



## Educational interventions designed to develop nurses' cultural competence: A systematic review



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### ABSTRACT

**Background:** Due to a steady rise in cultural and linguistic diversity in healthcare settings and evident challenges associated with this diversity, there is an urgent need to address cultural competency of nurses. Ongoing, continuing professional development is needed to ensure nurses can provide culturally congruent nursing care.

**Objectives:** The aim of this systematic review was to identify current best evidence on the types of educational interventions that have been developed to improve nurses' self-assessed cultural competence and on the effectiveness of these interventions.

**Design:** A systematic literature review.

**Data sources:** Four electronic databases (PubMed, CINAHL, Medline, Eric) were searched for studies using a quasi-experimental design or randomised controlled trial published between January 2000 and June 2018.

**Review methods:** Guidelines from the Centre for Review and Dissemination and the Joanna Briggs Institute guided the review. Two researchers independently assessed the eligibility of the studies by title, abstract and full-text and the methodological quality of the studies. Data tabulation and narrative analysis of study findings was performed.

**Results:** Six studies met criteria for inclusion in the review. Studies used a quasi-experimental study design (n = 5) and a randomised controlled trial (n = 1). The participants (n = 334) were mainly nurses and interventions were conducted in various healthcare settings. Cultural competence education was offered through traditional contact teaching (n = 5) or web-based modules (n = 1) and ranged from one to 17 hours in length. Learning was enhanced through lectures, group discussions, case studies, reflective exercises and simulations. In two studies, following cultural competence interventions, participants in the intervention group had statistically significantly increased levels of competence in culture-related outcomes when compared to the control group. The four remaining studies did not include control group comparisons. Effect sizes (Cohen's d) of the studies varied from small (d = 0.22) to very large (d = 1.47).

**Conclusions:** There continues to be a need for high quality studies investigating educational interventions to develop nurses' cultural competence. Further research should focus on reporting specific components of interventions that result in an increase in cultural competence.

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### What is already known about the topic?

- The importance of continuous education and training of health professionals in providing culturally congruent care has been widely recognised.
- Previous systematic reviews of educational interventions to improve cultural competence often focus on a multidisciplinary team of health professionals or on students studying in health-related fields.
- Conclusions regarding the effectiveness of cultural competence education are limited by lack of methodological rigour amongst studies.

### What this paper adds

- This current review of interventions to improve nurses' cultural competence indicates that following participation in interventions, nurses assessed their cultural competence at higher levels and were satisfied with the quality of education.
- Theoretical models were used to inform the design of the educational interventions
- Educational content of the interventions focused on exploration of own's own culture, the importance of cultural competence on the quality of nursing care, and promoting an understanding of concepts related to culture.
- The educational interventions were characterised by heterogeneity which was manifested in the variability in study designs, study populations, contexts in which the interventions were implemented, and presence of a comparison group.

## 1. Introduction

As a result of international migration and the process of globalisation, healthcare systems face challenges in delivering equitable healthcare within increasingly diverse and multicultural societies (Bhopal, 2014). Finding ways to promote and embrace diversity is a common challenge for healthcare organisations. Improving health professionals' cultural competence has been identified as central in reducing health disparities and improving the provision of healthcare to culturally and linguistically diverse groups (Betancourt et al., 2014; Truong et al., 2014; Jongen et al., 2018). Policies, strategies and action are needed in order to overcome language and cultural barriers, and for the improvement of cultural competence and quality of care at system, organisation and individual levels (Bhopal, 2014). Systems-level approaches include engagement and collaboration with the affected population groups, organisational readiness and commitment for the implementation of cultural competence strategies, and implementation of cultural competence across multiple settings (McCalman et al., 2017). The National Standards on Culturally and Linguistically Appropriate Services issued by the U.S. Department of Health and Human Services' Office of Minority Health (Office of Minority Health (OMH, 2013) provides guidance to healthcare organisations on implementing and sustaining culturally and linguistically appropriate services, through which people from various cultural backgrounds are able attain their highest level of health. These standards (Office of Minority Health (OMH, 2013) and contemporary authors (Jongen et al., 2018) highlight the need for continuous training of health professionals in culturally and linguistically appropriate practices.

Globalisation, which is characterised by transnational integration and expansion of political, economic, and socio-cultural values, has great impact on nursing and nursing education (Ergin and Akin, 2017). Nurses collectively form the largest component of

the health workforce (World Health Organization, 2015) and they play an important role in the realisation of culturally and linguistically appropriate health services through providing individualized, holistic care to clients while supporting their cultural and linguistic needs (Maier-Lorentz, 2008). Educational preparation of nurses to provide culturally congruent care is needed, and nurses should be offered formal education and clinical training, as well as ongoing, continuing education (Douglas et al., 2014). Cultural competence is essential to ensuring safe and high-quality nursing care (Cai, 2016).

