need a different kind of care than those without a migration background. This will be described in more detail in the following.

Not only care recipients but also care providers show an increasingly wide range of cultural backgrounds (Friebe, 2006; Kohls, 2012; Statistisches Bundesamt, 2018c). In 2018, there were about 1.6 million nursing professionals employed in Germany (Bundesagentur für Arbeit, 2019). Even though this number appears to be quite high, it is not nearly high enough to meet the demand for professional caregivers, especially in long-term and home care settings (Bundesagentur für Arbeit, 2019). Immigration of health care professionals could help dealing with staff shortages and raising cross-cultural sensitivity in health care, yet this also means that a multitude of different perspectives influenced by various cultural backgrounds will subsequently be involved in the process of care (Kohls, 2015). While data on the working situation of German home care nurses is not comprehensive enough to derive if there are differences in working conditions between native and non-native nurses or not (Ulusoy et al., 2019), international studies show that nurses with a migration background are more likely to report job strain than their colleagues without a migration background (e.g. Brown et al., 2003, Hurtado et al., 2012; Ulusoy et al., 2019). The 2018 migration report of the Federal Office for Migration and Refugees shows that while the majority of immigrants originate from other European countries (approx. 67%), the range of immigrants' native countries is very wide (Bundesamt für Migration und Flüchtlinge, 2019), making it rather difficult to group immigrants in Germany based on specific cultural backgrounds.

Care expectations of different cultural groups in Germany

To educate nurses about different cultural groups as well as their individual perspectives and expectations, cultural trainings are recommended (see publication 1 for further details). These trainings primarily aim to provide knowledge about needs and perspectives of specific cultural groups within the nursing process. Data about expectations of care recipients with a migration background often derives from predominantly qualitative and non-representative studies (Sachverständigenrat deutscher Stiftungen für Integration und Migration, 2015). Most of the underlying studies focus on the care expectations of specific cultural groups such as immigrants of Turkish or Russian descent and do not intend on collecting comprehensive data about other cultural groups (e.g. Carnein & Baykara-Krumme, 2013; Schenk, 2014). Therefore, information gained from these studies might not apply to all individuals within or outside the respective group and should be interpreted with caution. One example that is often mentioned in German cultural competency trainings is the fact that Muslim women prefer being cared for by health professionals of the same sex (Sachverständigenrat deutscher Stiftungen für Integration und Migration, 2015). Although this information might apply to a lot of Muslim women, it should not obscure the fact that there are also Muslim women who do not mind male nurses and that a considerable proportion of women from cultural backgrounds other than Muslim would prefer to receive care from health professionals of the same sex as well (Herbig & Filmer, 2018). Thus, it should not automatically be assumed that female Muslim patients will only accept female nurses solely based on information given by one Muslim-specific cultural training. Considering the potential organizational difficulties in guaranteeing that all female Muslim patients receive care exclusively by female nurses, simply asking the patients about possible preferences would be easier than rearranging shift schedules. Studies such as Schenk, 2014, also relativize other widespread perceptions about Muslim care recipients by showing, for example, that 89% of participants think that people in need of care should receive care from health care professionals as opposed to the common

assumption that Muslim care recipients tend to prefer receiving care from their relatives only (Schenk, 2014).

Definitions of culture

To examine expectations of specific cultural groups, it is important to first define a certain concept of "culture". Culture can be described as typical characteristics of a society that are shaped by acquired and socially adopted values, traditions and ways of life of its members (e.g. Harris, 1979; Helfrich, 2013; Hofstede, 1983; Kumbruck & Derboven, 2016). It defines a shared "living environment" with specific patterns of feeling, thinking and acting (e.g. Harris, 1979; Schütz & Luckmann, 1975) that are often expressed implicitly as "matters of fact" which provide a basis for a purposeful, plausible and routine acting (Betancourt, 2004). Based on this, our way of thinking and acting is thus not only shaped by our nationalities or religious affiliations but also by our peer groups or professions (Herbig et al., 2017; Herbig & Filmer, 2018; Sáez-Martí & Sjögren, 2008). Our society is becoming more and more heterogeneous; therefore, people are not only influenced by one particular culture but by a great variety of different "cultures" instead. For example, a female German Muslim nurse's values can be influenced by her religion and her parents' Turkish background but also by her nursing profession and her (non-Turkish) peers and friends. Consequently, the norms and values that have an impact on our individual behaviour cannot thoroughly be captured by a mere list of facts that is supposed to describe cultural groups (e.g. Betancourt, 2004). This suggests that not only do health care professionals require knowledge about their care recipients' cultural backgrounds, but also skills helping them to identify a patient's individual norms, beliefs and values and to enable them to change their own personal perspective. There is an ongoing discussion if interventions that teach specifics about certain cultures should be differentiated from interventions that aim to provide skills which can be adapted to work with all patients regardless of their cultural affiliations.

Differentiation between culture-specific and cross-cultural competency interventions

The discussion is based on the debate whether it is important to differentiate between culture-specific interventions (i.e. interventions that aim to educate participants about typical characteristics of specific cultural groups) and cross-cultural interventions (i.e. interventions that do not focus on specific cultures but on skills that can be helpful when engaging with patients from various cultural backgrounds). Culture-specific interventions are criticized for imparting a rather "rigid" list of conduct rules when interacting with certain cultural groups instead of sensitizing for individual variations (Betancourt, 2004). A potential risk in the teaching of culture-specific facts is the so-called out-group homogeneity effect that describes how members of other groups appear to be more similar to one another than members of one's own "in-group" (Quattrone & Jones, 1980). Thus, care recipients of specific cultural groups might not be treated individually but rather according to a certain pattern that is supposedly universally applicable to all members of these groups. As outlined above, culture-specific interventions might not be sufficient to educate health professionals in general, given the rather heterogeneous clientele of care recipients in Germany. Apart from the fact that there is a large variety of origin countries – which would require addressing a great number of different "cultural" groups in such interventions – a culture-specific approach appears to be insufficient since there are more aspects than nationality or religion that influence a person's culture, norms and values. It could even be harmful if individual differences are neglected.

Influence of cross-cultural sensitivity on the quality in home care nursing

In general, the area of home care nursing is not as extensively researched as inpatient care. Both settings should not be seen as identical since there are findings that show how working conditions in home care nursing are different from other nursing areas (e.g. Böhle & Glaser, 2006; Roth, 2001; Simon et al., 2005). The situation in home care nursing can be described as rather unique: nurses are "guests" in their patients' homes and hence have to adapt to their

expectations and perspectives. Nurses also play an important role in their patients' lives due to their daily encounters. Even though the average contact time is limited in most cases, nurses must respect their counterparts' "culture" in order to be able to fulfil both roles – professional caregiver and "reference person" patients can relate to – at the same time. Possible tensions between professional perspectives of nurses and individual perspectives of patients as well as relatives can ultimately influence the nursing process negatively (Roth, 2001). A quality report about the situation in German home care nursing, commissioned by the Federal Ministry of Family Affairs, Senior Citizens, Women and Youth (Bundesministerium für Familie, Senioren, Frauen und Jugend) in 2001, listed a lack of home care services' or nurses' consideration of patients' needs – e.g. by not showing attention, kindness or motivation – as the most predominant reason for complaints in home care nursing (Roth, 2001). The report further found that clients' wishes and needs have rarely been recorded systematically. Instead, nurses showed a tendency to act and react in most cases according to their subjective perception of the situation (Roth, 2001). While this might basically be sufficient for their daily work, it requires an understanding of the patients' perspectives to interpret their wishes correctly. A lack of understanding various cultural values and norms might complicate this task.

Since 2001, there have been significant developments in the assessment of quality in German home care nursing. By defining specific guidelines, the Second Long Term Care Strengthening Act (PSG II) and the introduction of a new definition of the need of long-term care (GKV-Spitzenverband, 2017a) have had an important impact on the assessment of quality in home care nursing (Bundesgesundheitsministerium, 2016). In order to rate the quality of nursing care, various aspects such as the documentation and observation of nursing activities as well as interviews with patients and relatives are taken into consideration. However, the assessments focus on the quality of the professional performance of nursing activities rather than on the quality of interactions. Even though satisfaction with the nursing

services is systematically recorded via these quality controls, the attention towards the patients' wishes, needs and cultural values is not specifically outlined in these guidelines (GKV-Spitzenverband, 2017b). Since the above-mentioned quality report (Roth, 2001) listed this as the primary reason for complaints, however, there should be more regard to those aspects in the assessment of quality in home care nursing. Considering the circumstances, quality of interactions should be treated as an essential issue in quality ratings, possibly even as a rating dimension of its own. Though it might be rather difficult to assess, due to the above-mentioned reasons, the consideration of cultural needs and values is too vital to be neglected in a quality assessment. Yet, the attention to these aspects still seems to be rather marginal in the daily work. More recent studies in Germany (e.g. Krobisch et al., 2014; Sonntag et al., 2015) show that a considerable number of nurses still feel that they are insufficiently provided with knowledge and skills to engage with patients from different cultural backgrounds, resulting in a great need for cross-cultural competencies in the context of home care nursing.

In the course of a project for home care nurses (PerKuTam, see below), it was found that there is currently no systematically assessed data on cross-cultural interventions in German home care nursing. A systematic review of the relevant international literature (see publication 1) shows that cross-cultural competency trainings represent only a small fraction of cultural competency interventions. A large percentage of studies that evaluate findings of cross-cultural studies were conducted in North America (i.e. United States of America and Canada). Only a few were conducted in Europe, and none of them in Germany which makes it difficult to derive results that can be applied in the specific context of German home care nursing (see publication 1 for further details). Since research in cross-cultural nursing focuses more on inpatient care than on home care nursing, the PerKuTam project fills in a gap in research.

The PerKuTam project

This thesis is entirely embedded in the project "PerKuTam – Change of perspective and cultural sensitivity – Trainings to improve working conditions and quality of care in home care nursing" (see Herbig et al., 2017; Herbig & Filmer, 2018). The project's main aim was to increase home care nurses' sensitivity for cultural values and enable them to change their perspective in order to adapt their communication and behaviour when interacting with patients and/or other persons in the patients' households such as relatives or foreign care assistants who live with the care recipients. Thus, by improving communicative skills and understanding, potential conflicts are to be minimized to reduce psychosocial stress. This, in turn, should influence the nurses' strain in a positive manner, e.g. by reducing irritation and exhaustion as well as increasing motivation and well-being. A secondary aim was to improve the quality of nursing care and the well-being of care recipients by emphasizing more sympathetic and understanding interactions with nurses (Herbig & Filmer, 2018).

Prior to the start of the project, it was approved by the Ethics Committee of the Medical Faculty, Munich University (ID: 134-16, March 3rd, 2016). To recruit participants for the project, 63 potential home care nursing facilities in Southern Germany were addressed. After several informational events, ten nursing services agreed to participate in the project that investigated if cross-cultural competencies of home care nurses could be improved by a training in cross-cultural communication. The project was designed in a multi-method approach and can be divided into two major parts: the development of the training and the evaluation of its impact using a pre-post-design. The intervention which is evaluated in this thesis consisted of a general training that focused on a behavioural prevention as well as additional organization-specific measures that focused on a structural prevention. This ought to increase the sustainability of the training in order to support the implementation of the gained knowledge and skills in the participants' daily work. Contents of the training were

selected based on literature and semi-standardized interviews with home care nurses to achieve a very high target group participation. In the training, participants were to learn how values, norms and perspectives that are imparted via communication can lead to misunderstandings or discrepancies. For this reason, the training included communication basics like the Shannon-Weaver model (Shannon & Weaver, 1949) and Schulz von Thun's four-sides communication model (Schulz von Thun, 1981) as well as other important concepts – such as constructivism theory (Simon, 2006) – to achieve a change of perspective. Furthermore, the participants were taught about stereotypes and prejudices as well as the basics of possible differences in cultural values. By enhancing their communicative competencies, participants were to learn to change their perspective and reflect their own and their opposite's values and norms. This, in turn, ought to help them with adapting the knowledge in their daily work in order to avoid conflicts and misunderstandings and to provide a better and more individually adapted care. These objectives were to be achieved in three sessions – each with a duration of 2-3 hours – using different didactic methods such as lectures, discussions, experiential exercises and activities, role-plays and reflection exercises (Herbig & Filmer, 2018).

The intervention was evaluated in a partly-controlled pre-post test design with an additional formative evaluation that consisted of a continuous process documentation, including an immediate assessment to modify intervention contents if necessary, and a summative evaluation using established questionnaires. Those results were the basis for the study reported in this thesis. An overview of the project schedule can be seen in figure 1.

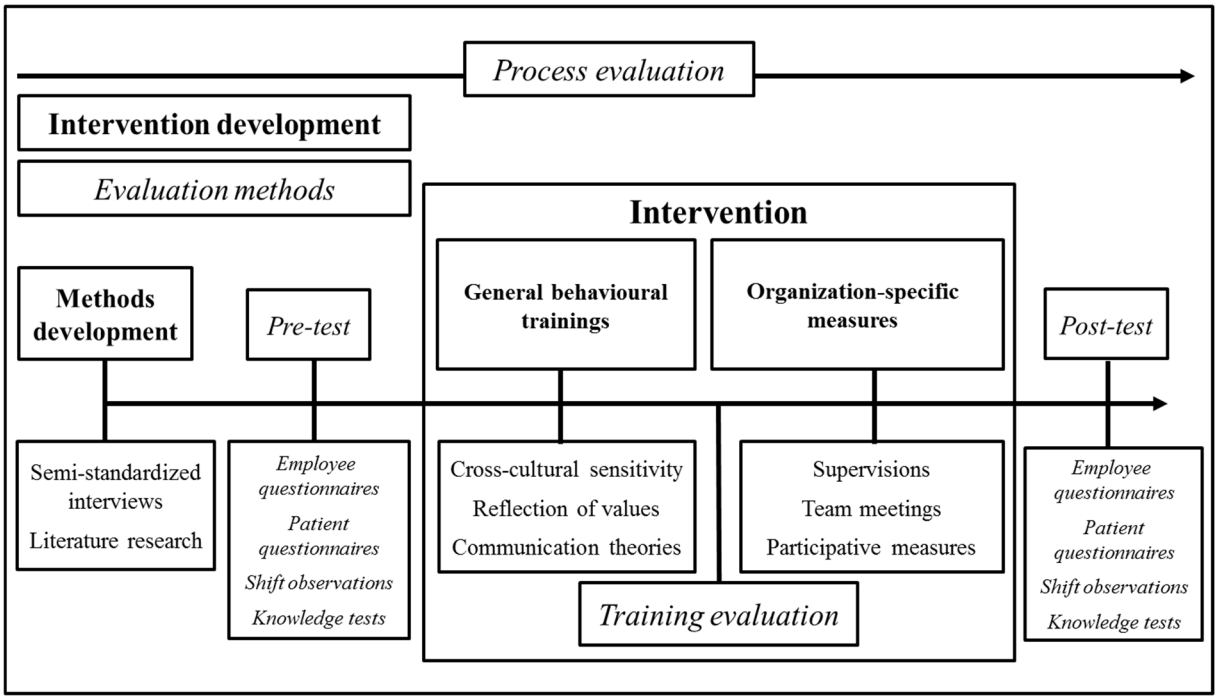

Figure 1. Schedule of the PerKuTam project

Study design

The study presented in this thesis consists of two parts: a systematic review of cross-cultural competencies in health-related professions and the evaluation of a training to improve cross-cultural competencies of home care nurses within the above-mentioned project. Initially, an extensive literature research on (cross-)cultural competency trainings in health-related professions, especially in home care nursing, was conducted. The results of this systematic review are summarized in publication 1. Although those findings go beyond the scope of this project, they were also used as a basis for planning of the training as they provided important insights into the conduction of cross-cultural trainings.

Several models of evaluation such as the Kirkpatrick model (Kirkpatrick, 1998) show that the success of training programmes can be assessed on more than one level of evaluation (e.g. reaction, knowledge and attitudes, behaviour, effects). Although data of more “advanced” evaluation levels are considered to be more useful for and accurate in measuring the impact of a training, they consume more time and demand a more complex evaluation as well (Kurt,

2016). The findings of the studies included in the systematic review support this notion since they evaluated data predominantly on "basic" levels such as "satisfaction with the intervention" or "self-rated changes in cross-cultural knowledge or attitudes" (see publication 1). Similar to the different levels of the Kirkpatrick model, an evaluation on multiple levels in a pre-post design ought to be conducted in this thesis by using several evaluation methods of the above-mentioned project (see publication 2).

Study results

The key findings of the systematic review indicate that there is a large number of studies on cultural competency interventions but only few of them focus on cross-cultural interventions. The analysis shows that even though 31 of the 34 included studies reported their outlined interventions to be generally effective, the different components of cultural competence that were measured had divergent results. Studies with subjective assessment methods are more likely to report significant changes than those with objective methods. A differentiated analysis using a rating tool for qualitative and quantitative studies showed that the quality of the included studies was rather diverse.

The study design of the training evaluation allowed an analysis of different samples on multiple data levels. Participants had to anonymously create personal codes for themselves, so that data sets could ultimately be matched via these codes. While the overall sample of the project was rather large by comparison, there were only a few data sets that could be matched properly. Therefore, a differentiated analysis of all individual data sets was necessary. Figure 2 shows the total project sample and its distribution onto the different data levels, including the number of data sets that could be matched.