There is a lack of conceptual clarity of the concept of cultural competence, which may inhibit implementation of cultural competence into the delivery of nursing care (Engebretson et al., 2008; Cai, 2016). Concepts such as cross-cultural competence, cultural safety, transcultural nursing and cultural competence are often used interchangeably, however, it is important that the differences between these concepts be recognized (Cai, 2016). In addition, there continues to be a lack of consensus over the meaning of 'culture' and 'competence'. According to Leininger (1991), culture refers to the learned, shared and transmitted values, beliefs, norms and lifeways of a particular group that guides their thinking, decisions, and actions in patterned ways. Blanchet Garneau and Pepin (2015b) differentiate between an essentialist and constructivist perspective of culture. An essentialist perspective views culture as static and unchanging and is focused on a set of defined values, beliefs and traditions of a specific cultural group, whereas a constructivist perspective views culture as a dynamic process and the product of social constructions (Blanchet Garneau and Pepin, 2015b).

The essentialist view, which is dominant in nursing literature, is often described using concepts such as race, ethnicity, national origin or religion and has the potential to lead to the attribution of particular characteristics to all those identified within a specific cultural group (Gray and Thomas, 2006). The constructivist view respects differences and uniqueness amongst individuals, families and communities, meaning it is also more consistent with nursing's philosophical underpinnings (Gray and Thomas, 2006).

Although there is agreement that the concept of competence contains knowledge, performance, skills, values and other components, there is still a need for agreement about the nature of these other components and for conceptualization of a holistic definition of competence (Cowan et al., 2007; Fernandez et al., 2012; Caruso et al., 2016). Several researchers have attempted to define cultural competence and to develop theoretical models regarding cultural competence in nursing (Leininger, 1991; 2006; Andrews and Boyle, 2002; Campinha-Bacote, 2002b; Giger and Davidhizar, 2002; Purnell, 2002; Blanchet Garneau and Pepin, 2015a). Campinha-Bacote (2002b) defines it as "the ongoing process in which the healthcare provider continuously strives to achieve the ability to effectively work within the cultural context of a client (individual, family, community)" (p. 181). Through a constructivist perspective, Blanchet Garneau and Pepin (2015b) define cultural competence as a "complex know-act grounded in critical reflection and action, which the health professional draws upon to provide culturally safe, congruent, and effective care in partnership with individuals, families, and communities living health experiences, and which takes into account the social and political dimensions of care" (p. 12). Engebretson et al. (2008) make a link between the concepts of cultural competence and evidence-based practice. In both concepts, peoples' values and preferences are considered essential to providing equitable, high-quality care that meets the needs of the individual.

Systematic reviews have been conducted to assess the effects of cultural competence training on the competence of health professionals (Beach et al., 2004; Chipps et al., 2008; Horvat et al., 2014; Truong et al., 2014) and on nurses and nursing students

specifically (Gallagher and Polanin, 2015). The effectiveness of cultural competence training on improving patient satisfaction of minority groups has been evaluated in a systematic review by Govere and Govere (2016). In this review, the majority of the included studies demonstrated that training was significantly associated with increased patient satisfaction, however there is a need for more rigorous study designs and use of standardized assessment tools to attribute training to patient satisfaction. Over a decade ago, Beach et al. (2004) emphasised the need for more randomised controlled trials and advocated for research on cultural competence that contains curricular objectives that are linked to outcomes that can be measured through standardised, valid instruments. A systematic review of systematic reviews by Truong et al. (2014) found that there is evidence that cultural competence interventions can improve patient health outcomes, but conclusions regarding effectiveness are limited by lack of methodological rigour amongst studies and due to few studies measuring outcomes with validated instruments. In a systematic scoping review on health workforce cultural competency interventions by Jongen et al. (2018), only four out of 64 studies used validated measurement tools.

Authors have indicated that generalizable conclusions about the effectiveness of interventions are difficult due to the heterogeneity of interventions in regard to educational content, scope, design, duration, implementation and outcome measures (Horvat et al., 2014). Educational interventions are complex interventions that require special attention to the specific components of the intervention that are possibly related to the potential outcomes (Richards, 2015). Curricular interventions should be described in detail in order to facilitate replication in different settings (Beach et al., 2004). Future research should focus on the assessment of both behavioural outcomes of health professionals and the impact on healthcare and health outcomes (Jongen et al., 2018), or on outcomes such as patient satisfaction (Govere and Govere, 2016).

The objective of this systematic review was to address the current gap in knowledge on the specific components of educational interventions which contribute to increasing nurses' self-assessment of their cultural competence. The aim of this systematic review was to identify current best evidence on the types of educational interventions that have been developed to improve nurses' self-assessed cultural competence and on the effectiveness of these interventions. The questions that guided the review were: (1) What types of educational interventions have been designed to develop nurses' self-assessed cultural competence?; and (2) What are the effects of these educational interventions on nurses' self-assessed cultural competence?

## 2. Methods

A systematic review was conducted to provide a comprehensive, unbiased synthesis of relevant studies (Aromataris and

Pearson, 2014) regarding educational interventions designed to develop nurses' cultural competence. Guidelines published by the Centre for Review and Dissemination (Centre for Reviews and Dissemination (CRD, 2009) and the Joanna Briggs Institute (JBI) (Tufanaru et al., 2017) guided the review. An evaluation of the systematic review was performed using the AMSTAR 2 measurement tool (Shea et al., 2017) and the PRISMA checklist of items to include when reporting a systematic review (Moher et al., 2009).

### 2.1. Search strategy

The electronic databases PubMed, CINAHL, Medic, and Eric (ProQuest) were searched in February 2018 and updated in June 2018 in order to identify relevant studies. The PICOS (P = population, I = intervention, C = comparators, O = outcomes, S = study type) format was used during the formulation of the research questions (Table 1; Centre for Reviews and Dissemination (CRD, 2009). The boundaries of the review question were clearly defined through development of inclusion and exclusion criteria using the PICOS format (Centre for Reviews and Dissemination (CRD, 2009). Studies were considered for inclusion for review, if the following criteria were met: (1. Population) at least 50% of the total participants are registered nurses (2. Intervention) intervention has an educational component; (3. Comparison) compares the intervention to standard practice or an alternative intervention, or conducts a pre-post comparison; (4. Outcomes) outcomes relate to nurses' self-assessed cultural competence; and (5. Study type) peer-reviewed randomised controlled trial (RCT) or quasi-experimental study.

The search strategies for each database were enhanced after consultation with an information skills specialist. The search was performed with four groups of keywords aligned to the PICOS inclusion criteria and combined with Boolean operators AND, OR and NOT (see Supplementary File 1). The search strategy was established as: (nurs\* OR "caring science" NOT student\*) AND (cultur\*) AND (train\* OR educ\* OR instruct\* OR learn\* OR teach\*) AND (competen\* OR knowledge OR skill\* OR attribute\* OR attitude\* OR expert\* OR "know-how" OR capability OR qualific\* OR understand\*) AND (intervention NOT qualitative). Each search was limited to peer-reviewed, experimental studies published in either English or Finnish language during the year 2000–2018. The time limit was set because after the year 2000 there has been a rapid increase in nursing research and in the development of theoretical models regarding cultural competence.

### 2.2. Study selection

There were 695 publications retrieved from the database searches (Fig. 1). Duplicate publications (n = 20) were removed, leaving a total of 675 records. Two researchers (AO and KM) independently screened and assessed the title (n = 675), abstract (n = 47) and full text (n = 17) of each publication against the

**Table 1**  
Inclusion and exclusion criteria using PICOS format.

Criteria	Inclusion	Exclusion
Population	Studies comprised of at least 50% registered nurses	Studies comprised of students or over 50% are health professionals other than nurses
Interventions	Educational interventions	Non-educational interventions
Comparators	Standard practice, alternative intervention, no comparator	
Outcomes	Nurses' self-assessed cultural competence	Not relevant to cultural competence
Study design and publication type	Randomized controlled trials, Quasi-experimental studies, Peer-reviewed original studies	Outcome measured by an individual other than the nurses themselves
Publication years	Post 2000	Systematic/literature reviews, Qualitative research, Observational, Non-experimental studies, Non peer-reviewed studies
Language	English, Finnish	Pre 2000
		Language other than English or Finnish