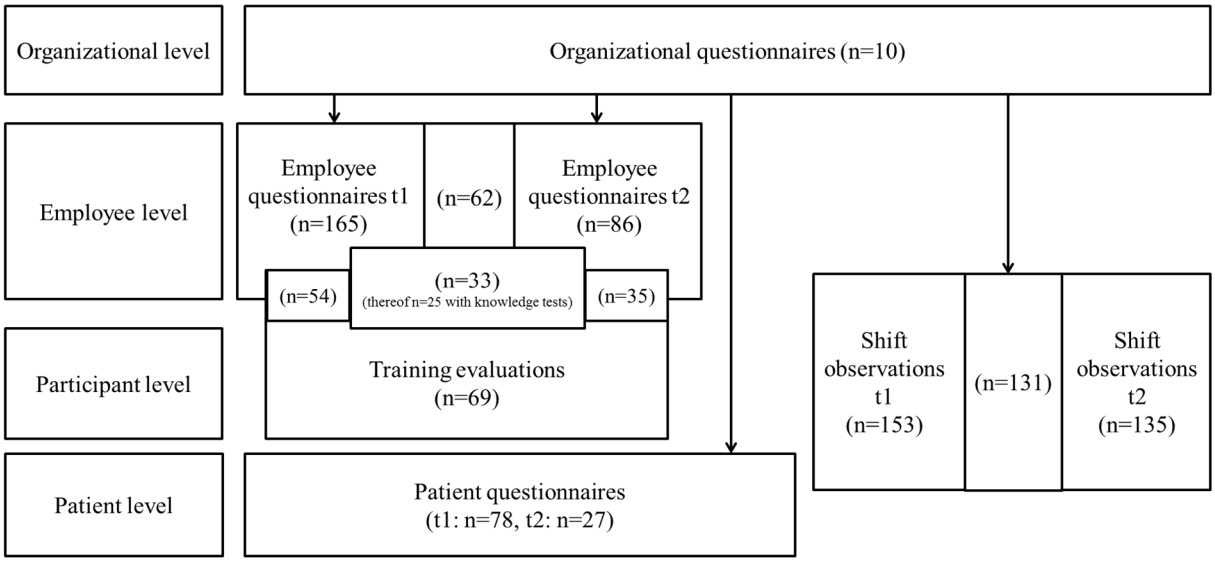

Figure 2. Overview of the different data levels

Participants' satisfaction with the intervention was assessed immediately after the training. The sessions were rated very good in general, with high ratings on all scales of the questionnaire, especially for training contents, atmosphere and trainers but also for the sustainability of the contents (Herbig & Filmer, 2018). This thesis focuses on the results of the knowledge tests, the shift observations and parts of the employee questionnaires which are further addressed in publication 2. The results of the patient questionnaires are addressed in the appendix of publication 2. The patient sample indicates a positive selection since the patients' ratings of the nurses' behaviour have already been very good at t1, which is why it was difficult to assess whether the intervention had any impact on the patients' perception of the nurses' communicative behaviour and quality of care.

Thesis objectives

Since this thesis is inseparably connected to the conduction of the project, the main objective was to evaluate the effectiveness of the intervention by investigating whether the training could positively influence cross-cultural attitudes and knowledge of home care nurses as well as their behaviour in cross-cultural encounters. In order to guarantee a thorough evaluation, it was a necessary precondition to investigate the contents and effectiveness of cross-cultural

competency trainings in general, especially compared to culture-specific trainings. Therefore, the first publication included in this thesis presents a systematic review to provide a summary of the relevant literature on cross-cultural competency trainings, while the second publication evaluates the results of the training.

Summary of publications included in this thesis

Summary of publication 1

The first publication that is included in this thesis presents a systematic review (PROSPERO number CRD42017064748) – following the Cochrane guidelines for systematic reviews – that investigates the effectiveness of interventions teaching cross-cultural competencies to health-related professionals, specifically focusing on employees with work experience, which are assumed to be less easily influenced by these kinds of interventions as compared to less experienced health professionals such as students (Beach et al., 2005; Cooper Brathwaite, 2006; Thom et al., 2006). Even though the project focuses on home care nurses, all health-related professions have been included in this systematic review since there was not enough data on comparable interventions in the context of home care nursing. The differentiation between culture-specific and cross-cultural competency interventions was deliberately made since the idea of cross-cultural competencies has been a major component of the project and is also demanded but not yet extensively researched in the area of cultural competency interventions (e.g. Altshuler et al., 2003; Betancourt, 2004; Kleinman & Benson, 2006; Kumagai et al., 2007; Owiti et al., 2014). There has also been a lack of data concerning the effectiveness of such interventions – compared to a large number of investigations on culture-specific interventions. To rate the included studies objectively, the Quality Assessment Tool (QATSDD) (Sirriyeh et al., 2012) has been used.

Publication 1 provides a synthesis of the current state of cross-cultural interventions in health professions and shows positive examples of interventions that were evaluated to be effective –

at least on some evaluation levels – which proved to be beneficial for the planning and conducting of the training. Out of 8771 results in the initial search, 34 studies have been included based on the following criteria: actual interventions for health professionals with work experience, aiming to increase cross-cultural competencies, that showed no specification for particular cultural groups or diseases, and reported any kind of measurement or evaluation.

Various concepts are investigated in the included studies without a general consensus on which components define cultural competency and how these components are interrelated – though some of the included studies refer to models that present specific relations and interdependencies (e.g. the Campinha-Bacote model of cultural competency (Campinha-Bacote, 2002), the Giger and Davidhizar Transcultural Assessment Model (Giger & Davidhizar, 1991) or Milton Bennett's Developmental Model of Intercultural Sensitivity (Bennett, 1986)). Components of cross-cultural competency in the included 34 studies were knowledge of cultural aspects and differences (n=19), skills to engage and communicate with patients from other cultures (n=16), awareness of differences between cultures (n=10), attitudes towards other cultures (n=5), sensitivity for cultural differences (n=4), open-mindedness towards cross-cultural encounters (n=4), desire to engage in intercultural encounters (n=3), self-efficacy when communicating with patients from other cultures (n=3) and communication behaviour with patients from various cultures (n=2).

The findings also show that while there is a large number of studies concerning cross-cultural competency interventions, many of them only rely on subjective assessment methods (19 of 34 studies), mainly investigating aspects such as satisfaction with the interventions and self-rated knowledge. There has been a difference in significant findings between subjective and objective methods: while the majority of studies with subjective methods showed significant changes in their results, only three studies using objective knowledge tests could report significant developments. This might lead to a rather one-sided view about the effectiveness

of such interventions, especially since the five included studies with independent objective assessment methods have mostly not shown significant results. Therefore, more evidence from objective and behavioural assessment methods is needed.

The systematic review further shows that it would be beneficial for future studies to investigate impacts of different intervention types in order to explore and differentiate which types are appropriate to improve specific aspects of cross-cultural competency. Moreover, studies should provide more details on methods and outcomes, which is in line with other systematic reviews in this area (e.g. Beach et al., 2005; Horvat et al., 2014; Truong et al., 2014). The QATSDD percentage scores ranged from 19.0 to 88.1 indicating the different quality of the individual studies. Four out of 34 studies were ranked in the highest quartile, while eleven studies were ranked below 50% and the quality of two studies could not be rated as being sufficient, partly due to a lack of detailed description of the designs in the respective studies.

Summary of publication 2

The results of the systematic review have strongly influenced the focus of the second publication which presents the development and evaluation of the training and examined different outcome variables assessed by various methods as suggested in the first publication. Since publication 1 has shown that one of the most frequently assessed components of cross-cultural competency was cross-cultural knowledge but most of the studies used subjective assessments to measure this, publication 2 investigated an objective assessment of changes in cross-cultural knowledge due to the intervention. To assess cross-cultural knowledge, a knowledge test with case vignettes was developed which rated the answers on multiple levels and showed a high interrater reliability from two independent raters (one-way random single measure intraclass correlation coefficient (ICC[1,1])=0.89). Changes in subjectively assessed cross-cultural attitudes were also examined, since one of the main aims of the training has

been to positively influence these aspects. The shift observations that rated the participants' cross-cultural communication behaviour have been investigated in the second publication as well.

The results were diverging: initially quite high self-rated outcome variables like cross-cultural attitudes showed mostly positive but not significant improvements while objectively assessed outcome variables predominantly showed significant positive changes like cross-cultural knowledge in the case vignettes (6 of 8 variables) and communication behaviour in the shift observations (10 of 13 variables). This could indicate that subjectively assessed data might be influenced by response tendencies like a social desirability bias (Edwards, 1957), possibly due to the participants' awareness of how relevant this topic is.

Since publication 1 has also highlighted that various cultural models present different relations between their components, a secondary aim of publication 2 was to investigate interdependencies between the assessed variables using hierarchical multiple linear regression models. Although most associations were not significant, the results suggested that nurses who had already paid attention to their behaviour in cross-cultural encounters before the intervention were more likely to increase their cross-cultural knowledge after the training.

Contribution of thesis author to included publications

The author of this thesis had primary responsibility for the conception and design of the included publications. The author was also primarily responsible for the acquisition, analysis and interpretation of the underlying data base that was evaluated in both publications and is responsible for their contents. Furthermore, the author was closely involved in the PerKuTam project as one of the main contact persons responsible for the design and conduction of the trainings and the project itself.

Publication 1: Systematic review of cross-cultural competency interventions

Filmer, T., & Herbig, B. (2018). Effectiveness of Interventions Teaching Cross-Cultural Competencies to Health-Related Professionals With Work Experience: A Systematic Review. *Journal of Continuing Education in the Health Professions*, 38(3), 213-221.

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Effectiveness of interventions teaching cross-cultural competencies to health-related professionals with work experience – A systematic review

Disclosures: The authors declare no conflict of interest.

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KEYWORDS

Cultural competency, Health professionals, Occupational health, Quality assessment, Systematic review

ABSTRACT

Introduction: Because of the increasing diversity in society, health professionals are working with patients from many different cultural backgrounds. Interventions to improve culture-specific competencies in health care have been shown to be successful. However, there is an increasing demand for continuing professional development in general cross-cultural competencies that do not focus on specific cultures. Previous reviews do not differentiate between general cross-cultural and culturally specific competencies. This review assesses the effectiveness of interventions that aim to increase cross-cultural competencies in health professionals.

Methods: Databases were searched systematically to identify quantitative and qualitative studies that focus on cross-cultural competencies in health care professions. Two independent raters used an assessment tool (Quality Assessment Tool for Studies with Diverse Designs, QATSDD) to rate the quality of the results.

Results: Thirty-one of 34 identified studies described cross-cultural competency interventions to be effective in terms of participants' satisfaction with the interventions and self-rated knowledge improvement. Nineteen studies relied exclusively on subjective assessment methods. Most of them reported significant findings, whereas results from five studies with independent ratings or objective assessments were mostly not significant. Many studies lacked in providing sufficient data on intervention descriptions.

Discussion: Cross-cultural competency interventions seem to be effective – according to self-ratings by participants. However, the definitions of cultural competency, the objectiveness of measurements, and the types of study outcomes were varied. To evaluate the success of cross-cultural competency interventions, more evidence from objective, behavioral assessments is needed. Studies should investigate the differential impact of various intervention types and need to provide detailed reporting on methods and outcomes.

Introduction

Because of the increasing diversity in today's societies and the subsequent need for health professionals to provide care to diverse population groups, as such, there is a great demand for cross-cultural competency training for health care providers to reduce ethnic and racial disparities in the quality of the provided health care.[1] Interventions to improve such competencies in health professions have been described as important and effective.[1–3] However, although cultural competency interventions are believed to be effective, the definition of cultural competency itself varies rather greatly.[3–5] Cultural competency has been defined as skills that are needed to treat and communicate with specific cultures[6] and provide systematic data of interventions to increase knowledge about specific cultural or ethnic minority groups.[7] Although this can be helpful to understand concepts that vary greatly between cultures, like different explanatory models for health and illness,[3] it interprets cultural competency as a set of "dos and don'ts"[6,8] on how to care for particular groups, eg, "the Hispanic patient."[6] Thus, it is not only implied that all members of these groups are similar but also that everyone is part of one specific cultural group and that care for patients of one's own group should not pose a problem.[6] The misperception that "cultural factors" might be the leading cause for someone's behavior is problematic.[4,9] Kleinman and Benson highlight the danger of this idea because it can lead to stereotyping.[4,10] Stereotyping is a complex matter that evolves from social categorizing, a process that initially can be helpful for orientation in social interactions, but can also lead to prejudice.[11] One phenomenon that results from social categorizing is the so-called out-group homogeneity effect,[12,13] which describes the perception that members of another group are more similar than members of one's own group. Therefore, knowledge about one specific member of this "out-group" can lead to the misperception that this information applies to all members.[12,13] Taking this into account, a cultural competency intervention with the well-intentioned attempt to provide knowledge for health professionals to treat patients from an ethnic or social group the provider is not familiar with can miss its

purpose when this knowledge is presented as facts and not as possible expressions of cultural attributes. It is also important to note that cultures are never homogeneous, and overgeneralizations – which can often be seen in cultural case examples – should be avoided.[14] Because of the evolution of increasingly multicultural societies, in many countries it is not feasible to provide knowledge about all cultures health providers could possibly encounter.[15]

Compared with the culture-specific approach in the definition of cultural competency that is mentioned above, culture-general competencies, which are often defined as "cross-cultural" competencies, describe knowledge and skills to interact with and adapt to any culture.[16] Education in cross-cultural competencies that enable health professionals to communicate with patients regardless of their affiliations to specific ethnic or social groups is not only demanded by trainers[17] but also by participants of cultural competency interventions because even the simple provision of prototypical examples for specific cultural differences could reinforce stereotypical thinking instead of reducing it.[18]

Although the teaching of cross-cultural competencies is increasingly demanded in literature, to our knowledge, there is currently no systematic summary that evaluates the efficiency of these specific types of cultural competency interventions. Whilst many systematic reviews already referred to studies with cross-cultural interventions in their analyses[1–3] including one systematic review of reviews by Truong et al[3] that described various cultural competency interventions in health care, conclusions about effectiveness were not differentiated between cultural-specific and cross-cultural interventions. Previous analyses showed that most interventions use quantitative designs,[3] rely predominantly on self-reports,[3] and do not differentiate between different levels of work experience in the trainings' target groups.[1,19] Although Cooper Brathwaite[20] indicated that less experienced nurses showed higher increases in cultural competency, there is a lack of distinction between impacts on less experienced

health professionals such as students or preregistration learners who still receive education and employees who already have work experience.[1,19] To assess whether cross-cultural interventions can still be effective for health care professionals who have had many encounters with people from other cultures in their past, and therefore might already have preconceived notions, this systematic review focuses on professionals with work experience.

Against this background, we wanted to assess whether cross-cultural interventions that do not specify on distinct ethnic or social groups influence the cultural competency of experienced health professionals. Therefore, we conducted a systematic review including quantitative, qualitative, and mixed-methods designs to assess the effectiveness of interventions that aim to increase cross-cultural competencies in experienced health professionals.

METHODS

Search

To provide a systematic and rigorous summary, this review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines.[21] It was registered under the number CRD42017064748 in the PROSPERO international prospective register of systematic reviews.[22]

In July 2017, we searched for relevant records in the databases PubMed, PsycINFO, and ERIC. We included only journal articles. There was no limit in dates of coverage. The full electronic search strategy for all databases, which was adapted to a strategy suggested by Troung et al[3] for cultural competencies and Mattioli et al[23] for the work context, is shown in Table 1.

We included all original articles with health professions conducted in their occupational or workplace context and containing actual interventions with the purpose to increase cross-cultural competencies, ie, that did not focus on a specific ethnic or social group, religion, nationality, race, or specific disease. Interventions that did not explicitly aim to increase cross-cultural competencies were excluded. Furthermore, we included only interventions that measured or evaluated cross-cultural competencies in any kind.

The search results were filtered in three steps: (1) exclusion of duplicates and irrelevant articles based on their title; (2) review of abstracts (to include or exclude the remaining search results) and screening of the full texts of the remaining articles; and (3) reference lists of relevant articles were manually searched to find additional citations.

TABLE 1. Electronic search strategy

	cultural* OR transcultural OR multicultural OR intercultural	Titles/Abstracts
AND	training* OR intervention* OR course* OR educat* OR curricul* OR instructi* OR session* OR workshop* OR program OR programme OR programs OR programmes OR learn* OR class*	Titles/Abstracts
AND	occupation* OR work* OR job OR employment OR employee* OR staff* OR healthcare OR health care OR health professional* OR health service* OR health provider* OR medical OR physician* OR nurs* OR residents* OR therapist* OR counsel* OR practitioner* OR psychiatrist* OR psychologist*	Titles/Abstracts
AND	communicat* OR interacti* OR respect OR empath* OR sensitiv* OR competenc* OR proficienc* OR skill*	Titles/Abstracts
AND	evaluat* OR effect OR effects OR effectiveness OR improve* OR follow-up OR follow up OR pre- and post	Titles/Abstracts

Study Selection

Articles were excluded when the title showed that they were dealing with (1) non–health-related professions, (2) exclusively students or trainees who cannot be assumed to have any work experience, (3) no intervention, (4) an intervention without any context of cultural competencies, or (5) clearly target a specific cultural or ethnic group, religion, nationality, race, or specific disease. The abstracts of the remaining references were assessed with the following inclusion criteria: (1) actual interventions that aimed to increase cross-cultural competencies; (2) were conducted with health professionals with work experience; (3) showed no specification of one particular cultural group or disease; and (4) were evaluated in any kind. We judged the full texts of the remaining references based on the PICO inclusion

criteria listed in Table 2. In addition, we assessed potential connections between the included articles to assess whether the same interventions were described in different publications.

TABLE 2. PICO inclusion criteria for full text screening

Criterion	**Inclusion**	**Exclusion**
Population		
Profession	Health-related professions	Not health-related professions
Educational level	Employees with work experience (majority of participants)	Students or trainees with no work experience (majority of participants)
Context	Occupational	Not occupational
Intervention		
Description	Description of an actual intervention (at least mention of topics and/or contents)	No description of an intervention
Purpose	To increase cultural competences	Not affecting cultural competences
Focus	Main focus on cross-cultural competences regardless of specific cultural or ethnical group, religion, nationality, race, or specific disease	Main focus on specific cultural or ethnical group, religion, nationality, race, or specific disease

Explicitness	Interventions that explicitly aim to increase cross-cultural competences	Interventions that do not explicitly aim to increase cross-cultural competences
Comparison	*not applicable to research question*	
Outcome		
	Cross-cultural competences that are measured or evaluated in any kind	No outcomes OR no description/evaluation of cross-cultural competences

Data Collection Process

We extracted the following data from the included studies: authors and years of publication, countries of origin, descriptions of samples including types of professions in health care, and sample sizes (with numbers for intervention and control groups if applicable), as well as descriptions of interventions including duration, didactic methods, and outcomes. We also identified whether a cultural competency definition was given within the texts.