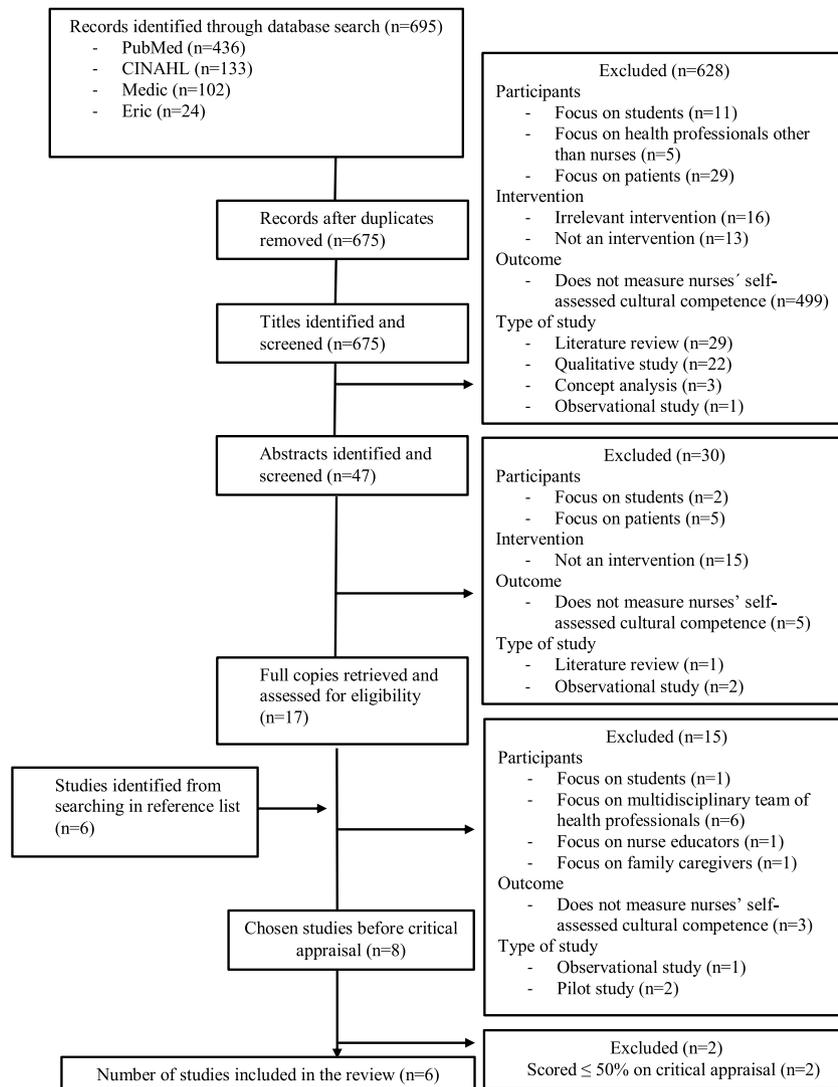


Fig. 1. Study selection and exclusion process (Centre for Reviews and Dissemination (CRD, 2009).

inclusion criteria (Table 1; Centre for Reviews and Dissemination (CRD, 2009; Tufanaru et al., 2017). Following discussion, agreement was reached on the selection of eligible studies. An additional six studies were identified from searching the reference lists of all articles included in the full-text review phase. A total of 23 full-text articles were eligible for full text review. During the screening process, common reasons for exclusion included irrelevant study type, nurses' self-assessed cultural competence was not measured, or a study population comprised of students, nurse educators, family caregivers or mainly health professionals other than nurses. A total of eight studies met the inclusion criteria and were eligible for quality assessment.

### 2.3. Assessment of study quality and risk of bias

The JBI Critical Appraisal Checklist for RCTs and Critical Appraisal Checklist for Quasi-Experimental Studies (Tufanaru et al., 2017, see Supplementary File 2) were used to assess the methodological quality of each study ( $n = 8$ ). The checklist for RCTs contained 13 assessment criteria and the checklist for quasi-experimental studies contained nine assessment criteria. Each criterion was given a rating of 'yes', 'no', 'unclear' or 'not

applicable', and every criterion rated 'yes' was given one point. Following this, a total score was calculated for each study. Critical appraisal of the eligible studies was performed independently by two researchers (AO and KM). All disagreements in regard to the methodological quality of the studies were discussed and agreed upon (Tufanaru et al., 2017). Studies were included into the review if a score of at least 50% was given on the critical appraisal, which was the predetermined cut-off point agreed by both researchers. Low quality studies (Halm and Wilgus, 2013; Debiassi and Selleck, 2017) were excluded in order to avoid compromising the validity of the results and recommendations of the review (Popay et al., 2006; Poritt et al., 2014). Six studies were given a score higher than 50% and were included in data synthesis. An assessment of the risk of bias of these six studies was conducted at the study level by two researchers (AO and KM) independently using the Cochrane Risk of Bias Tool (Table 2; Higgins et al., 2011).

### 2.4. Data extraction and analysis

Data relevant to the review question were extracted (Munn et al., 2014) including: author, year, country, setting, research aim, theoretical framework, conceptualisation or definition of cultural

**Table 2**  
Assessment of the risk of bias using the Cochrane Risk of Bias Tool (Higgins et al., 2011).

Studies	Sequence generation	Allocation concealment	Blinding of participants & personnel	Blinding of outcome assessment	Incomplete outcome data	Selective outcome reporting	Other bias
Berlin et al. (2010)	Low	Low	Unclear	Unclear	Low	Low	Low
Bhat et al. (2015)	High	High	Unclear	Unclear	Low	High	High
Cooper Brathwaite (2005)	High	High	Unclear	Unclear	Low	High	Low
Cooper Brathwaite (2005)	High	High	Unclear	Unclear	Unclear	High	Low
Delgado et al. (2013)	High	High	High	Unclear	High	Low	High
Smith (2001)	Low	Low	Unclear	Unclear	Low	Low	High

Each domain assigned a judgement of low risk of bias, high risk of bias, or unclear risk of bias.

competence, educational content and pedagogical approach, study design, sampling method, sample size, description of participants, measurement instruments, reliability and validity, outcomes related to cultural competence, analysis and statistical techniques, and an analysis of the results. A narrative approach was used to synthesise the data in this systematic review to acquire a better understanding of the complexity of the interventions, and various relationships and interdependences within the interventions (Centre for Reviews and Dissemination (CRD, 2009; Köpke et al., 2015). The primary goal of narrative analysis is to aggregate evidence on the effectiveness of the interventions and develop a coherent textual narrative on commonalities and differences between studies (Petticrew et al., 2013). Economic and Social Research Council (ESRC) guidance on the conduct and reporting of narrative analysis was used in order to enhance transparency and reduce bias in the synthesis (Popay et al., 2006).