Two raters independently rated all studies using a quality assessment tool for qualitative, quantitative, and mixed methods studies provided by the University of Leeds Quality Assessment Tool for Studies with Diverse Designs (QATSDD).[24] The QATSDD uses 16 criteria on a score from0 (not at all) to 3 (complete) that can be applied to the three study types based on the information given by the respective authors.[24] Because not all criteria are applicable to all study types, a percentage score from 0 to 100 was calculated for comparisons between studies according to the recommendation of the QATSDD authors.[24] For all criteria ratings, the unadjusted two-way random single-measure intraclass correlation coefficient

(2,1)[25] was 0.93, confirming a very good reliability. Any discrepancies in ratings were discussed and a consensus was achieved. Moreover, the QATSDD criterion "representative sample of target group of a reasonable size" was used to assess the possibility of a selection bias.

We assessed whether the outcomes of the included studies were measured subjectively (eg, participants' self-ratings of their knowledge or self-reports of their attitudes and behavior – for the purposes of this study in the remainder of the document referred to as "subjective" assessments) or objectively (eg, independent ratings of participants' behavior or knowledge tests – for the purposes of this study in the remainder of the document referred to as "objective" assessments) and what kind of assessment was used. To address the different interpretations of the concept of cultural competency, we summarized the different operationalizations that were assessed in more than one study and investigated whether the studies showed significant effects on different outcome areas. We also assessed whether duration or didactic methods had an influence on the results.

RESULTS

Study Selection

The initial search identified 8771 results. After titles, abstracts, and full texts were screened, 34 results met the criteria for inclusion. Three articles described the same intervention and used the same outcome measures.[20,26,27] Therefore, two studies had to be excluded from the qualitative rating, but will be mentioned in the descriptive section nevertheless. In the following, numbers in parentheses indicate the total numbers of results including the two studies that are not considered in the quality rating. Moreover, two studies[28,29] described the same intervention; however, because it was not possible to determine whether they derived

from the same sample, due to different sample sizes and outcomes, they were both included in the quality rating. A manual search of reference lists provided no additional studies. The study selection process is illustrated in Figure 1.

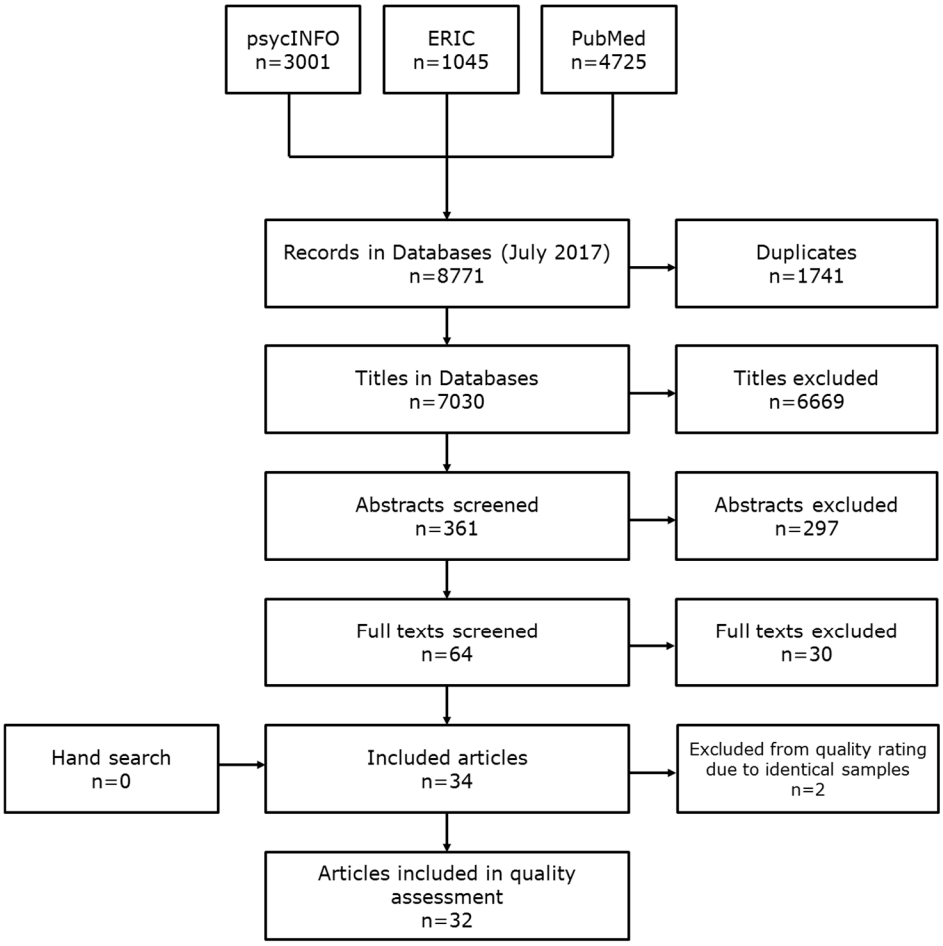

FIGURE 1. Flow chart of study selection process

Study Characteristics

Table 3 gives a descriptive summary of all included publications. Twenty-three (24) studies used a quantitative and two studies a purely qualitative design, whereas seven (eight) studies used a mixed-methods design. Most studies were conducted in Northern America (n = 25) within the past 10 years (n = 19). The sample sizes ranged between 10 and 379 participants (M= 68.4, SD = 76.1). Twelve studies used control groups with sample sizes ranging between 10 and 65 participants (M = 26.8, SD = 16.6). The health professional groups in the intervention studies showed a great variety, with most participants from nursing (n = 8), (general) medicine (n = 6), and mental health (n = 5) professions, but also from other professions such as pediatrics (n = 2), child care (n = 2), social work (n = 1), psychiatry (n = 1), dentists (n = 1), and rehabilitation (n = 1), as well as interdisciplinary groups (n = 3). Thirteen (15) studies provided a definition of cultural competency; two studies[45,48] argued that it is difficult to define cultural competency; whereas the remaining studies provided no definition. The intervention duration varied between 1 hour and 9 months. All included studies showed similar basic characteristics in organizing their interventions as lectures of any kind while using a great variety of didactic methods such as discussions (n = 12), exercises (n = 12), case vignettes (n = 5) – which are case examples that can be used to teach or to evaluate knowledge and skills – and video tapes (n = 4). The most frequently mentioned objectives of the interventions were to increase participants' cultural competency in general (n = 13), to impart descriptive knowledge of other cultures and cultural differences (n = 19), to teach skills to interact with other cultures (n = 16) and to improve the communication behavior with patients from other cultures (n = 2), to raise the awareness for differences in values and beliefs, as well as one's own prejudices toward other cultures (n = 10), but also to explore participants' cultural attitudes (n = 5), to promote the encounter with culturally diverse groups (n = 4) and to increase the desire to engage with other cultures (n = 3), to heighten cultural sensitivity (n = 4), and to develop and enhance self-efficacy in

communicating with other cultures (n = 3), (Table 4). Four (five) studies[20,39,45,46,49] did not define any intervention objectives within the text. Seventeen (19) studies relied completely on self-ratings, whereas five studies used more rigorous methods such as knowledge tests, objective structured clinical examinations, or case vignettes, and 10 studies used a combination of subjective and objective assessment (Table 3).

TABLE 3. Descriptive summary of included publications

Publication	Country	Professions	IG	CG	Def.*	QATSSD†	Design	Effect‡	Assessment§
Studies with subjective assessment									
Altshuler, 2003[15]	US	pediatric medicine	10	14	no	59.5	quantitative	not significant	agreement to statements‖
Assemi, 2007[30]	US	pharmacy	50	-	yes	50.0	quantitative	significant	self-reported behavior
Bennett, 2013[31]	JM	mental health	51	-	no	35.7	quantitative	significant	self-rated knowledge/skills
Berlin, 2010[32]	SE	nursing	24	27	yes	88.1	quantitative	significant	self-rated competence
Byington, 1997[33]	US	counseling	50	-	no	38.1	quantitative	significant	self-rated knowledge
Carnevale, 2015[34]	CA	interdisciplinary	49	-	yes	58.3	mixed	significant	self-rated knowledge/skills
Cooper, 2005a[26]	CA	nursing	76	-	no	81.3	mixed	significant	agreement to statements‖
Cooper, 2005b[27]	CA	nursing	76	-	yes	n.c.#	mixed	significant	agreement to statements‖
Cooper, 2006[20]	US	nursing	76	-	yes	n.c.#	quantitative	significant	agreement to statements‖
Delgado, 2013[35]	US	nursing	98	-	yes	59.5	quantitative	significant	agreement to statements‖
Delphin, 2016[36]	US	mental health	45	-	yes	71.4	quantitative	significant	self-rated knowledge/skills
Harris, 2008[37]	US	psychiatry	15	-	no	40.5	quantitative	significant	self-rated knowledge/skills
Khanna, 2009[38]	US	interdisciplinary	43	-	no	52.4	quantitative	significant	self-rated knowledge/skills
Krajewski, 2008[39]	US	medicine	43	-	no	40.5	quantitative	significant	self-reported probability of skill use
Lange, 2013[40]	US	nursing	74	-	no	47.9	mixed	significant	journal entries about work experiences**

McDougle, 2010[41]	US	interdisciplinary	379	-	yes	22.9	mixed	no data provided	self-reported skills and behavior
Paroz, 2016[42]	CH	medicine	11	-	yes	(23.8)[††]	quantitative	not significant	self-rated competence
Schim, 2006[43]	US	hospice care	(130)[‡‡]	(-)[‡‡]	no	66.7	quantitative	significant	self-rated sensitivity and behavior
Webb, 2003[44]	GB	child care	92/80[§§]	-	no	19.0	quantitative	no data provided	self-rated competence
Studies with objective assessment									
Harmsen, 2005[28]	NL	medicine	19	19	no	76.2	quantitative	not significant	evaluation of interaction with patients
Prescott, 2012[45]	GB	interdisciplinary	76	15	(-)[‖‖]	54.8	quantitative	significant	evaluation of interaction with patients
Schouten, 2005[29]	NL	medicine	59	65	no	69.0	quantitative	significant	evaluation of interaction with patients
Thom, 2006[19]	US	medicine	23	30	no	66.7	quantitative	not significant	patients‘ rating, vital parameters
Xu, 2010[46]	US	nursing	18	10	no	59.5	quantitative	not significant	examination of behavior with patients
Studies with subjective and objective assessment									
Bourjolly, 2005[47]	US	mental health	34	-	yes	42.9	qualitative	not possible	rating of written reflection papers[**]
Horky, 2017[48]	US	pediatric medicine	31	35	(-)[‖‖]	61.9	quantitative	significant	knowledge test, self-reported skills
Moleiro, 2011[49]						54.2	mixed	not significant	self-rated competence, case
	PT	child care	14	16	yes				vignettes[##]
Owiti, 2014[9]	GB	mental health	62	-	yes	39.6	mixed	significant	self-rated skills, objective rating
Pernell, 2012[50]	US	mental health	34	-	no	52.4	qualitative	not possible	rating of written reflection papers[**]
Smith, 2001[51]	US	nursing	48	46	yes	76.2	quantitative	significant	knowledge test, self-rated self-efficacy

Stanhope, 2008[52]	US	behavioral health	42	-	yes	35.7	quantitative	no data provided	behavior rated by patients
Taylor, 2008[53]	US	rehabilitation	287	-	yes	54.8	quantitative	significant	knowledge test, self-reported behavior
Williams, 2005[54]	CA	social work	29	18	no	66.7	mixed	significant	self-rated experience, case vignettes[##]
Zúñiga, 2006[55]	US	medicine	76	-	no	45.2	quantitative	significant	knowledge test, self-rated self-efficacy

[*]definition of cultural competence provided in the text; [†]summarized percentage score by Sirriyeh et al.[22]; [‡]indicates the hypothesis conformity of the effects; [§]indicates main type of assessment and its objectiveness: self-rated = ratings on a scale, self-reported = verbal descriptions or agreement to statements; [‖]participants indicated how much they agree with cultural competence statements; [#]not calculated due to identical samples in other studies, [**]participants were asked to write about cultural experiences; [††]pilot study, [‡‡]only absolute number available; [§§]intervention at two different sites; [‖‖]authors described impossibility to define cultural competence; [##]case examples to evaluate participants' knowledge;

CA indicates Canada; CG, control group (if applicable); CH, Switzerland; GB, Great Britain; IG, intervention group; JM, Jamaica; NL, Netherlands; PT, Portugal; SE, Sweden; US, United States of America.

TABLE 4. Overview of areas of outcomes

Outcome area	**Number of studies that measured outcome***	**Subjective assessment**	**%†**	**Objective assessment**	**%†**	**Overall significant findings**	**%†**	**Significant findings with subjective assessment**	**%†**	**Significant findings with objective assessment**	**%†**
knowledge	17 (19)‡	13 (15)‡	76	4	24	14 (16)‡	82	11 (13)‡	65	3	18
skills	14 (16)‡	14 (16)‡	100	0	0	11 (13)‡	79	11 (13)‡	79	0	0
attitudes	5	5	100	0	0	4	80	4	80	0	0
awareness	8 (10)‡	8 (10)‡	100	0	0	6 (8)‡	75	6 (8)‡	75	0	0
encounter	3 (4)‡	3 (4)‡	100	0	0	3 (4)‡	100	3 (4)‡	100	0	0
desire	2 (3)‡	2 (3)‡	100	0	0	2 (3)‡	100	2 (3)‡	100	0	0
sensitivity	4	2	50	2	50	1	25	1	25	0	0
self-efficacy	3	3	100	0	0	3	100	3	100	0	0
communication behavior with patients	2	0	0	2	0	0	0	0	0	0	0

*Several studies assessed more than one outcome area, therefore the total number of outcomes is higher than the total number of studies (respective operationalizations of outcomes may differ from each other, see table 5 for details);

†Percentage scores refer to total number of studies that measured the respective outcome area;

‡Numbers in parentheses indicate the total numbers of results including the two studies that are not considered in the quality rating.

TABLE 5. Summary of interventions of included publications

Publication	Duration	Main teaching and learning methods	Main intervention target variables*	Effects
***Altshuler*[15]**	2 hours + 4x 15 minutes	lectures, behavioral rehearsal with feedback	sensitivity	n.s.
***Assemi*[30]**	16.5 hours (2 days)	lectures, experiential activities	competence to develop lessons	†
***Bennett*[31]**	5 days (12 sessions)	lectures, discussions, exercises, case analyses	knowledge, skills	†
***Berlin*[32]**	3 days	lectures, discussions	awareness, knowledge, skills, encounter	†
***Bourjolly*[47]**	9x 2 days	lectures, experiential exercises	sensitivity	n.p.
***Byington*[33]**	15 hours (2 days)	workshop	awareness, knowledge, skills	†
***Carnevale*[34]**	4 hours + 2x 1.5 hours	lectures, workshops, experiential exercises	knowledge, skills, attitudes	†
***Cooper 2005a*[26]**	5x 2 hours + booster session‡	lectures, discussions, role-plays, exercises	awareness, knowledge, encounter, desire	†
***Cooper 2005b*[27]**	5x 2 hours + booster session‡	not specifically described	awareness, knowledge, skills	†
***Cooper 2006*[20]**	5x 2 hours + booster session‡	not specifically described	awareness, knowledge, skills, encounter, desire	†
***Delgado*[35]**	1 hour	lectures, exercises	awareness, knowledge, skills, encounter, desire	†
***Delphin*[36]**	2 days + follow-up meetings	lectures, exercises, discussions, meetings	awareness, knowledge, skills	†
***Harmsen*[28]**	2.5 days	lectures, exercises	mutual understanding with patients, perceived quality of care	n.s.
***Harris*[37]**	9x 1.25 hours	lectures, discussions, case vignettes	knowledge, skills, attitudes	†
***Horky*[48]**	6x 1 hours§	online modules	knowledge, skills, attitudes	†
***Khanna*[38]**	4 hours	workshop	knowledge, skills	†

Krajewski[39]	3-4 hours	lectures	cultural competence‖, skills	†
Lange[40]	10-12x 1 hour	lectures, video-based case studies/vignettes	knowledge, skills, self-efficacy	†
McDougle[41]	3 hours	lectures	knowledge, skills, attitudes	no data
Moleiro[49]	3x 2.5 hours	experiential exercises	awareness, knowledge, skills	n.s.
Owiti[9]	15 sessions + consultations‡	lectures, follow-up trainings with feedback	cultural competence‖	†
Paroz[42]	3x1 hour + 1x 1.5 hours	lectures, clinical scenarios exercises	cultural competence‖	n.s.
Pernell[50]	10x 2 days	lectures, discussions, role plays, group presentations	sensitivity	n.p.
Prescott[45]	1.5 days	lectures, workshops, role-plays	cultural competent performance scores	†
Schim[43]	1 hour	lectures, discussions	awareness, sensitivity	†
Schouten[29]	2.5 days	lectures, discussions, exercises	communication behavior with patients	†
Smith[51]	8.5 hours, 3 weeks post-school	lectures	knowledge, self-efficacy	no data
Stanhope[52]	18 sessions in 9 months‡	lectures	patients' rating of care providers' cultural competence	†
Taylor[53]	7 hours	lectures, group discussions & activities	knowledge, attitudes	†
Thom[19]	3x 1-1.5 hours	lectures, group discussion, role-plays, group exercises	patients' satisfaction & trust, vital parameters	n.s.
Webb[44]	1 day	lectures, exercises	participants' satisfaction, competence	no data
Williams[54]	4x 3 hours	lectures, discussions, role-plays	awareness, knowledge, skills	†

***Xu*[46]**	4 times[§]	videotaped workshops	communication behavior with patients	n.s.
***Zúñiga*[55]**	4 weeks (block rotation), 4x half day (sessions)[§]	experiential block rotation, lectures	knowledge, self-efficacy	†

[*]all mentioned outcomes were assessed in a cultural context; [†]significant positive effects according to the authors (significance level 0.05, no significant negative effects were reported); [‡]with additional follow-up sessions with unspecified duration; [§]no details on duration provided; [‖]"cultural competence" was listed either as a general outcome variable or with regard to specific measurement tools; n.s. = not significant at a level of 0.05; n.p. = not possible to assess significance levels due to qualitative evaluation; no data = data provided by the respective authors was not sufficient to assess significance levels.

Quality Assessment

The QATSSD percentage scores ranged from 19.0 to 88.1 (M = 53.5, SD = 16.7), with most scores between 25% and 75%, which indicates that most studies showed a moderate quality. Only four were rated in the highest quartile, whereas three were rated in the lowest quartile. The scores of the individual studies are shown in Table 3. On a scale from 0 ("not at all") to 3 ("complete"), the selected studies mostly provided a good description of the objectives (M = 2.53, SD = 0.88), the research setting (M = 2.59, SD = 0.80), and the data collection procedure (M = 2.25, SD = 0.80), whereas there was a general lack of sample size consideration in terms of analysis (M = 0.50, SD = 1.11), justification for the selected analytical method (M = 0.81, SD = 0.93), and evidence of user involvement in the study design (M = 0.56, SD = 0.95). The chosen samples were only to a small extent representative of the target group (M = 1.13, SD = 0.55), and details in recruitment data varied rather strongly (M= 1.66, SD = 1.04). Reliability and validity of measurement tools or methods were not or only very slightly addressed in 16 of 30 studies that used a quantitative assessment (M = 1.33, SD = 1.27) and in eight of nine studies that used a qualitative assessment (M = 0.78, SD = 0.67). The explicitness of the theoretical frameworks was rather diverse (M = 1.97, SD = 0.90), as well as the rationale for the choice of data collection (M = 1.75, SD = 0.95), the discussion of strengths and limitations (M = 1.53, SD= 0.92), and the fit between the research question and the method of analysis (M = 1.91, SD = 0.82). The fit between research question and method of data collection was slightly higher for quantitative (M = 2.10, SD = 0.71) than for qualitative studies (M = 1.78, SD = 0.66).

Study Findings

Although several studies investigated similar outcomes, no synthesis was possible because of insufficient data and a number of different operationalizations of cultural competency. In general, 31 studies described a positive effect of the intervention on the respective outcomes.

Most outcomes that were based on self-ratings showed significant positive development after the intervention. By contrast, apart from three studies that used multiple choice knowledge tests,48,51,53 no objective assessment showed significant findings (Table 4).

Table 5 shows a summary of all interventions including durations and didactic methods. A direct correlation between length of intervention and effect cannot be determined: Of all studies that reported statistical tests, all five studies with interventions that were held within 1 day reported significant findings, as well as 18 of 24 studies with interventions that were performed on more than 1 day. Seven of 11 studies with intervention lengths that totaled up to less than 8 hours reported significant findings, as well as 16 of 18 studies with lengths more than 8 hours.

Of the four studies with QATSSD scores in the highest quartile, Berlin et al found that a three-day intervention with lectures and discussions showed a significant improvement in the participants' self-rated cultural knowledge, skills, and encounters compared with a control group,[32] Cooper et al found that five 2-hour interventions with lectures and discussions on cultural terms, cultural competency models, communication theories, cross-cultural communication, cultural self-assessment, and variations in cultures resulted in significant increases in self-ratings of all components of the Campinha-Bacote model of cultural competency (awareness, knowledge, skill, encounter, desire) over several times of measurement.[26,56] Harmsen et al[28] found that a 2.5-dayintervention with Pinto's "three-step method" including a reflection of one's own culturally defined norms, views, and communication style could improve the sensitivity and knowledge about culturally determined differences in views and behavior that were assessed by independent raters and that a training in (self-chosen) strategies to solve gaps in views and culturally defined communication styles could reduce the gap between "Western" patients and "non-Western" patients in their mutual understanding with general practitioners and their perceived quality of

care in consultations. Smith showed that participants of an intensive 8.5-hour educational program in strategies for culturally competent care based on the Giger and Davidhizar Transcultural Assessment Model[57] demonstrated significantly higher scores of self-rated cultural self-efficacy and objectively assessed cultural knowledge compared with a control group.[51] A detailed description of the respective methods and outcomes of all included studies is shown in the Supplemental Digital Contents 1 and 2 (see Appendices, http://links.lww.com/JCEHP/A38; http://links.lww.com/JCEHP/A39).

DISCUSSION

The results of this systematic review show that many cross-cultural competency interventions increased self-rated knowledge and skills. Subjective assessments almost always showed significant increases, but attempts to evaluate outcomes that were assessed rather objectively mainly resulted in nonsignificant findings. Although objective knowledge tests also showed significant increases, studies with outcomes that were assessed by independent raters such as behavioral rehearsals,[15] objective-structured clinical examinations,[42] or videotapes[46] indicated no significant effects. Evaluations from independent raters can deviate from self-ratings,[58,59] and employees' self-ratings of their performance should not be interpreted in the same way as objective measures.[59] Although self-perception influences performance, and meta-analyses have shown that subjective and objective ratings show some correlation,[59] authors should be aware that self-ratings and objective performance measures are not the same and therefore should not be used interchangeably and indicate clearly whether their conclusions are based on self-reporting. Rather, we suggest that authors should take advantage of the various insights that can be gained from the different assessment types. Although self-ratings and objective knowledge tests can be used to measure the declarative knowledge (ie, the explicit knowledge about what to do to successfully perform a task),[60] performance ratings from

independent raters are more appropriate to assess the procedural knowledge (ie, the implicit skills how to actually perform a task successfully).[60] The significant increases in objective knowledge tests[48,51,53] indicate that cross-cultural competency interventions that use lectures can increase declarative knowledge and in turn have a positive influence on self-efficacy and self-confidence in communicating with other cultures—which was confirmed by significant changes in self-ratings – but it also became apparent that these interventions are not sufficient to increase the actual procedural knowledge because independent performance ratings showed no significant change.[15,42,46] Nevertheless, in line with Bandura's social cognitive theory,[61] a higher self-efficacy could encourage participants to get in contact with other cultures, which in turn can facilitate the acquisition of procedural knowledge about how to interact with other cultures.[55] To confirm this, it would be beneficial to conduct follow-up studies that measure actual performance data with other cultures assessed by objective raters over several time periods. Although evaluations with objective methods are more difficult to conduct than with self-assessments, they could be beneficial to research about cultural competency.

Apart from lectures and discussions that were used in almost all interventions, exercises, role-plays, and case vignettes seemed to be beneficial. The findings suggest that interventions with longer durations were more likely to result in significant findings but as the quality of the studies is not consistent and further important aspects such as number of participants per training session were not reported, it is not possible to assess whether duration is the main factor influencing the successfulness of an intervention. Although there were many different health professional groups that participated in the respective interventions, there were no apparent differences between the professions. The findings also show that many different health professions can benefit from cross-cultural competency interventions as part of a continuing professional development and that interdisciplinary exchanges may be profitable as well.[34,38,41]

Although 28 of 34 studies use the term “cultural competency”, the respective definitions vary widely. Because no established and generally agreed on definition exists,[45,48] it is crucial to define the underlying understanding of cultural competency when evaluating an intervention – otherwise it is difficult, if not impossible, to compare its effectiveness with other interventions. Although aspects of cultural competency in different models such as the Giger and Davidhizar[57] Transcultural Assessment Model, the Campinha-Bacote[56] model of cultural competency, or Milton Bennett’s[62] Developmental Model of Intercultural Sensitivity show similarities, they derive from different conceptual models and therefore should not be intermingled. The differences in significant findings (ie, significant changes in self-ratings and declarative knowledge but not in performance ratings)[15,42,46,48,51,53] support the notion that there are various concepts unified as “cultural competency” across the studies that should be analyzed in a more differentiated view as they might target different aspects of knowledge and skills. This also emphasizes the challenges of defining cultural competency and once again raises the question whether a uniform definition is possible and indeed useful.

The quality of the studies concerning cultural competency is rather inconsistent. Although some aspects such as research setting and objectives are described in detail, there is a general lack in consideration of necessary sample sizes or representativeness of the target population. Interventions in health care are often faced with convenience samples that include a rather small sample size.[63] Although this cannot always be avoided, a small sample size should be considered in terms of analysis. It may also be possible that interventions in occupational or workplace contexts include an “opportunistic” sample that could lead to a selection bias involving participants who are more likely to be interested in the topics, which in turn may result in findings that might not be representative of the entire target population. The representativeness of the sample should be addressed in these kinds of studies to consider the suitability of the intervention for the target population.

The findings indicate that it is possible to successfully implement interventions that teach cross-cultural competencies, which do not specify on distinct ethnic or social groups, although most of the findings are based on self-ratings. However, because of the great variety in intervention types, durations, and didactic methods combined with an inconsistent study quality, a general statement about which kind of interventions proved to be the most effective and whether longer durations or a stronger participants' involvement are more beneficial is rather more difficult.

Effect sizes that would be necessary to provide a systematic assessment of the research in cultural competency could not be calculated because of the different outcome areas and operationalizations. Moreover, it was not possible to perform a calculation of summary measures and subsequently not possible to assess the risk of publication bias. Because 81.5% of the quantitative studies reported predominantly significant findings – which could indicate a selective reporting within the studies – and it became evident that the same interventions were described in more than one publication,[20,26–29] the possibility of a publication bias cannot be excluded. Furthermore, two publications used the same design but not the same sample.[47,50] A meta-analysis of the results and funnel-plots to assess the possibility of a publication bias would have been preferable but were not possible because of the great variety of different interpretations of the concept of cultural competency and the lack of sufficient data.

CONCLUSIONS

The findings indicate that research in cultural competency provides a wide range of approaches to the field, but also that educationalists and researchers should continue to strive to use a clear definition of the concept used in such continuing professional development activities. Although no concrete statement about the knowledge in cross-cultural competency education can be made at the present time, further research in this area is highly

recommended. Instead of answering the demand for cultural competency interventions by adding more studies that investigate self-rated increases in declarative knowledge, it would be advisable to explore which kind of intervention can help increase procedural knowledge. Therefore, it would be beneficial to consider both qualitative and quantitative assessment methods in terms of a triangulation or mixed-methods design to combine the advantages of both designs and the specific insights that can be gained from each type of outcome data.[64] Whilst qualitative assessments would allow an in-depth consideration of what could be effective to increase the actual procedural knowledge and improve behavior in cross-cultural encounters, quantitative assessments could investigate whether these findings can be confirmed with independent performance ratings and larger sample sizes.[64] Considering the fact that previous reviews already addressed the heterogeneity of interventions, the need to improve outcome assessments, and the lack of study quality,[1–3] it would be advisable that future studies focus on comparing different or exploring new types of interventions instead of evaluating the same type repeatedly, especially in view of the large number of studies in the field of cultural competency.

Lessons for Practice

- Future cultural competency interventions should implement cross-cultural aspects in their contents.
- Results indicate that interventions that teach cross-cultural competencies which do not specify on distinct ethnic or social groups are effective in increasing self-rated cultural knowledge and skills.
- Most significant findings in cross-cultural competency interventions are based on subjective assessment methods such as self-reports.
- Further research in cross-cultural competencies with interventions that increase the procedural knowledge and affect the actual behavior in cross-cultural encounters would be beneficial.

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APPENDIX 1. Summary of interventions of included publications

Publication	Objectives of interventions of included publications	Methods and contents of interventions of included publications
***Altshuler*[15]**	to provide conceptual framework for understanding cultural differences	comparative value-based didactic intervention to link culture, values, attitudes, beliefs, and application of Hofstede's cultural dimensions & behavioral rehearsal with feedback (4 interactive stations to explore standardized patients' perspective about illness/treatment, develop shared treatment plan)
***Assemi*[30]**	to provide opportunities to learn relevant contents of CC and apply this knowledge in curriculum plans	didactic & experiential activities (e.g., role plays, case discussions), presentations of plans for content development & implementation
***Bennett*[31]**	to enable participants to describe a useful model of culture and gain an appreciation of the complexity of culture, identify personal, team, and organizational styles of decision-making and describe the impact of culture on the experience, expression of and responses to mental distress	(1) 'Culture and the impact of assumptions', (2) 'Decision-making, communications, and power', (3) 'Valuing cultural difference and promoting race equality', (4) 'Empowerment and understanding discriminatory situations' and (5) 'Holistic approach to needs identification and risk work'
***Berlin*[32]**	to increase cultural awareness, knowledge about migration, ethnicity, cultural influence on health; skills to deal with sociocultural issues, confidence in cross-cultural situations	lectures and discussions about cultural awareness, knowledge, skills, and encounter
***Bourjolly*[47]**	to improve participants' awareness, knowledge, and skills as culturally competent mental health service providers	didactic & experiential components on worldviews, specific cultures & ethnicities, communication styles, oppression & racism, managing discrimination, diagnosis & assessment, treatment/rehabilitation/recovery planning, groups & social network support
***Byington*[33]**	to recognize cultural diversity, understand role of culture & ethnicity in socio-psychological & economic development of ethnic & culturally diverse populations, help clients to understand/maintain/resolve own cultural identification, and understand impact of culture on behavior & needs	Workshop: cultural awareness, assessment of multicultural backgrounds, ethical issues in service delivery to people from multicultural backgrounds, cross-cultural communication, sociopolitical aspects of multicultural counseling, multicultural counseling skill development (2 of 6 modules: Asian and African Americans)
***Carnevale*[34]**	to enable participants to experience exercises to use with students and to reflect upon utility; identify teachable moments and to find new opportunities for teaching & learning CC	presentation about importance of CC and tools for teaching & practice; two 1-hour small-group workshops with experiential exercises: skills to teach cultural awareness & become agents for cultural change
***Cooper 2005a*[26]**	to increase understanding of cultural terms & importance of culturally competent care, increase awareness of own/different cultures, enhance knowledge of biological variations in cultures & nutritional preferences, improve clients' care including cultural beliefs & practices, improve cultural assessment & cross-cultural communication skills	lecture-discussions on cultural terms, CC models, cross-cultural communication, cultural self-assessment, variations in cultures (biological, health seeking, nutrition), communication theory; role-plays (BaFa BaFa by Shirts (1977), Ambassador game by Biocchi & Ratcliffe (1983)), small group discussions, reflective exercises on cross-cultural encounters
***Cooper 2005b*[27]**	to acknowledge individual cultures, conduct cultural assessments, develop mutually agreeable care plans, identify clients as teachers of own culture, recognize internalization/adaptation of diverse cultures, accommodate clients' health beliefs/practices	5 components of Campinha-Bacote's model of CC: transcultural terms, cultural awareness, cultural knowledge, cultural skills, and cultural encounter

Cooper 2006[20]	not explicitly defined, intervention is equivalent to Cooper 2005a	introduction to transcultural terms, overview of Campinha-Bacote's model, cross-cultural communication theory, principles of cultural adaptation, characteristics of cultural desire, biological variation in cultures, different health seeking behavior types & practices, cultural bingo game, clients' cultural assessment
Delgado[35]	to promote understanding of CC and demonstrate impact on quality of care, to be able to identify health beliefs formation, recognize development hindrance of culturally based plan of care due to assumptions, identify own culture, give examples of health disparities, state reasons for health care provider's CC	cultural simulation: debriefing about communication styles, traditions & values; lecture with questions about definitions of culture & CC as well as institutional values, demographics, and cultural resources; exercise to explore own culture, card sorting exercise to show ingrained routine behaviors to deal with stress
Delphin[36]	to target both providers and organizational policies to improve the CC of a community mental health center	training: activities, scenarios, discussion: cultural identity, privilege, stereotype identification & reduction, strategies for eliciting cultural beliefs about distress, address service users' linguistic needs; organizational-level interventions with participants & agency leadership to organize CC activities, develop & implement CC plan & assessment
Harmsen[28]	to reduce differences in mutual understanding & perceived quality of care in consultations with patients of different native origins	training (Pinto's "3-step method"): reflection of own culturally-defined norms, views, communication style; improve sensitivity/knowledge about culturally-determined differences in views/behavior; training in (self-chosen) strategies to solve gaps in views, culturally-defined communication styles
Harris[37]	to increase resident training in knowledge of sociocultural factors relevant to clinical practice; awareness of their own world view, values, biases, privileges, etc.; and clinical skills that foster the application of these principles	lectures, discussions, case vignettes about defining culture and CC, cultural genogram, cultural identity development, privilege, explanatory models of illness, acculturation & immigration experience, cultural transference & countertransference, modelling discussion & resolution of cross-cultural misunderstandings, culturally sensitive interviewing, diagnosis, review
Horky[48]	to define CC, health beliefs & social factors, describe how cultural & social factors affect patient's approach & healthcare experience, work effectively with other cultures, appreciate importance of self-awareness when working with other cultures	6 online modules: one module about core concepts of CC such as culture, explanatory models & health beliefs, several modules about specific case examples from different cultures
Khanna[38]	to be able to describe diversity spectrum & define culture; distinguish among culture, race, ethnicity; identify/describe inter/intracultural diversity; distinction: generalizations & stereotypes; define CC and examine individual/institutional underpinnings; explain CC continuum, reflect position on CC continuum; describe importance of using explanatory models in patient-provider communication	training workshop including: defining cultural & linguistic competence, ethnic & racial health disparities, the relationship between culture & health beliefs, and the role of CC in facilitating effective communication between patients & providers
Krajewski[39]	not explicitly defined	basic concepts of CC in health care, importance of cross-cultural care, methods of skills acquisition, health-care scenario examples
Lange[40]	to enhance participants' insight into personal attitudes, improve cultural assessment & communication skills, gain knowledge and insights about other cultures	general topics (5 sessions), setting-specific topics about predominant ethnic groups (5-7 sessions): detailed content, self-discovery & -assessment exercises, video-based case studies/vignettes, interactive Web-based guides & online courses, slides, handouts, DVD presentations