Conducting a meta-analysis of effect estimates was not an appropriate method of quantitative synthesis due to high levels of heterogeneity amongst the included studies. The sources of heterogeneity and potential reasons for the variation were examined through development of a matrix to tabulate the different components of the interventions to help identify similarities and differences between interventions (Pigott and Shepperd, 2013). Studies were found to be too diverse to be comparable because of variability in research designs and methods, the use of different measurement instruments, and due to the absence of control groups in most of the included studies ( $n = 4$ ). The duration of the interventions and length of follow up periods varied considerably amongst the studies.

Two researchers (AO and KM) calculated the effect sizes for each of the included studies and consulted a statistician (JM) for assistance in the interpretation of the results. Cohen's  $d$  measurement was used to measure the effect sizes of the interventions. Standard interpretation of the effect sizes was used with values of the effect sizes considered as small ( $d = 0.2$ ), medium ( $d = 0.5$ ), large ( $d = 0.8$ ) (Cohen, 1992; Lakens, 2013), and as very large ( $d = 1.20$ ) (Rosenthal, 1996). Effect sizes for the studies containing comparison groups were calculated as the difference in means ( $M$ ) between treatment and comparison groups, divided by the pooled standard deviation ( $SD$ ) of the two means (Morris, 2008). Pre-post test effect sizes, which indicate the difference between the outcome score before and after the intervention within one group, were calculated for studies that lacked comparison groups. It was not possible to calculate effect sizes for the studies that failed to report statistical measures for pre-post effect size measurement such as standard deviations. The authors of these studies were contacted through email for additional information on the standard deviations of the outcome scores (Cooper Brathwaite, 2005; Bhat et al., 2015), but no response was received. The

principal author in the study by Berlin et al. (2010) was contacted and responded with additional information on the implementation of the intervention.

Effect sizes were not pooled and displayed in a forest plot to represent an overall meta-analysed measure of effect because the majority of studies lacked comparison groups. There is a high risk of biased outcomes when pre-post effect sizes are pooled because pre- and postintervention scores within a single group are not independent of each other and the effect size is influenced by natural processes and characteristics of the study participants and settings (Eccles et al., 2003; Cuijpers et al., 2017).

### 3. Results

#### 3.1. Study quality

Out of the six studies ultimately included in this review, one used a randomised controlled trial (Berlin et al., 2010) and five used a quasi-experimental study design (Smith, 2001; Cooper Brathwaite, 2005; Cooper Brathwaite and Majumdar, 2006; Delgado et al., 2013; Bhat et al., 2015). The RCT by Berlin et al. (2010) was given a total quality score of 10 points out of 13 on the JBI Critical Appraisal Checklist for RCTs. The quasi-experimental studies included in the review were given a total quality score ranging from seven to nine points out of a total of nine points on the JBI Critical Appraisal Checklist for Quasi-Experimental Studies (see Supplementary File 2).

Four out of six studies were assessed to be high risk of selection bias due to lack of a randomised selection procedure and inadequate concealment of allocations prior to assignment (Cooper Brathwaite, 2005; Cooper Brathwaite and Majumdar, 2006; Delgado et al., 2013; Bhat et al., 2015; Table 2). All of the included studies were at high risk for performance and detection bias because it was not specified whether the participants, personnel or outcome assessors were blind to group allocation. Four out of six studies were at low risk for attrition bias with participant attrition rates ranging from 0 to 11% (Smith, 2001; Cooper Brathwaite, 2005; Berlin et al., 2010; Bhat et al., 2015). One study was assessed to be high risk of attrition bias with attrition rates at approximately 25% (Delgado et al., 2013).

In all of the studies, the statistical procedures used for data analysis and significance testing were reported. Three studies were assessed to be of low risk for bias with selective outcome reporting because a comprehensive presentation of all outcomes was provided including statistically significant and non-significant differences (Smith, 2001; Berlin et al., 2010; Delgado et al., 2013). The three studies assessed to be of high risk provided limited details on, for example, outcomes of individual items of the instruments used (Cooper Brathwaite, 2005; Cooper Brathwaite

and Majumdar, 2006; Bhat et al., 2015). Study protocols were not available for any of the studies hindering a comparison of outcomes in the protocol and published reports.

Other potential sources of bias related to sample size, administration of the intervention, and reliability of the instrument. Sample size calculations were reported in only one study included in this review (Smith, 2001). All of the included studies reported using instruments with previously demonstrated reliability and validity. Measurements of the internal consistency of the instruments were not reported by authors in two studies (Delgado et al., 2013; Bhat et al., 2015).