***McDougle*[41]**	to consider/reflect patients'/clients' health & cultural issues & concerns, accept/understand impact of patients'/clients' cultural differences, practices, perspectives on health care experience, recognize/build familiarity with individual patients'/clients' cultural norms, beliefs, attitudes towards health care, execute proactive, culturally sensitive health care intervention that supports patients'/clients' recovery & respects cultural values without compromising quality of health care & medical treatment	CARE Columbus training program: introductory overview of curriculum development process, completion of CARE exercises to affect attitudes, knowledge, and skills: assumptions & intercultural hooks that block communication, aspects of culture that impact health care settings, behaviors of a culturally competent provider, instructions how to give directions/explanations in culturally sensitive ways and conduct culturally sensitive medical interviews
***Moleiro*[49]**	not explicitly defined	experiential exercises: self-knowledge & group dynamics exploring knowledge of self & others, prejudices, stereotypes, influence on interpersonal relationships; presentations of concepts in development of cultural diversity competencies & models of racial identity development; practice session with case studies of institutionalized children & youth; techniques/skills to integrate application in daily practice
***Owiti*[9]**	to promote CC of clinicians and directly improve on patient experiences and outcomes from care	cultural consultation service model (CCS): clinical cultural consultation, workforce development & organizational consultation: sessions before/during intervention to clarify scope/remit of CCS, provide broader understanding of culture; follow-up trainings with feedback on case presentations; inductive learning during accompanied consultations
***Paroz*[42]**	to develop awareness of role of CC in quality of care; to acknowledge socio- cultural factors that affect patient care; to develop patient-centered clinical skills to manage impact of socio- cultural factors on patient care	3 sessions about communication & diagnostic clinical skills (addressing language/literacy, determining social context, exploring beliefs/stereotypes) through learning tools (PowerPoint, didactic videos) and presentation of short clinical cases (written or video-taped); final session emphasizing learned principles through consultations with 2 simulated patients in clinical scenarios including interdisciplinary feedback
***Pernell*[50]**	to increase mental health care providers' knowledge, challenge attitudes, stimulate development of different perspectives, and foster identification and transferability of new skills to practice	various didactic/experiential methods (lecturettes, subgroups assigned to different tasks, group discussions, videos, invited community guest speakers, role plays, group presentations): generic inclusion of multicultural differences: gender, sexual orientation, age, race, ethnicity; viewing culture through the lens of sociopolitical history, privilege, intergroup power dynamics; integration of within-group differences
***Prescott*[45]**	not explicitly defined	introduction (mostly didactic, video clips for discussion), small group training sessions: (rotating) workshops by members of stakeholder groups with personal stories to stimulate discussion/reflection, acted role-plays
***Schim*[43]**	to expand cultural awareness, sensitivity, competence with a multidisciplinary and multilevel team of hospice workers	module "cultural considerations in the end-of-life care": concept definitions: culture, race, ethnicity, diversity, aspects of human variation; discussion of awareness, sensitivity, competence, role in supporting hospice care; suggestions to expand depth/ scope of cultural knowledge, attitudes, skills; approach to rapid, focused, client-centered cultural assessment; dialogue regarding common service barriers: language, customs, fear/mistrust of providers, economics, provider ethnocentrism; approaches to interaction & culturally appropriate interventions with clients, families, communities, examples of changes in practice

Schouten[29]	to improve doctors' & patients' communicative behavior during intercultural medical encounters	training (Pinto's "3-step method"): reflection of own culturally-defined norms, views, communication style; improve sensitivity & knowledge about culturally-determined differences in views & behavior; train participants in (self-chosen) strategies to solve gaps in views & culturally-defined communication styles
Smith[51]	to increase self-reported cultural self-efficacy & cultural knowledge	intensive educational program: strategies for culturally competent care based on Giger and Davidhizar Transcultural Assessment Model and Theory: six cultural phenomena (dimensions) that represent all cultural groups: communication, space, social organization, time, environmental control, biological variations; including clear guidelines & intervention strategies for care of culturally diverse clients
Stanhope[52]	to transform personal & professional behavioral health provider attitudes, increase knowledge, enhance clinical skills for effective work with differing cultures with mental health disability	statewide CC training for behavioral health professionals: Partners Reaching to Improve Multicultural Effectiveness (PRIME) training
Taylor[53]	to increase participants' levels of critical awareness, knowledge about the factors influencing cultural diversity and multicultural skills (following concept of Balcazar et al.)	lectures, group discussions & activities, organizational goal-setting exercise: presenting overview of a CC model, engaging participants to increase critical awareness, presenting information about impact factors on cultural diversity & their application to Latinos, African, or Asian Americans
Thom[19]	to discuss cultural gap between provider's & patient's knowledge & belief systems, present information about incidence, prevalence & complications of diabetes & hypertension in different racial/ethnic groups, provide examples of culturally-based beliefs & practices, teach techniques for assessing individual beliefs & practices; present techniques for eliciting patient's explanatory disease model & use of traditional treatments, apply LEARN model to patient interview, model problematic & improved physician communication	3 modules: "expanding knowledge of ethnic patients", "enhancing communication skills for cultural competency", and "use of interpreters & cultural brokering" using didactic presentations, group discussion, role-playing with learners' critique, group exercises, use of trigger tapes, handouts
Webb[44]	to explore participants' attitudes, recognize that neither they nor clients are culturally neutral, but product of own cultural conditioning, to gain understanding of how racism affects services	6 sessions about introduction & ground rules, Britain's ethnic minority population, stereotyping & empathy, racism (what it is and how it affects services) communication, conclusions, ways forward to change
Williams[54]	to explore connections between culture & social work, to learn multicultural constructs/frameworks, apply social work & CC knowledge, values, skills, self-awareness to practice situations, reflect on personal development in CC, integrate/apply social work & CC knowledge, guidelines for culturally competent assessment (individuals, families, communities), practice interview techniques for integrating cultural information into problem formulation, explore guidelines for negotiation intervention in cross-cultural situations, review/practice	dyadic discussions and definitions in pairs, lecture and large group discussion, case studies in small groups, discussion and negotiation of learning goals, dyadic discussions of identity and cultural transference and countertransference, video analysis, review of previously learned materials, role-playing interviews, analysis of videotaped news story applying multicultural constructs, small group sharing and reflection

	interview techniques for integrating CC skills in assessment & intervention, integrate race/ethnicity analysis with analysis of other identities, apply CC skills to professional & organizational issues, explore specific goals for building CC	
***Xu*[45]**	not explicitly defined	4 workshops that were videotaped focusing on skills to establish/develop trusting nurse-patient dialog, not intuitive non-verbal cues that might conflict with cultural practices from international nurses' home countries, discussing therapeutic communication skills and appropriate communication of American health care culture; telephone communication
***Zúñiga*[54]**	to learn about the health & social needs of children & families as well as their cultural beliefs	experiential block rotation as foundation for longitudinal training followed by sessions to improve communication with and care for children & families from particular communities; subsequent experiential block rotation focused on aspects of family violence, concluding in final asset mapping & needs assessment of community served by residents' community clinics

CC = cultural competency

APPENDIX 2. Summary of outcomes of included publications

Publication	Data collection tools	Dependent variables	Results
***Altshuler*[15]**	IDI	denial, defense, minimization, acceptance, cognitive adaption, behavioral adaption	minimization very high, participants with both interventions (didactic & behavioral rehearsal) indicate higher intercultural sensitivity
***Assemi*[30]**	survey instrument not defined	Confidence in developing & teaching curriculum (n=8), perceptions of importance & likelihood of implementing workshop content (n=11), extent to which CC training components were taught (n=11)	participants' self-rated confidence for developing and teaching increased significantly, 93% implemented contents in their own curricula
***Bennett*[31]**	developed from Race Equality and Cultural Capability (RECC) training program	knowledge of cultural contents (n=16), skills of cultural contents (n=11)	self-rated knowledge (pre/post) increased significantly in 14/16 items (pre/follow-up: 12/16), self-rated skills (pre/post) in 10/11 items (pre/follow-up: 4/11)
***Berlin*[32]**	Clinical Cultural Competence Training Questionnaire (CCCTQ)	cultural awareness (n=9), cultural knowledge (n=10), cultural skills (n=13), cultural encounters/situations (n=14), statements of difficulties and concerns (n=14)	significant improvement in cultural knowledge (2/10 items), cultural skills (6/13 items), and cultural encounters (1/14 items) in IG
***Bourjolly*[47]**	IDI (applied on reflection papers (logs))	rating of logs according to IDI (denial, defense, minimization, acceptance, cognitive adaption, behavioral adaption)	development of intercultural sensitivity as non-linear process with intermittent reversions to earlier levels or progress to higher levels
***Byington*[33]**	MAKSS, Cross-Cultural Critical Incident Quality Index	multicultural awareness, knowledge, and skills (n=17), behavioral measure of ability to apply multicultural counseling concepts in a critical incident (n=9)	participation in multicultural training workshop seemed to significantly increase ethical and assessment competencies, behavioral measure indicated an increase in abilities to manage cross-cultural critical incidents (not significant)
***Carnevale*[34]**	Multicultural Assessment Questionnaire	CC: knowledge (n=6), skills (n=6), and attitudes (n=4)	training showed significant improvements in overall scores of CC
***Cooper 2005a*[26]**	IAPCC-R	CC (n=25): cultural awareness, cultural knowledge, cultural skill, cultural encounter, cultural desire	levels of CC increased from T1 to T4 (significant increases in all steps)
***Cooper 2005b*[27]**	Cultural Knowledge Scale	cultural knowledge (n=24): health seeking behaviors, perception/understanding of health & illness, response to health & illness and treatment of illness conditions	scores of cultural knowledge increased from T1 to T4 (T2 to T3 significant increase)
***Cooper 2006*[20]**	IAPCC-R, Cultural Knowledge Scale	CC (n=25): cultural awareness, cultural knowledge, cultural skill, cultural encounter, cultural desire; cultural knowledge (n=24)	fewer years of experience & higher education level had weak association with increased cultural knowledge & cultural competence; learning style & age were not associated with outcomes
***Delgado*[35]**	IAPCC-R	five cultural constructs (n=25): desire, awareness, knowledge, skill, and encounters	CC class participants: significantly higher scores of self-reported cultural awareness across three time points
***Delphin*[36]**	MAKSS, Organizational Multicultural Competence Survey	CC (n=60): multicultural awareness, knowledge, and skills, organizational CC (n=33)	awareness of CC issues, cultural knowledge, and self-rating of skills increased significantly; significant improvement in organizational CC policies in some areas (9/33 items)

Harmsen[28]	survey instrument not defined	mutual understanding GP and patient, patient's perception of quality of care, patients' consultation satisfaction, patient's consideration perception	intervention could reduce the gap between 'Western' patients and 'non-Western' patients in mutual understanding with GP and perceived quality of care in consultations
Harris[37]	Boston Survey of Culturally Competent Residency Training Practices in Psychiatry (adapted)	multicultural knowledge and skills (n=10), cultural attitudes (n=2), clinical application of multicultural training contents (n=7)	statistically significant increases in multicultural knowledge, attitudes, and clinical application; no additional gains at the 9-month follow-up
Horky[48]	survey instrument not defined	knowledge (n=10), attitudes (n=10) , self-reported skills (n=10)	IG showed significant increases in all areas, CG showed smaller increases (significant increase in knowledge and attitudes)
Khanna[38]	Cultural Competency Assessment (independently developed)	cultural knowledge (n=19), cultural skills (n=5)	statistically significant change in self-report of knowledge and skills related to CC in a retrospective post-then-pre design
Krajewski[39]	Healthcare Cultural Competency Test, Cultural Skill Acquisition, Clinical Scenarios Evaluation	general health-care CC (n=30), skills to provide culturally competent care, application of CC skills to specific clinical scenarios	significant improvement in general CC, significant decrease in self-reported lack of cultural skills, significant positive effect on scores of skills in clinical scenarios
Lange[40]	Cultural Self Efficacy Scale	Self-efficacy: knowledge of cultural concepts (n=3), confidence in performing culturally-related skills (n=16), knowledge of cultural patterns (n=7); qualitative data from journals/interviews	Confidence in knowledge of cultural concepts, skills, and patterns of specific racial and ethnic groups improved significantly, journal entries and interviews indicated that session content was applied in encounters
McDougle[41]	survey instrument not defined	trainer's knowledge (n=1), presentation clarity (n=1), training results (n=5), training methods evaluation (n=3), self-reported work site implementation (n=3) self-perceived attitudes, knowledge, skills (qualitative)	self-perceived improvement in attitudes, knowledge, and skills, overall program rating 4.5/5
Moleiro[49]	Multicultural Counseling Competence and Training Survey (Portuguese adaption)	knowledge (n=16), awareness (n=5), definitions (n=4), racial identity development (n=2), skills (n=5), open questions in case vignette (n=5)	no significant increases of cultural diversity competencies, tendency to over-estimation of self-perceived CC, IG more capable of including cultural elements in definition of strategies & relational aspects of child care interventions
Owiti[9]	Tool for Assessing Cultural Competence Training (modified version)	CC (n not provided), case referrals of face-to-face contacts with staff and patients rated by study team members	self-reported measure of CC showed improvement in CC skills, objective ratings: broader & patient-centered understanding of culture; gained skills in narrative-based assessment method, management of complexity of care, competing assumptions & expectations, and clinical cultural formulation
Paroz[42]	survey instrument not defined	training satisfaction, self-perceived understanding of CC	general satisfaction rated high (9/10 participants), class considered to increase understanding of CC (8/10 participants)

Pernell[50]	IDI (applied on reflection papers (logs))	rating of logs according to IDI (denial, defense, minimization, acceptance, cognitive adaption, behavioral adaption)	development of intercultural sensitivity as non-linear process confirmed, spikes in ethnocentrism were often followed by acceleration in the movement toward ethnorelativism
Prescott[45]	OSCE with Standardized Patients	ratings of OSCE evaluators	Training participants gained higher OSCE scores than non-participants (significant difference in 3/4 cases)
Schim[43]	Cultural Competence Assessment	CC (n=25): cultural awareness, sensitivity, and CC behaviors	CC score were significantly greater after educational intervention compared to control intervention
Schouten[29]	Roter's interaction analysis system	interview length, number of utterances, and instrumental and affective verbal behaviour of both GPs and patients	significant increase of interview length & number of utterances, no significant change in relative frequencies on affective & instrumental verbal behavior of both patients & doctors
Smith[51]	Cultural Self-Efficacy Scale, knowledge-based questions (not defined)	self-efficacy (n=26): knowledge of cultural concepts, confidence in knowledge of cultural patterns with different groups, confidence in performing specific transcultural nursing skills; cultural knowledge (n=22)	participants demonstrated significantly more cultural self-efficacy and cultural knowledge in three phases of the study
Stanhope[52]	survey instrument not defined	importance of cultural factors and CC of providers (n=23) assessed by persons-in-recovery	providers rated as culturally competent after training, cultural factors in treatment not prioritized by persons-in-recovery
Taylor[53]	adapted measure instrument	cultural knowledge (n=14); appropriateness of physical environment, resources and materials (n=8); multicultural values and attitudes (n=15)	significant post-training improvements in cultural knowledge, physical environments, and values, attitudes & communication styles; long-term pursuit with progress or achievement of majority of self-imposed CC goals
Thom[19]	Patient Reported Physician Cultural Competency Scale	patients' scores of physicians' CC (n=13), changes in patient trust, satisfaction, weight, systolic blood pressure, and glycosylated hemoglobin	no effect on patient scores of physicians' CC, on patient trust, weight, systolic blood pressure or glycosylated hemoglobin
Webb[44]	survey instrument not defined	acceptability; perceived relevance to practice; previous training in this area; perceived impact on professionals' confidence in providing care to diverse communities; and reported changes in behavior and practice	CC training has been neglected and is not prioritized, but proved to be a positive and relevant experience; effective training does not require "cultural menus" but more aspects of cultural awareness
Williams[54]	Multicultural Counseling Inventory, follow-up interviews	multicultural awareness (n=10), multicultural knowledge (n=11), multicultural skills (n=11), multicultural relationship (n=9)	IG demonstrated significantly greater improvement in awareness compared to CG, general significant improvement on awareness, knowledge, and skills in both groups over time
Xu[46]	video-tapes rating tool (not defined)	performance of communication behavior (n=21): Non-Verbal Communication, Establishing Therapeutic Rapport, Therapeutic Communication	no significant improvement in communication behaviors with regard to socio-cultural skills of communication

Zúñiga[55]	Resident Community Knowledge and Assessment Survey, Resident Knowledge, Attitudes & Practices Survey: Culture & Medicine, Rotation Exit Survey	self-efficacy in care delivery (n=57), knowledge of culturally effective care and community indicators (n=15), self-reflection on cultural issues (n=22)	significant increase in self-perceived ability to identify culture-related issues that may impact on the patient's view of illness, positive evaluation of communication skills and professionalism, less positively evaluation of knowledge about communities

CC = cultural competence; IG = intervention group; CG = control group; IDI = Intercultural Development Inventory; IAPCC-R = Inventory for Assessing the Process of Cultural Competence Among Healthcare Professionals–Revised; MAKSS = Multicultural Awareness Knowledge and Skills Survey; OSCE = Objective Structured Clinical Examinations.

Publication 2: Evaluation of a training intervention for home care nurses in cross-cultural communication

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A training intervention for home care nurses in cross-cultural communication: An evaluation study of changes in attitudes, knowledge and behaviour

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Abstract

Aims: To assess whether a training intervention in cross-cultural communication can positively impact attitudes, knowledge and behaviour and to investigate possible dependencies between these components.

Design: (Controlled) longitudinal multimethod evaluation.

Methods: A training based on theoretical considerations and informed by semi-standardized interviews with home care nurses was developed and evaluated. Participants rated their cross-cultural attitudes, knowledge and behaviour and answered case vignettes assessing their knowledge before and after this training. Shift observations assessed behaviourial aspects at *t*1 and *t*2. Data were collected between June 2016–March 2017 and between April 2017–November 2017. Analyses of variance and multiple linear regression models were employed.