### 3.2. Study characteristics

The studies included in this review were conducted in Canada (Cooper Brathwaite, 2005; Cooper Brathwaite and Majumdar, 2006), Sweden (Berlin et al., 2010), and the United States (Smith, 2001; Delgado et al., 2013; Bhat et al., 2015). Interventions were conducted in primary child health centres (Berlin et al., 2010), a palliative care unit (Bhat et al., 2015), a public health department (Cooper Brathwaite, 2005; Cooper Brathwaite and Majumdar, 2006), an entire department of nursing at a hospital (Delgado et al., 2013), and an urban multi-facility healthcare environment (Smith, 2001). The purpose of the studies was to determine if nurses who participated in the educational intervention improved in self-assessed levels of cultural competence (Smith, 2001; Cooper Brathwaite, 2005; Berlin et al., 2010; Delgado et al., 2013), cultural awareness and cultural sensitivity (Bhat et al., 2015), or in cultural knowledge (Cooper Brathwaite and Majumdar, 2006). Two studies reported different results from the same educational intervention: Cooper Brathwaite (2005) reported outcomes related to nurses' level of cultural competence and Cooper Brathwaite and Majumdar (2006) reported outcomes related to nurses' level of cultural knowledge.

### 3.3. Characteristics of study participants

The participants were solely nurses in five of the included studies (Table 3). In one study, cultural competence education was offered to nursing staff including nurses, patient care assistants and unit secretaries; with the majority of the participants (over 50% of the total participants) being nurses (Delgado et al., 2013). There was variability in the total number of participants in each of the included studies ranging from 15 to 98 participants (total  $n = 334$ ). Participants were aged between 41 and 50 years in most of the included studies, however, participants were younger in the study by Delgado et al. (2013) with approximately half of the participants aged between 20 and 30 years. Participants were mainly female (95%) and over half had completed a bachelor's level degree (55%). The majority of participants (63%) in three studies had not previously participated in further professional cultural education. Eighty-five percent of participants in Berlin et al. (2010) reported previously receiving not at all or a little further professional cultural education and 77% reported receiving not at all or a little of cultural education during nurse education. In the study by Smith (2001), half of participants (53%) reported receiving cultural education during nurse education.

### 3.4. Cultural competence education

Theoretical models, such as Campinha-Bacote's model of cultural competence, were used to inform the design of the interventions (Cooper Brathwaite, 2005; Cooper Brathwaite and Majumdar, 2006; Berlin et al., 2010). This model defines cultural competence as an ongoing process involving the integration of cultural awareness,

cultural knowledge, cultural skill, cultural encounters, and cultural desire (Campinha-Bacote, 2002b). Cooper Brathwaite (2005) used the theory of cross-cultural communication to guide the intervention in addition to Campinha-Bacote's cultural competence model. The theoretical framework in the study by Bhat et al. (2015) was provided by Leininger's theory of culture care diversity and universality (Bhat et al., 2015), a nursing theory focusing on culture and care relationships (Leininger, 2006). In addition, Bhat et al. (2015) used Kurt Lewin's unfreezing-change-refreeze model to enact change in nurses' cultural competence. The Giger and Davidhizar transcultural assessment model and theory, a framework for culturally competent care and comprehensive client assessments, was used as the foundation in the study by Smith (2001). This model places emphasis on client assessments which take into account six cultural phenomena: communication, space, social organisation, time, environmental control, and biological variations (Giger and Davidhizar, 2002). The theoretical background in the study by Delgado et al. (2013) remained unclear.

The educational content of the cultural competence interventions is summarised in Table 4. A key focus in the interventions was on promoting an understanding of concepts such as culture, cultural competence, cultural diversity, and ethnocentrism. During cultural competence education, nurses explored their own culture, cultural heritage, professional background, bias, and prejudice. The importance and impact of cultural competence on the quality of care was emphasised in the studies by Cooper Brathwaite (2005); Cooper Brathwaite and Majumdar (2006) and Delgado et al. (2013). The content of the interventions promoted knowledge of different cultures and ethnic groups (Berlin et al., 2010; Cooper Brathwaite, 2005; Cooper Brathwaite and Majumdar, 2006), cultural traditions of the client population (Bhat et al., 2015), biological variations in cultures, and of the principles of adaptation to a new culture (Cooper Brathwaite, 2005; Cooper Brathwaite and Majumdar, 2006). The content promoted awareness of health disparities and differences in illness and diseases (Berlin et al., 2010; Delgado et al., 2013) and cultural influence on health and health-seeking behaviours (Cooper Brathwaite, 2005; Cooper Brathwaite and Majumdar, 2006; Berlin et al., 2010). Performance of a cultural assessment of a client ( $n = 5$ ) and development of a culturally congruent plan of care ( $n = 4$ ) was covered in the majority of the studies. Berlin et al. (2010); Cooper Brathwaite (2005), and Cooper Brathwaite and Majumdar (2006) included educational content to promote culture desire and effective cultural encounters. Content focused on solving culturally difficult scenarios and overcoming communication barriers and differences in verbal and nonverbal communication.