Results: The training showed promising tendencies with cross-cultural attitudes, knowledge and behaviour with diverging results for initially quite high self-reports showing positive but mostly not significant developments and objective assessments mostly showing significant positive changes. There were significant associations between self-reported cross-cultural behaviour at *t*1 and objective cross-cultural knowledge at *t*2, whereas self-rated and objectively assessed knowledge showed no significant associations. Shift observations showed significant positive developments in participants' communication behaviour.

Conclusion: Our study shows the importance of using different methods and targeting different outcomes areas to rate impacts of (cross-cultural) training interventions. Future studies should consider challenging conditions in home care nursing affecting the success of interventions and investigate mechanisms of skill acquisition in nursing.

Impact: This is one of very few studies using multi-method approach to evaluate a cross-cultural competency intervention and simultaneously assess cross-cultural attitudes, knowledge and behaviour including possible dependencies between these aspects.

KEYWORDS
cultural competency, health professionals home care nursing, multi-method approach, skill acquisition, training intervention

1 | INTRODUCTION

Increasing cultural diversity in health care has a huge impact on the health sector, not only for recipients but also for providers of health care (Beach et al., 2005; Filmer & Herbig, 2018; Horvat, Horey, Romios, & Kis-Rigo, 2014; Truong, Paradies, & Priest, 2014). Although there are many cultural competency interventions for health professionals aiming to avoid culture-based disparities, the underlying concept of culture is defined rather differently in various cultural competency interventions (Alizadeh & Chavan, 2016; Henderson, Horne, Hills, & Kendall, 2018; Kleinman & Benson, 2006; Seelman, Suurmond, & Stronks, 2009; Shen, 2015; Truong et al., 2014). According to American anthropologist Marvin Harris, culture refers to a repertoire of actions and thoughts which are learned and exhibited by the members of social groups (Harris, 1979). These patterns of thinking, feeling and acting are often rather implicit and subconscious, only express themselves in communication with others and enable members of a social community to act in a meaningful and plausible manner (Betancourt, 2004). In many interventions, cultural competency is imparted as a set of 'dos and don'ts' (Betancourt, 2004) on how to care for particular cultural groups oneself is not part of. However, this might not be sufficient to communicate with all individual patients and adapt the care to their needs, especially if one is not aware of one's own cultural patterns of thinking and communicating and how these might appear to members of other cultural groups. Instead, authors increasingly demand the teaching of 'cross-cultural' competencies. That is competencies that do not focus on specific ethnic or social groups but on skills to communicate with all patients regardless of their ethnic or cultural background and to be sensitive and empathic for their individual norms, beliefs, thought patterns and values, since all these aspects can be seen as inherent parts of a culture (e.g. Altshuler, Sussman, & Kachur, 2003, Betancourt, 2004, Kleinman & Benson, 2006, Owiti et al., 2014).

There are many concepts related to (cross-)cultural competency like (cross-)cultural knowledge (i.e. a holistic and contextual understanding of cultures beyond the conventional surface-level), attitudes (i.e. respect, curiosity and openness towards other cultures) and behaviour (i.e. effective and appropriate communication behaviour in intercultural situations) that are linked to each other (Deardorff, 2011; Shen, 2015). For the presented study we use the definition posed by Campinha-Bacote (2002) that cultural competency is a continuous process of healthcare providers striving to work effectively within their clients' cultural context and relate to dependencies posed by Campinha-Bacote (2002) and Taylor-Ritzler et al. (2008) who both describe a process including knowledge and awareness of attitudes leading to a development of skills to effectively adapt one's behaviour in cross-cultural encounters.

1.1 | Background

Systematic reviews (Filmer & Herbig, 2018; Truong et al., 2014) have shown that many cultural competency interventions can result in significant increases of (cross-)cultural attitudes and declarative cultural knowledge—that is the knowledge of facts—whereas the procedural knowledge—that is the knowledge of how to do something—assessed in behaviour and performance ratings rarely showed significant increases (Harmsen et al., 2005; Prescott-Clements et al., 2013; Schouten, Meeuwesen, & Harmsen, 2005; Xu, Shen, Bolstad, Covelli, & Torpey, 2010). Moreover, whereas several studies assessed self-rated knowledge and attitudes, (Carnevale, Macdonald, Razack, & Steinert, 2015; Harris, McQuery, Raab, & Elmore, 2008; Horky, Andreola, Black, & Lossius, 2017; McDougle, Ukockis, & Adamshick, 2010; Taylor-Ritzler et al., 2008) only a few simultaneously evaluated self-rated components of cultural competency and objectively assessed knowledge (Moleiro, Marques, & Pacheco, 2011; Smith, 2001). Moleiro et al. (2011) showed a tendency to over-estimate cultural competency when self-assessments were compared with the results of a qualitative analysis with case vignettes. Stereotypes can be reinforced instead of being reduced, when knowledge and notions about cultural groups are imparted without sufficient reflection of attitudes and problems of generalization (Harris et al., 2008). The knowledge, attitudes and practice (KAP) survey model (Médicins du Monde, 2012) describes that health behaviour is influenced by knowledge but also by attitudes. Therefore, attitudes have an important influence on whether individuals behave as expected in practice (Crawford-Williams, Fielder, Mikocka-Walus, Esterman, & Steen, 2016). Comparable to the KAP model that describes how knowledge increases influence attitudes and can result in behaviour changes (Launiala, 2009), cross-cultural knowledge could influence cross-cultural attitudes and lead to behaviour changes in cross-cultural encounters. As outlined, a few studies assessed cross-cultural attitudes and knowledge at the same time, but none of them simultaneously assessed cross-cultural attitudes, knowledge and behaviour or evaluated whether any of these aspects influenced each other (for an overview see Filmer & Herbig, 2018).

One area in health care where cross-cultural competency becomes specifically relevant is home care nursing. Although nurses in hospitals have some kind of 'domiciliary right' in their institutions which leads to them (unconsciously) defining the 'rules', nurses that care for patients in their homes are guests in their privacy and therefore must try to understand and adapt to patients' individual values, needs and demands (Kolleck, 2007). Different understandings of values, nursing care, health and diseases, language barriers, role and gender conflicts can lead to misunderstandings and even arguments (Renzaho, Romios, Crock, & Sønderlund, 2013). To be able to adjust their individual care, home care nurses need to consider their own cross-cultural attitudes and knowledge.

2 | STUDY

2.1 | Aims

Against this background, our hypotheses were that a training intervention in cross-cultural communication: a) changes cross-cultural attitudes towards a more positive attitude and affect; b) increases

self-rated and objective cross-cultural knowledge and c)in turn—influences self-rated and observed cross-cultural behaviour. Moreover, we wanted to explore whether the acquisition of objective cross-cultural knowledge depends on prior cross-cultural attitudes, knowledge and behaviour.

2.2 | Design

A (controlled) evaluation study.

2.3 | Participants

Home care nurses were recruited by addressing potential home care nursing facilities in Southern Germany. All employees that performed nursing activities were eligible to participate. There were no exclusion criteria. Written informed consent was obtained from all participants. They could decide whether they would like to participate in general and, if so, in the training sessions (training group) or not (non-training group). Self-reported data via questionnaires were gathered from both groups and enabled a comparison of results between intervention group (i.e. training group) and control group (i.e. non-training group). Objective knowledge could only be assessed from the intervention group since the participating nursing services only agreed that nurses who participated in the training could use their working hours to answer the extensive knowledge test. Since nurses decided whether they wanted to participate in the training, blinding was not possible. Due to data protection regulations, participants that were lost to follow-up could not be contacted.

2.4 | Intervention

To assess typical problem constellations in daily routines and adapt the training contents to actual needs, semi-standardized interviews were conducted after the first data collection and prior to the training sessions with 19 nurses from eight participating nursing services. Nurses were asked to describe their experiences with conflicts and misunderstandings. We deliberately did not mention 'other cultures' but instead asked nurses to describe conflicts with all patients regardless of their cultural background. Interviews were recorded, analysed and rated by an interviewer with a nursing background after a consensus about the rating criteria. Although most nurses did not mention cross-cultural conflicts, the situations they described showed that 163 of the 199 conflicts and misunderstandings were caused by differences in thought patterns, values and perception on, for example punctuality, hygiene or cleanliness. We differentiated between 'actual conflicts' between nurses and opposite parties with confrontation and addressing of the problem and 'difficulties' that were only perceived by the nurses without a hint that the opposite parties also perceived the situation to be problematic. Only 50 of 199 described situations were actual conflicts, whereas 114 examples described nurses' difficulties in handling and understanding specific situations. The interview results led to the conclusion that communication theories and the ability to change perspective had to be necessary contents of the interventions. For a detailed description of the situations see Table A1.

Based on the demands formulated in literature and the results of the preceding interviews, participatory training sessions were planned in three units of 2–3 hr with 8–12 participants. Contents were delivered by experienced lecturers with backgrounds in nursing and psychology. As communication is necessary to get in contact with and understand other cultures, participants were educated in communication theory basics like the Shannon–Weaver model (Shannon & Weaver, 1949), Watzlawick's basic communication axioms (Watzlawick, Beavin, & Jackson, 1967), or Schulz von Thun's four-sides communication model (Schulz von Thun, 1981) (sessions 1). The participants were also educated in constructivism theory that implies that people do not react to an objective reality but create subjective images of reality to which they respond accordingly (sessions 2) (Simon, 2006). Thus, to be able to understand their patients' culture, nurses should not only be able to take their perspective and develop sensitivity for their values but also must understand their own cross-cultural attitudes and should be able to reflect how their own perspective and values might appear to others (Betancourt, 2004). Participants should learn to think about the subjectivity of their own 'reality' to better understand their own and their patients' perspectives. Furthermore, they were educated to become aware of possible stereotypes and reduce possible prejudices to adapt this knowledge in cross-cultural communication (session 3). We used various curricular methods like lectures, role-plays, experiential exercises and activities, discussions and reflection exercises. Lectures with the described contents were restricted to short 'input' parts, whereas all activity parts preceded. Wherever possible, activities were based on real situations either imparted by participants during the training, when they described conflict situations they experienced with patients and relatives or stemming from the prior interviews described above. The trainings were conducted between September 2016–March 2017.

2.5 | Data collection

2.5.1 | Participants' cross-cultural attitudes

Employee questionnaires were distributed via the organizations to training and non-training participants before (*t*1) and approximately six months after (*t*2) the training intervention, to assess differences in cross-cultural attitudes. The questionnaires were identical at *t*1 and *t*2.

Attitudes were assessed with subscales 'sensibility for other cultures' (e.g. 'It is important for me to get in contact with people from different cultural backgrounds', 5 items, Cronbach's α = .89), 'intercultural teamwork' (e.g. 'Collaboration with colleagues from other backgrounds is important to me', 2 items, Cronbach's α = .83) and 'reflection of other cultures' (e.g. 'When interacting with patients from different cultural backgrounds, it is important to reflect on personal

experiences with other cultures', 7 items, Cronbach's α = .93) from an adapted questionnaire on cultural competency (Köck & Mayer, 2012) on a 4-point scale from 1 ('does not apply')- 4 ('does apply').

2.5.2 | Participants' self-reported positive affect in (cross-cultural) encounters

Self-reported positive affect in cross-cultural encounters was assessed with the culture-specific subscale 'cultural anxiety' (e.g. 'I feel nervous when I talk with patients from other cultures', 10 items, Cronbach's α = .88) from an adapted questionnaire on cultural anxiety (Ulrey & Amason, 2001) with a 5-point Likert scale from 1 ('no, not at all') to 5 ('yes, exactly'). For comparison with other affective measures, this scale was recoded to reflect 'cultural non-anxiety or calmness'. For an assessment of general affect in encounters subscales 'directed concern' (e.g. 'Seeing people crying disconcerts me', 4 items, Cronbach's α = .68) and 'undirected concern' (e.g. 'I am often very moved by things happening before my eyes', 7 items, Cronbach's α = .77) from the Empathy Scale (Leibetseder, Laireiter, Riepler, & Köller, 2001) with a 5-point scale from 1 ('does not apply') to 5 ('does apply') were used. To form a uniform scale of positive affect in (cross-cultural) encounters the cultural anxiety scale was recoded, with high values showing low anxiety.

2.5.3 | Participants' self-rated cross-cultural knowledge

Additionally, self-rated cross-cultural knowledge was assessed in the employee questionnaires with the subscale 'cultural knowledge' (e.g. 'I know a lot about my patients' culture', 9 items, Cronbach's α = .90) from the above-mentioned questionnaire (Ulrey & Amason, 2001), with a 5-point Likert scale from 1 ('no, not at all') to 5 ('yes, exactly').

2.5.4 | Participants' self-reported behaviour in cross-cultural encounters

The self-reported behaviour in cross-cultural encounters was assessed with the subscale 'cultural communication' (e.g. 'I ask relatives for help when having language problems', 5 items, Cronbach's α = .88) from the above-mentioned questionnaire (Köck & Mayer, 2012) and the subscale 'perspective taking' (e.g. 'I try to look at everybody's side of a disagreement before I make a decision', 4 items, Cronbach's α = .85) from the Interpersonal Reactivity Index (Davis, 1983) with a 5-point Likert scale from 1 ('never') to 5 ('always').

2.5.5 | Participants' tested cross-cultural knowledge

A knowledge test using case vignettes was developed specifically to get an objective assessment of participants' cross-cultural competency at *t*1 and *t*2. Four different case examples were developed describing typical conflict situations in the daily work of home care nurses. Participants were asked to identify possible conflict triggers and causes and to outline how they would solve the conflict. Furthermore, we assessed whether a systemic approach was distinguishable when more than one cause or solution strategy was described, that is when participants were able to take on different perspectives from the various actors in the cases. A coding frame was developed to rate answers in 27 binary categories for each case example. The one-way random single measure intraclass correlation coefficient (ICC[1,1]) from two independent raters who assessed about 16% of the tests was .89 with 860 of 972 decisions (88.5%) being consistent, indicating a quite high interrater reliability. Participants also had to answer one multiple-choice question about their rating of the solution strategy that was used in the case examples.

2.5.6 | Participants' observed (cross-cultural) communication behaviour

To assess the communication behaviour with patients from various cultures, we conducted opportunistic shift observations in participating nursing services at *t*1 and *t*2. Since established schemes for differentiated observations of communications, that mostly need videotaping, (e.g. Roter & Larson, 2002), could not be realized without disturbing the real situations with patients, a specific rating sheet was developed according to existing rating schemes (Weigl, Müller, Angerer, & Hoffmann, 2014) which assessed the number of work interruptions caused by other persons, missing or malfunctioning assistive devices, or information deficits and the frequency of initiated communications. Furthermore, the observer rated patients' mood (4 items), cooperation with the patient (1 item), delays caused by the patient (1 item), attentiveness towards the patient (1 item), language barriers (1 item) and misunderstandings (1 item). As the observations were purely opportunistic during the nurses' usual shifts and the measurement should be as 'non-reactive' as possible, no attempt was made to assess the patients' culture. The shift observations were conducted by one trained observer with a nursing background when written or oral consent was given by the respective nurses and patients.

2.6 | Ethical considerations

This study was approved by the responsible ethics committee (ID: 134-16, March 3, 2016) and was carried out between April 2016–December 2017.

2.7 | Data analysis

We used employee questionnaires, knowledge tests and shift observations at *t*1 and *t*2 for the training evaluation. To assess training effects on self-rated attitudes, positive affect, knowledge and

behaviour, a controlled design was used, that is participants and non-participants (controls) filled in the questionnaires. Knowledge tests were only conducted with training participants in a pre–postdesign. Shift observations were conducted opportunistically with nurses from participating nursing services.

To analyse and match data on the individual level and ensure data protection, participants were asked to create personal codes only known to themselves. Thus, data from employee questionnaires and knowledge tests could be matched on an individual level from *t*1 and *t*2. Due to data protection regulations, data from shift observations could not be matched with other data.

2 (training vs. non-training) × 2 (times of measurement) repeated measures analyses of variance (ANOVA) were used to analyse differences in the controlled design (questionnaires) between *t*1 and *t*2. For the pre–post knowledge measures, we used paired sample *t* tests to analyse changes. The opportunistic shift observations were analysed with one-way analyses of variance.

To explore dependencies across different types of measures, we first assessed associations between the variables of self-rated cross-cultural attitudes, positive affect, knowledge and behaviour as well as objective cross-cultural knowledge at *t*1 and *t*2 with Pearson product-moment correlation coefficients. Second, we assigned components we assumed to influence other components as independent (in this case explanatory) variables and components that we assumed to be influenced by other components as dependent (in this case outcome) variables and used hierarchical multiple linear regression models for the influence of self-rated cross-cultural attitudes, positive affect, knowledge and behaviour at *t*1 as explanatory variables on objectively assessed cross-cultural knowledge at *t*2. All models were controlled for age, sex and the respective outcome variable at *t*1 in steps 1 and 2 and all explanatory variables at *t*1 in step 3. To summarize scales for regression analyses, responses were rescaled by the percent of maximum possible procedure suggested by Cohen, Cohen, Aiken, & West, 1999. To test for reversed causality (Spearing, Connelly, Nghiem, & Pobereskin, 2012), we also conducted hierarchical multiple linear regression models on the influence of objective cross-cultural knowledge (*t*1) on self-rated cross-cultural attitudes, positive affect, knowledge and behaviour at *t*2. Since several variables showed high correlations, variance inflation factors (VIF) were used to assess the severity of multicollinearity. In none of the analyses the VIF surpassed 5 which is the commonly acknowledge rule of thumb for multicollinearity problems (Kutner, Nachtsheim, & Neter, 2004). All analyses were made by the intention-to-treat principle and carried out with SPSS Version 25.

2.8 | Validity and reliability

To ensure the validity and reliability of this study, we employed valid and tested tools whenever possible. When no valid tools were available, reliability was assessed by independent raters using ICCs as mentioned above.

3 | RESULTS

3.1 | Sample characteristics

In total, 165 out of 463 eligible nurses (35.6%, 145 female) with a mean age of 48.5 years (range: 19–63, standard deviation = 9.6) from ten nursing services participated in the survey at *t*1. According to the German Federal Statistical Office, sex and age of participants are approximately representative for the target population in German home care nursing; 58 of 88 nurses who participated in the trainings returned the questionnaires at *t*1, 38 of 88 nurses at *t*2. 57 nurses returned the knowledge tests at *t*1, 38 at *t*2. The training group was comparable to the non-training group in all aspects but the weekly working time which is because trainings were done during working time and therefore nurses with fewer working hours were less likely to participate. Table 1 gives a detailed sample description. Figure 1 shows a flow diagram of participation.

3.2 | Training effects on participants' self-rated cross-cultural attitudes, positive affect, knowledge and behaviour

Table 2 shows ANOVA results for self-rated cross-cultural attitudes, positive affect, knowledge and behaviour. In general, all aspects were already rated quite high at *t*1 with training participants descriptively showing slightly higher levels than non-participants. The results show a significant interaction for the reflection of other cultures: Training participants show significantly higher values than non-participants and an increase from *t*1- *t*2, whereas non-participants show a slight decrease. A similar but not significant trend is found for perspective taking. This pattern is also recognizable in other variables though not significant.

3.3 | Training effects on participants' tested cross-cultural knowledge

The results of the knowledge test shown in Table 3 indicate a significantly increased awareness of conflict triggers, causes and solution strategies from *t*1 to *t*2, whereas the systemic thinking scores—which were rather low at both times—show no significant increase. The correct answers in the multiple-choice questions—which were already very high at *t*1—also show no significant change.

3.4 | Training effects on participants' observed (cross-cultural) communication behaviour

In total, we observed 153 patient contacts with 279 nursing activities at *t*1 (total contact time 21.82 hr) and 135 patient contacts with 298 nursing activities (total contact time 21.48 hr) at *t*2 in 9 of 10 participating nursing services. Due to organizational difficulties, it

TABLE 1 Sample characteristics at *t*1

Characteristic	Training group, $N \leq 58$	Non-training group, $N \leq 107$	t/χ^2	*p*
Age in years			0.55	.579
	Mean = 48.2 *SD* 9.24	*Mean* = 49.1 *SD* 9.61		
Sex			1.05	.423
Female	50	95		
Male	8	9		
Working time			1.82	.234
Full time	16	20		
Part time	41	86		
...working hours	*Mean* = 27.85 *SD* 7.33	*Mean* = 22.28 *SD* 8.92	−3.55	.001***
Migration background[a]			0.13	.957
Yes	15	26		
No	42	80		
Current position in nursing service			5.36	.248
Registered nurses in leadership role	7	15		
Registered nurses	41	68		
Nursing assistants	10	13		
Nursing students	0	4		
Other	0	4		
Years in nursing			−0.31	.755
In total	*Mean* = 21.20 *SD* 10.32	*Mean* = 20.65 *SD* 10.51		
Number of patients			1.90	.059
Per shift	*Mean* = 14.22 *SD* 4.62	*Mean* = 15.94 *SD* 6.58		
Patients with migration background[a]			0.78	.438
	Mean = 2.03 *SD* 2.82	*Mean* = 2.47 *SD* 3.29		
Care for children or relatives			0.17	.742
Yes	32	62		
No	26	44		

Note: t/χ^2, test value; *M*, mean; *SD*, standard deviation.
[a]Self-declared migration background.
*$p \leq .05$.
**$p \leq .01$.
***$p \leq .001$.

was not possible to conduct shift observations in one participating nursing service. Except for work interruptions by persons and language barriers which show no significant changes but were already very rare at *t*1, all behaviourial data like attentiveness towards the patients show significant positive developments indicating that participants became more aware of their communication behaviour (see Table 4). Additionally, we assessed opportunistic patient ratings of the nurses' communication behaviour at *t*1 and *t*2 with questionnaires sent to and distributed by the participating nursing services. Since these questionnaires showed very high baseline values, no significant changes and might indicate a positive selection of patients and possible ceiling/floor effects, the results will not be reported in the paper but in Table A2.

3.5 | Exploration of the dependencies between self-rated cross-cultural attitudes, positive affect, knowledge and behaviour and objective cross-cultural knowledge

As to be expected, there are various significant cross-sectional and longitudinal correlations between variables of self-rated cross-cultural attitudes, positive affect, knowledge and behaviour

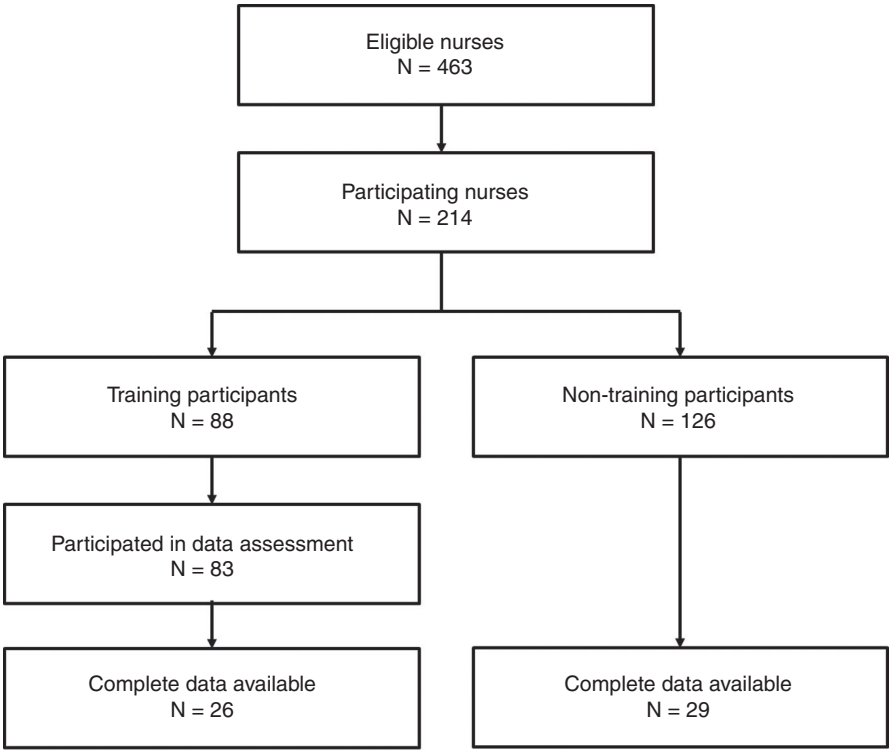

FIGURE 1 Flow diagram of study participation

as well as variables of the case vignettes across both waves which can be seen in Table A3.

Table 5 presents the results of the regression models. Apart from solution strategies at *t*2 where male participants show higher scores, no demographic variables show any significant associations with the respective dependent variables. Except for self-rated cross-cultural knowledge and systemic thinking in the case vignettes, all dependent variables show significant autocorrelations. The stepwise regressions show that self-reported cross-cultural behaviour at *t*1 (e.g. observing non-verbal communication of non-native speakers to avoid misunderstandings and ensure that patients understand the planned activities) has a significant positive impact on all scores of the tested knowledge at *t*2 except for triggers and causes when the respective scores are controlled for at *t*1. The regression models calculating the impact of tested cross-cultural knowledge (reversed causality) show no effect on any variable of self-rated cross-cultural attitudes, positive affect, knowledge or behaviour, when the respective dependent variable is controlled for at *t*1 (Table A4).

4 | DISCUSSION

The results show that a training intervention focusing on cross-cultural communication had a positive impact on self-rated cross-cultural attitudes, positive affect, knowledge and behaviour in cross-cultural encounters as well as on participants' objectively assessed cross-cultural knowledge and communication behaviour. Although the changes in self-rated attitudes, positive affect, knowledge and behaviour—which were already initially very high—were not significant apart from the reflection of other cultures and perspective taking, there were significant positive developments in tested cross-cultural knowledge and observed communication behaviour.

Moreover, as explorative analyses showed, self-reported cross-cultural behaviour at *t*1 had a significant effect on objective cross-cultural knowledge at *t*2 but not vice versa. Neither attitudes, positive affect nor self-reported knowledge played an important role in this relation. The latter results highlight two different aspects. First, they might hint at the presence of a social desirability bias (Edwards, 1957) in nowadays research in cultural competency. That is the difference between actual knowledge and self-reported knowledge and the different relations with attitudes, affect and behaviour might 'just' be an expression of participants' awareness of this topic's relevance. Second, results do not confirm the previously mentioned assumption of the KAP model (see also Launiala, 2009) that knowledge increases influence attitudes within the context of cross-cultural competencies. In fact, significant positive associations between self-reported cross-cultural behaviour at *t*1 and objective cross-cultural knowledge at *t*2 indicate that nurses who already include aspects of cross-cultural adequate behaviour in their work might be more susceptive to acquire cross-cultural knowledge. These results are in accordance with Campinha-Bacote's model of cultural competency (Campinha-Bacote, 2002) which includes the component of cultural desire, that is the intrinsic motivation of healthcare providers to provide culturally responsive care. Thus, nurses who show that they 'want to'—rather than merely think they 'have to'—understand their patients, for example by ensuring that

TABLE 2 Training effects on participants' self-rated cross-cultural attitudes, positive affect, knowledge and behaviour

	Training participants				Non-participants				Time effect		Training effect		Interaction Time X Training	
	*t*1 (*N* ≤ 33)		*t*2 (*N* ≤ 33)		*t*1 (*N* ≤ 29)		*t*2 (*N* ≤ 29)							
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	*F*	*p*	*F*	*p*
Cross-cultural attitudes														
Sensibility for other cultures[a]	3.34	0.64	3.40	0.54	3.32	0.71	3.25	0.76	0.61	.439	0.38	.538	0.80	.374
Intercultural teamwork[a]	3.48	0.64	3.45	0.64	3.19	0.96	3.41	0.71	0.10	.757	2.00	.163	1.55	.218
Reflection of other cultures[a]	3.47	0.55	3.64	0.45	3.33	0.65	3.22	0.61	4.26	.044*	4.18	.045*	4.98	.029*
Self-reported positive affect in cross-cultural encounters														
Cultural anxiety (recoded)[b]	3.77	0.55	3.85	0,57	3,71	0.61	3,71	0.77	0.41	.526	0.41	.525	0.23	.637
Directed concern[b]	3.24	0.80	3.22	0.78	2.98	0.74	3.06	0.69	2.84	.097	2.16	.147	1.01	.319
Undirected concern[b]	3.71	0.64	3.60	0.69	3.50	0.76	3.51	0.66	0.26	.612	1.19	.280	1.27	.265
Self-rated cross-cultural knowledge														
Cultural knowledge[b]	3.73	0.44	3.79	0.57	3.73	0.47	3.74	0.54	0.00	.966	0.09	.762	0.44	.509
Self-reported cross-cultural behaviour														
Cultural communication[a]	3.58	0.61	3.66	0.45	3.50	0.72	3.43	0.66	0.03	.859	1.30	.259	1.01	.319
Perspective taking[b]	4.02	0.62	4.08	0.51	3.89	0.57	3.77	0.54	0.03	.856	2.51	.119	3.08	.084

Note: 2 × 2 factorial repeated measures analysis of variance (ANOVA) (controlled for age and sex); *M*, mean; *SD*, standard deviation; *t*1, pre-test; *t*2, posttest; *F*, test value of the ANOVA.
[a]Range 1–4.
[b]Range 1–5.
*$p \leq .05$.
**$p \leq .01$.
***$p \leq .001$.

patients from other cultures understand nursing activities, by paying attention to their own and the patients' non-verbal communication, or by including relatives to avoid misunderstandings (see Campinha-Bacote, 2002), are more likely to be motivated to acquire cross-cultural knowledge to adapt this in cross-cultural encounters. A similar model on the 'desire to engage' (Taylor-Ritzler et al., 2008) refers to both the individual's willingness to participate in cultural diversity (behaviour in our context) and to learn about it (knowledge in our context).

Although data from shift observations could not be matched with employee questionnaires or knowledge tests, the observed nurses' communication behaviour shows a positive development that can be found in the knowledge increase as well and is therefore in accordance with the assumption that cross-cultural trainings encouraging the examination of one's own cross-cultural attitudes can also have a positive influence on cross-cultural communication behaviour.

There is still a lack of clarity in the literature of how exactly cultural competency is defined, of which components it consists (see Alizadeh & Chavan, 2016, Henderson et al., 2018, Kleinman & Benson, 2006, Seelman et al., 2009, Shen, 2015, Truong et al., 2014) and whether there are dependencies between these components. Also, various papers about (cross-)cultural competency models neither confirmed nor denied whether the dependencies between the individual components posed by the models they were referring to were supported by their data (e.g. Shen, 2015). The intention to address this in this paper by examining possible dependencies was encouraged by the fact that most cultural competency models were neither empirically tested nor developed model-based instruments (Shen, 2015) and authors who posed that most papers evaluated (cross-)cultural competency trainings with pre–post comparisons of participants' (cross-)cultural knowledge, attitudes and skills (e.g. Taylor-Ritzler et al., 2008) without examining how the individual components influence each other. Our analyses show that such a differentiation might pose a promising start for a better understanding and a starting point for planning (cross-)cultural competency interventions.

4.1 | Limitations

Our study has several limitations. Firstly and probably most importantly, the sample that filled in all questionnaires was rather

TABLE 3 Training effects on participants' cross-cultural knowledge

	Pre-test ($N \leq 26$)		Posttest ($N \leq 26$)			
Knowledge aspects	***Mean***	***SD***	***Mean***	***SD***	***t***	***p***
Knowledge about triggers and causes [0–16]	6.72	2.28	7.50	2.23	−2.748	.012*
Knowledge about solution strategies [0–10]	4.80	2.42	6.00	2.60	−2.979	.007**
Systemic thinking [0–18]	3.00	1.91	3.50	3.66	−0.804	.430
Differentiation between triggers and causes [0–2]	0.76	0.66	1.60	0.76	−5.629	<.001***
Consistency between answers [0–4]	1.60	1.53	3.40	1.15	−5.196	<.001***
Raters' assessment of participant's ability to change perspective [0–4]	1.36	1.35	2.24	1.76	−2.462	.021*
Multiple-choice score [0–2]	1.39	0.66	1.45	0.86	−1.000	.331
Total score[a] [0–56]	19.23	8.58	24.04	11.93	−2.099	.046*

Note: M, mean; *SD*, standard deviation; *t*, *t*-value (paired samples).
[a]Calculated from all 27 categories of both case vignettes and multiple-choice questions.
*$p \leq .05$.
**$p \leq .01$.
***$p \leq .001$.

TABLE 4 Observed (cross-cultural) communication behaviour at *t*1 and *t*2

	*t*1 ($N \leq 153$)		*t*2 ($N \leq 135$)			
Scale	***Mean***	***SD***	***Mean***	***SD***	***F***	***p***
Work interruptions by persons (per minute)	0.04	0.12	0.03	0.11	0.472	.493
Problems with missing or malfunctioning assistive devices (per minute)	0.04	0.09	0.01	0.04	12.185	.001***
Missing information (per minute)	0.01	0.06	0.00	0.01	5.051	.025*
Initiated communications (per minute)	0.11	0.18	0.17	0.17	8.94	.003**
Atmosphere[a,b]	4.27	0.68	4.41	0.41	4.29	.039*
Cooperation with patients[b]	4.67	0.74	4.86	0.39	6.83	.009**
Delays caused by patients[b]	1.08	0.30	1.03	0.21	3.13	.078
Attentiveness towards the patients[b]	4.71	0.73	4.93	0.26	10.3	.001***
Language barriers[b]	1.05	0.35	1.00	0.00	2.31	.129
Misunderstandings[b]	1.11	0.50	1.01	0.09	5.84	.016*
Nurse's mood[c]	7.87	1.86	9.01	0.33	49.1	<.001***
Influence of patient contact on nurse's mood[b]	3.12	0.58	3.38	0.67	12.0	.001***
Overall estimation of patient contact[b]	4.75	0.65	4.93	0.29	8.22	.004**

Note: Annotations: one-way analyses of variance (ANOVA); *t*1, pre-test; *t*2, posttest; *M*, mean; *SD*, standard deviation; *F*, test value of the ANOVA.
[a]Scale summarized from tenseness/relaxation and positive/negative patients' mood: Cronbach's alpha = 0.801.
[b]Range from 1 = not at all/very bad to 5 = very much/very good.
[c]Range from 0 = not good at all to 10 = very good.
*$p \leq .05$.
**$p \leq .01$.
***$p \leq .001$.