Commonly used teaching methods included lectures, group discussions, case studies, reflective exercises, and simulations with return demonstrations and a debriefing period. Cultural simulation was carried out, for example, by placing the participant into a different culture for a brief period of time (Delgado et al., 2013). Games and stories were also used as teaching methods (Cooper Brathwaite, 2005; Cooper Brathwaite and Majumdar, 2006). Case studies were used to assist participants in managing culturally difficult scenarios (Berlin et al., 2010). Participants in the study by Cooper Brathwaite (2005) performed a self-assessment of their awareness of their own culture through open-ended questions that were based on the six domains of culture from Purnell's model of cultural competence. A participatory learning approach was used in the study by Berlin et al. (2010) focusing on facilitation of the link between theory to practice. The final training session was held after four weeks of clinical practice and participants in the intervention group were instructed to bring two cases that they had encountered during clinical practice that had caused concern.

The total length of cultural competence education ranged from a one-hour session (Delgado et al., 2013) to a total of 17 h (Berlin

**Table 3**  
Summary of the included studies (n = 6).

Author, year, country of origin	Participants, setting	Type of intervention, intervention length	Theoretical background	Teaching methods	Instruments, follow up	Measurement	Pre test Mean (SD)	Post test Mean (SD)	P-value for diff. in pre-post test	P-value for diff. between groups	Quality assessment
Berlin et al. (2010), Sweden	Nurses working in primary child health care centres Total: 51 IG: 24 CG: 27	Randomised controlled trial Length: 3 days of education, last day held after 1 month (17 h total)	Camphina-Bacote's cultural competence model	Case studies Discussion Lecture Reflection	Clinical Cultural Competency Training Questionnaire-pre and Clinical Cultural Competency Training Evaluation Questionnaire-post, 1-5 Likert scale, 46 items  Questions on experiences of difficulties and concerns, 1-4 Likert scale, 14 items  Data collected at baseline (T0); 4 weeks post intervention (T1)  Threshold significance set at 0.05	Cultural awareness	Time 0 IG 4.10 (0.82) CG 3.83 (0.87)	Time 1 IG 4.04 (0.82) CG 3.90 (0.87)	-	p=0.70	10/13**
						Cultural knowledge	IG 2.63 (0.88) CG 2.70 (0.94)	IG 3.13 (0.88) CG 2.77 (0.99)	-	p=0.20	
						Cultural skills	IG 2.93 (0.87) CG 3.53 (0.92)	IG 3.50 (0.87) CG 3.30 (0.96)	-	p=0.03	
						Cultural encounters	IG 3.40 (0.84) CG 3.72 (0.82)	IG 3.76 (0.84) CG 3.57 (0.85)	-	p=0.10	
						Experiences with difficulties and concerns	IG 2.51 (0.53) CG 2.27 (0.56)	IG 2.44 (0.53) CG 2.32 (0.59)	-	p=0.60	
Bhat et al. (2015), USA	Nurses working in combined palliative care and hospice unit Total: 15 IG: 15 CG: none	Quasi-experimental study Length: 3 weeks given to complete 3 modules (approx. 20min/module)	Leininger's Culture Care Theory  Lewin's three-stage theory of change	Web-based modules  Data collected at baseline (T0); 9 weeks following the intervention (T1)  Threshold significance set at 0.05	Cultural Competence Assessment, 1-7 Likert scale, 25 items	Time 0 IG 5.81	Time 1 IG 6.81	p=0.05	-	7/9*	
					Cultural awareness and sensitivity	IG 4.42	IG 5.07	p<0.01	-		
					Cultural competence behaviour	IG 4.42	IG 5.07	p<0.01	-		
Cooper Brathwaite (2005), Canada	Nurses working in public health nursing at a public health department Total: 76 IG: 76 CG: none	Quasi-experimental study Length: 5 group sessions during 5 weeks (10 h total), 1 booster session after 1 month following the course	Camphina-Bacote's cultural competence model  Pumell's model of cultural competence  Theory of cross-cultural communication	Discussion Feedback Games Human stories Lecture Reflection Role-play Self-assessment Simulation  Data collected at baseline (T0) and 2 months later (T1); and at 1 week (T2) and 3 months post intervention (T3)  Threshold significance set at 0.02	Cultural competence scores	5.0	5.52			8/9*	
					Cultural competence	Time 0 IG 2.87 (0.23) Time 1 IG 2.82 (0.18)	Time 2 IG 3.38 (0.34) Time 3 IG 3.51 (0.37)	Time 1 to time 2 p<0.01  Time 2 to time 3 p<0.01	-		
Cooper Brathwaite & Majumdar (2006), Canada	Nurses working in public health nursing at a public health department Total: 76 IG: 76 CG: none	Quasi-experimental study Length: 5 group sessions during 5 weeks (10 h total), 1 booster session after 1 month following the course	Camphina-Bacote's cultural competence model	Case studies Discussion Feedback Games Lecture Reflection Role-play Simulation  Data collected at baseline (T0) and 2 months later (T1); and at 1 week (T2) and 3 months post intervention (T3)  Threshold significance set at 0.02	Cultural knowledge	Time 0 IG 3.78 Time 1 IG 3.77	Time 2 IG 4.57 Time 3 IG 4.58	Time 1 to time 2 p<0.01  Time 2 to time 3 non sig. p-value	-	8/9*	
					Cultural competence	Time 0 IG 2.62 (0.26)	Time 1 IG 2.71 (0.25) Time 2 IG 2.70 (0.26)	Time 0 to time 1 p=0.02  Time 0 to time 3 p=0.03	-		
Delgado et al. (2013), USA	Nursing staff members including nurses, patient care assistants and unit secretaries Total: 98 IG: 98 CG: none	Quasi-experimental study Length: 1h educational session	Theoretical background unclear	Exercises Lecture Simulation Debriefing	Inventory for Assessing the Process of Cultural Competence Among Healthcare Professionals- Revised, 1-4 Likert scale, 25 items  Data collected at baseline (T0); and 3 months (T1) and 6 months post intervention (T2)	Cultural competence	Time 0 IG 2.62 (0.26)	Time 1 IG 2.71 (0.25) Time 2 IG 2.70 (0.26)	Time 0 to time 1 p=0.02  Time 0 to time 3 p=0.03	-	8/9*
Smith (2001), USA	Nurses from 1 county Total: 94 IG: 48 CG: 46	Quasi-experimental study Length: 8.5 h of cultural school	Giger and Davidhizar Transcultural Model and Theory	Simulation Return demonstration	Cultural Self-Efficacy Scale, 1-5 Likert scale, number of items unclear  Cultural knowledge questions, scaling unclear, 22 items  Data collected at baseline (T0); immediately post intervention (T1) and at 3 weeks post intervention (T2)  Threshold significance set at 0.05	Cultural self-efficacy	Time 0 IG 151.6 (43.4) CG 165.7 (55.1)	Time 1 IG 201.8 (44.2) CG 162.0 (58.7) Time 2 IG 199.1 (38.4) CG 160.9 (52.3)	-	p<0.01	9/9*
						Cultural knowledge	Time 0 IG 15.06 (3.05) CG 15.40 (2.47)	Time 1 IG 18.77 (2.27) CG 14.93 (2.94) Time 2 IG 18.81 (2.10) CG 16.47 (2.51)	-	p<0.01	