TABLE 5 Regression models of longitudinal associations between self-rated cross-cultural attitudes, positive affect, knowledge and behaviour at *t*1 and tested knowledge at *t*2

	Triggers and causes at *t*2					Solution strategies at *t*2				
	R^2	ΔR^2	β	95% CI		R^2	ΔR^2	β	95% CI	
Step 1	.064	.064				.198	.198			
Age			0.086	−0.305	0.444			0.065	−0.316	0.430
Sex[a]			0.242	−0.178	0.566			0.443*	0.011	0.752
Step 2	.438*	.374**				.396*	.198*			
OV *t*1[b]			0.620**	0.218	0.889			0.488*	0.061	0.849
Step 3	No variables included					.585**	.189*			
Self-reported cross-cultural attitudes *t*1			[0.203]					[0.217]		
Positive affect in cross-cultural encounters *t*1			[−0.234]					[0.032]		
Self-rated cross-cultural knowledge *t*1			[−0.202]					[0.019]		
Self-reported cross-cultural behaviour *t*1			[0.245]					0.500*	0.143	1.032
	Systemic thinking at *t*2					**Total score of case vignettes at *t*2**				
	R^2	ΔR^2	β	95% CI		R^2	ΔR^2	β	95% CI	
Step 1	.214	.214				.138	.138			
Age			0.247	−0.170	0.641			0.096	−0.383	0.541
Sex[a]			0.402	−0.023	0.783			0.371	−0.177	1.053
Step 2	.262	.048				.396	.258*			
OV *t*1[b]			0.222	−0.217	0.680			0.523*	0.018	0.930
Step 3	.486*	.224*				.733**	.338**			
Self-reported cross-cultural attitudes *t*1			[0.236]					[0.104]		
Positive affect in cross-cultural encounters *t*1			[0.037]					[−0.167]		
Self-rated cross-cultural knowledge *t*1			[0.005]					[−0.074]		
Self-reported cross-cultural behaviour *t*1			0.514*	0.149	1.176			0.765**	0.314	1.218

Note: $N \leq 26$.
ΔR^2, R square change; β, standardized coefficient (coefficients in brackets not included in the stepwise regression model); *t*1, first measurement time; *t*2, second measurement time.
[a]Female = 1, male = 2.
[b]OV, respective outcome variable at *t*1 (triggers and causes, solution strategies, total score).
*$p \leq .05$.
**$p \leq .01$.
***$p \leq .001$.

small. There is a general difficulty of conducting interventions in health care with large sample sizes (Fok, Henry, & Allen, 2015) which also becomes apparent in this study. Unlike other studies assessing cultural competency immediately after training interventions, we intended to evaluate the changes after a longer time period which impeded an assessment of the same nurses at *t*1 and *t*2, which, among other reasons, is influenced by large fluctuations of home care nurses in Germany (Neumann & Klewer, 2008). Also, long-term changes are considerably more difficult to assess than short-term changes and intervention effects are often prone to counterintuitive developments and temporal delays (Butler, Scott, & Edwards, 2003). Home care nursing shows specific conditions such as the above-mentioned particular constellations between nurses and patients or large fluctuations. This must be considered when interpreting the results and comparing them to research in other nursing areas (e.g. inpatient care). While we were able to

assess training participants' knowledge, we could not compare these developments to non-participants as the participating nursing services did not agree that non-participating nurses used their working hours to answer the extensive knowledge test. Since we could not find another study that investigated the above-mentioned relationships with a multi-method approach, we wanted to explore these dependencies to get a better understanding of the concept of cultural competency. The explorative results of the regression models could provide ideas for the 'direction' of future trainings suggesting that nurses' (cross-)cultural behaviour should be analysed before providing (cross-)cultural contents to adapt this specifically to the knowledge individual participants actually need to improve their (cross-)cultural communication behaviour. To conduct an in-depth analysis of dependencies, a different study type would have been needed and would have gone beyond the scope of this paper.

Since shift observations were only conducted opportunistically, results could not be matched with other data. Moreover, patient ratings on individual encounters in addition to shift observations would have been interesting to be able to compare how patients would have rated the situation themselves rather than only include ratings from an independent observer. However, this was not possible for pragmatic reasons—the duration to question patients regarding the encounter while nurses wait 'outside' was impossible to impose on the nurses and nursing services where each nursing activity is only allotted a few minutes at best. Therefore, we could not rate the same communication situations from different perspectives and only evaluated patients' general satisfaction with their nurses' communication. Nevertheless, our study is one of very few (Harmsen et al., 2005; Prescott-Clements et al., 2013; Schouten et al., 2005; Xu et al., 2010) in the context of cross-cultural competency that in fact uses observational data to substantiate training effects on the (probably most important) behaviourial level.

A final potential limitation is that the study sample might not be fully representative for the target population since a positive selection might have occurred. This is in accordance with the inverse prevention law (von dem Knesebeck, Bauer, Geyer, & Mielck, 2009) that states that people, in this case employees, who would benefit the most from such interventions often cannot be reached. Nevertheless, the changes can still be interpreted to a certain extent since this positive selection occurred at both times.

5 | CONCLUSIONS

As one of the first cross-cultural communication training interventions for home care nurses that simultaneously assessed cross-cultural attitudes, knowledge and behaviour and adapted its contents to actual needs, the results indicate promising tendencies in the desired direction. Our results also indicate that a mere conveying of theoretical knowledge might not be enough for nurses to understand their patients' cultures. In comparison to interventions that teach culture-specific knowledge, our results show that cultural competency is not only relevant for 'other' cultural groups but also for members of the 'own' cultural group who can demonstrate different understandings of values and beliefs. Therefore, although culture-specific facts are important to provide a solid knowledge base about different cultures, cross-cultural competencies that allow participants to understand how cultural thought patterns are formed and enable a perspective change to adapt their own behaviour in cross-cultural encounters should also be crucial parts of cultural interventions.

Future research should consider the challenging conditions in home care nursing like the above-mentioned large fluctuations of nurses that affect the success of training interventions and attach more importance to mechanisms of skill acquisition regarding the relation between (cross-)cultural attitudes, knowledge and behaviour.

ETHICS APPROVAL

This study was approved by the Ethics Committee of the Faculty of Medicine, Munich University (ID: 134-16, March 3, 2016).

CONFLICT OF INTEREST

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

AUTHOR CONTRIBUTIONS

TF, BH made substantial contributions to conception and design, or acquisition of data or analysis and interpretation of data; involved in drafting the manuscript or revising it critically for important intellectual content; given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content; agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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APPENDIX

TABLE A1 Contents of semi-standardized interviews about typical problem constellations in nurses' daily routines

Described situations: 199	Total number	%
Types of conflict		
Conflict: obvious conflict between nurse and opposite party with confrontation and addressing of the problem	50	25
Disagreements: subliminal conflict between nurse and opposite party without confrontation or addressing of the problem	20	10
Difficulties: only perceived by the nurse, no hint that opposite party also perceived situation to be problematic	114	57
Other mentions (e.g. positive examples of successful collaboration)	15	8
Persons involved in conflicts		
Patients: Situation mainly concerns nurses and patients	114	57
Relatives: Situation mainly concerns nurses and patients' relatives	41	21
Internal colleagues: Situation mainly concerns nurses and their colleagues or supervisors within their nursing services	19	10
External colleagues: Situation mainly concerns nurses and other professions (e.g. physicians)	10	5
Themselves: exclusively intrapsychic conflicts of nurses	2	1
Several: opposite parties cannot be clearly identified or narrowed down	13	7
Attribution		
Attributed to person/personality: Situation could not have happened to anyone, can be influenced, can be attributed to specific personality traits of involved persons, were not caused by specific nursing activity	160	80
Attributed to activity: Situation could have happened to anyone, cannot be influenced, cannot be attributed to specific personality traits of involved persons, were caused by specific actions	39	20
Basic topics		
Difference in perception	163	82
Professional assessment differs from patient's wishes	152	76
Habits and preferences	110	55
Communication habits	70	35
Attentiveness/empathy	40	20
Directness/straightforwardness	25	13
Respect	16	8
Tolerance	14	7
Sense of community within the nursing service	13	7
Emotional distress	12	6
Courtesies and favours	11	6
Misunderstandings	11	6
Conflict contents		
Self-determination and autonomy	85	43
Uncertainty/mistrust/fear of new things	58	29
Parsimony	32	16
Basic mood/behaviourial problems caused by disease or medical condition	29	15
Punctuality and sense of time	23	12
Understanding of hygiene and cleanliness	20	10
Self-esteem	15	8
Gender-specific care	14	7
Different views on closeness and distance	13	7
Mobility and lethargy	13	7
Xenophobia	7	4
Language barriers	7	4

TABLE A2 Patient-rated (cross-cultural) communication behaviour

Scale	Items	Range	*M* (*t*1)	Median (*t*1)	*SD* (*t*1)	*M* (*t*2)	Median (*t*2)	*SD* (*t*2)	*Z*	*p*
Satisfaction with information	6	1–5	3.94	4.13	0.86	3.95	4.17	0.86	−0.032	.974
Frequency of staff changes	1	1–5	2.82	3.00	1.08	2.32	2.00	1.22	−2.079	.038*
Satisfaction with attentiveness	1	1–5	4.72	5.00	0.64	4.88	5.00	0.42	−1.091	.275
Satisfaction with interactions	6	1–5	4.37	4.50	0.70	4.37	4.50	0.71	−0.200	.842
Unclear explanations	1	1–5	2.38	2.00	1.36	2.31	2.00	1.41	−0.318	.750
Impersonal treatment	1	1–5	1.45	1.00	1.02	1.48	1.00	1.01	−0.243	.808
Considerateness	2	1–5	4.52	5.00	0.75	4.52	5.00	0.59	−0.450	.653
Conflict potential	2	1–5	1.42	1.00	0.99	1.18	1.00	0.41	−0.534	.593
Satisfaction with general treatment	1	1–5	4.52	5.00	0.80	4.64	5.00	0.68	−0.767	.443
General satisfaction with nursing service	1	1–5	4.61	5.00	0.57	4.44	5.00	0.86	−0.425	.670

Note: Annotations: questionnaire developed based on a reliable and valid instrument for patient surveys (Büssing & Glaser, 2003); *Z*, *Z*-value (Mann-Whitney-*U* test); *t*1, pre-test; *t*2, posttest; *M*, mean; *SD*, standard deviation.
*$p \leq .05$.
**$p \leq .01$.
***$p \leq .001$.

TABLE A3 Longitudinal correlations and autocorrelations between self-rated cross-cultural attitudes, positive affect, knowledge and behaviour and objective cross-cultural knowledge between *t*1 and *t*2

		1 (*t*2)	2 (*t*2)	3 (*t*2)	4 (*t*2)	5 (*t*2)	6 (*t*2)	7 (*t*2)	8 (*t*2)	9 (*t*2)	10 (*t*2)
1	Age at *t*1	0.999***	−0.224	−0.060	−0.049	0.066	−0.075	−0.015	−0.038	0.168	−0.172
2	Sex at *t*1	−0.221	1.000	−0.053	−0.181	−0.103	−0.063	0.320	0.447*	0.430*	0.234
3	Cross-cultural attitudes at *t*1	0.087	−0.121	0.649***	0.422***	0.081	0.554***	0.242	0.316	0.355	0.274
4	Positive affect in cross-cultural encounters at *t*1	0.051	−0.265*	0.368**	0.743***	0.385**	0.465***	−0.242	−0.155	−0.098	0.013
5	Self-rated cross-cultural knowledge at *t*1	0.013	−0.096	0.451***	0.621***	0.751***	0.577***	−0.124	−0.005	−0.008	0.232
6	Self-reported cross-cultural behaviour at *t*1	−0.050	−0.053	0.529***	0.491***	0.197	0.617***	0.435*	0.350	0.249	0.465*
7	Knowledge about conflict triggers and causes at *t*1	−0.065	0.216	−0.045	0.072	0.247	−0.070	0.669***	0.614**	0.531**	0.728***
8	Knowledge about solution strategies at *t*1	−0.256	0.258	0.124	−0.059	0.376	0.075	0.444*	0.477*	0.340	0.645**
9	Systemic thinking at *t*1	0.042	−0.153	0.273	0.349	0.557**	0.219	0.254	0.217	0.155	0.249
10	Total score of case vignettes at *t*1	−0.100	0.084	0.186	0.159	0.427*	0.245	0.466*	0.516*	0.387	0.582*

Note: $N \leq 62$.
Pearson product-moment or Spearman's rank correlation coefficients (where applicable); *t*1, first measurement time; *t*2, second measurement time; autocorrelations in matrix diagonal.
*$p \leq .05$.
**$p \leq .01$.
***$p \leq .001$.

TABLE A4 Regression models of longitudinal associations between tested cross-cultural knowledge at *t*1 and self-rated cross-cultural attitudes, emotions, knowledge and behaviour at *t*2

	Self-reported cross-cultural attitudes at *t*2					Positive affect in cross-cultural encounters at *t*2				
	R^2	ΔR^2	β	95% CI		R^2	ΔR^2	β	95% CI	
Step 1	.027	.027				.025	.025			
Age			−0.080	−0.406	0.292			0.015	−0.353	0.376
Sex[a]			0.136	−0.240	0.423			−0.156	−0.456	0.236
Step 2	.278	.251*				.482**	.457***			
OV *t*1[b]			0.502*	0.052	0.735			0.690***	0.264	0.896
Step 3	No variables included					No variables included				
Triggers and causes *t*1			[0.041]					[0.017]		
Solution strategies *t*1			[0.011]					[−0.166]		
Systemic thinking *t*1			[0.239]					[0.221]		
Total score of case vignettes *t*1			[0.143]					[0.038]		
	Self-rated cross-cultural knowledge at *t*2					**Self-reported cross-cultural behaviour at *t*2**				
	R^2	ΔR^2	β	95% CI		R^2	ΔR^2	β	95% CI	
Step 1	.011	.011				.150	.150			
Age			−0.102	−0.531	0.349			−0.380	−0.540	0.050
Sex[a]			−0.035	−0.448	0.388			0.053	−0.248	0.312
Step 2	.460*	.449**				.309	.158			
OV *t*1[b]			0.700**	0.493	1.752			0.443	−0.027	0.800
Step 3	No variables included					No variables included				
Triggers and causes *t*1			[0.217]					[−0.151]		
Solution strategies *t*1			[0.163]					[−0.181]		
Systemic thinking *t*1			[0.255]					[0.396]		
Total score of case vignettes *t*1			[0.250]					[0.084]		

Note: $N \leq 26$.

n.i., not included in the stepwise regression model; ΔR^2, *R* square change; β, standardized coefficient (*z*-standardized variables); *t*1, first measurement time; *t*2, second measurement time.

[a]Female = 1, male = 2.

[b]OV, respective outcome variable at *t*1 (self-reported cross-cultural attitudes, self-reported positive affect in cross-cultural encounters, self-rated cross-cultural knowledge, self-reported cross-cultural behaviour).

*$p \leq .05$.

**$p \leq .01$.

***$p \leq .001$.

Conclusions and outlook

In general, the results of both included publications show that a training intervention to improve cross-cultural competencies of home care nurses and to enable them to change their perspective can be effective. Furthermore, the results also showed that several crucial aspects should be considered in the area of imparting cross-cultural competencies in general:

First, it is important to assess both subjective and objective data to evaluate the success of an intervention. Subjective assessments are important to rate whether – and to which extent – participants are affected by these trainings, considering how they perceive their competencies to have changed after the interventions. Objective assessments, on the other hand, are important to evaluate whether interventions have an impact on the participants' actual behaviour, i.e. whether changes can be observed by objective raters as well. Results of objective assessments such as observations made by independent raters can deviate from those of subjective assessments such as self-ratings (Bommer et al., 1995; Hoffman et al., 1991). Apart from that, it became obvious that more objective assessments should be included in studies to evaluate the whole range of outcome variables that are targeted by cross-cultural competency interventions – not only those that are subjectively assessed. The knowledge test that was developed in the above-mentioned study can be seen as a positive example how changes in cross-cultural knowledge can be assessed objectively when participants have to adapt their knowledge in case vignettes. Objective data on the care providers' behaviour in cross-cultural encounters, the perceived quality of care and their attentiveness towards the needs of care recipients as rated by care recipients themselves are important to achieve a "holistic" assessment of the effectiveness of such interventions.

Second, using multiple methods is vital for evaluating cross-cultural competency interventions. Being one of the first projects in Germany to improve health professionals' cross-cultural sensitivity and their skills to change perspective using a multi-method

approach, the results of this study show tendencies that most outcome variables developed in the desired direction by showing higher values after the training (or lower values for negative scales respectively).

Conclusions of the publications included in this thesis also show that the research area of (cross-)cultural competency interventions is very extensive and the number of significant findings in the majority of the respective studies might lead to the assumption that cultural competency is one unidimensional construct. An in-depth examination shows, however, that there are in fact various components of which (cross-)cultural competency consists of such as (cross-)cultural attitudes, knowledge and behaviour. Future studies should focus on examining how to measure specific components of cross-cultural competency on different evaluation levels effectively.

Apart from that, the study delivered important insights into the conduction of behavioural and structural prevention interventions in home care nursing by providing information on the situation of home care nursing in general. The study also gave details on the feasibility of studies in this area of nursing. In order to guarantee the success of interventions, it is crucial to consider the circumstances in home care nursing. Typical examples are the limited availability of nurses – especially part-time employees – as well as high fluctuation of nurses during the course of the project or a rather low response rate in general. Another difficulty that frequently occurred were spontaneous cancellations on the part of the participants. Only 88 of 133 initially registered participants were actually present in the trainings, thereof only 50% (n=44) participated in all three sessions of the training. Reasons for absence or cancellations were predominantly illness or spontaneous changes in the nurses' work schedules (see Herbig & Filmer, 2018). All these difficulties were most probably not specific to the project but rather show the situation in home care nursing in general, since they had

occurred in all ten nursing services to a various extent. This has to be considered when planning an intervention in home care nursing.

Even though research in nursing mainly focuses on inpatient care, home care nursing ought not to be ignored. Several studies showed that, for instance, health risks in home care nursing may be similar to those in inpatient care but are not identical (e.g. Simon et al., 2005). Since home care nursing has been predicted to grow proportionally in the future (e.g. Isfort et al., 2016; Prognos AG, 2012; Statistisches Bundesamt, 2018), research in this nursing area will grow in importance as well.

To guarantee a high quality in German home care nursing, many factors ought to be considered. Although there have been significant developments in recent years to raise quality and to assess this systematically, there is still a lack of data on whether the quality could in fact be improved in all areas of home care nursing. Additionally, there might be a rather one-sided focus in the scope of existing quality assessment instruments since they address several essential aspects such as the professional performance of nursing activities but then again neglect other important areas such as the attention to the patients' communicative and cultural needs.

Overall, the results of this thesis show that communication skills and the ability to understand patients' cultural values, perspectives and needs are key factors for ensuring a high quality of nursing care. Since the percentage of home care nursing will increase in the future, it is crucial to guarantee high quality in all areas of the nursing process. It has been made evident that not only the correct professional execution of nursing activities but also a focus on communication with patients and relatives as well as attention to their needs increases quality extensively. Even though home care nurses often successfully adapt to the situation and "make the best of it" in their practical work, it would be more beneficial to systematically educate nurses in cross-cultural knowledge and communication skills which can be applied to

their daily encounters. Thus, conflicts and misunderstandings can be limited or even avoided – not only with "foreign" cultures but with all patients regardless of their cultural background. Ultimately, this might help to make the profession of being a home care nurse more attractive, to limit fluctuations and – on a large scale – to generally reduce the shortage in nursing as well.

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