IG, intervention group; CG, control group; SD, standard deviation; T, time.

\* JBI Critical Appraisal Checklist for Quasi-Experimental Studies; \*\* JBI Critical Appraisal Checklist for Randomized Controlled Trials.

**Table 4**  
Educational content of cultural competence interventions.

EDUCATIONAL CONTENT	Berlin et al. (2010) n = 51	Bhat et al. (2015) n = 15	Cooper Brathwaite (2005) n = 76	Cooper Brathwaite and Majumdar (2006) n = 76	Delgado et al. (2013) n = 98	Smith (2001) n = 94
<b>CULTURAL AWARENESS</b>						
Understanding of culture-specific concepts	X	X	X	X	X	–
Theoretical model of cultural competence	X	–	X	X	–	X
Exploration of own's own culture, cultural heritage, bias, professional background	X	X	X	X	X	–
Receptivity to diversity	X	–	–	–	–	–
Openness to learn about client's health care beliefs and practices	–	–	X	X	–	–
Acknowledge that all individuals have a culture and there are wide variations within a culture	–	–	X	X	–	–
<b>CULTURAL KNOWLEDGE</b>						
Importance of culturally competent care on quality of care	–	–	X	X	X	–
Knowledge of different cultures and ethnic groups	X	–	X	X	–	–
Awareness of health disparities and differences in illness and disease	X	–	–	–	X	–
Issues related to ethnocentrism, racism, and prejudice	X	–	–	–	–	–
Cultural influence on health, health-seeking behaviours, practices, and nutrition	X	–	X	X	–	–
Knowledge of cultural traditions of the client population	–	X	–	–	–	–
Knowledge of biological variations in cultures	–	–	X	X	–	–
Principles of adaptation to a new culture	–	–	X	X	–	–
Current migration situation in the country	X	–	–	–	–	–
National policy regarding cultural diversity and guidelines concerning ethical and multicultural diversity	X	–	–	–	–	–
Ethnopharmacology	X	–	–	–	–	–
<b>CULTURAL SKILL</b>						
Performance of cultural assessments	X	X	X	X	–	X
Development of culturally congruent care plans	–	X	X	X	–	–
Translation of cultural differences to culturally competent care	–	–	–	–	X	–
Incorporating client's belief and practices during provision of care	–	–	X	X	–	–
<b>CULTURAL ENCOUNTER</b>						
Engagement in cultural interactions with culturally diverse clients	X	–	–	–	–	–
Solving culturally difficult scenarios and cases using theoretical models	X	–	–	–	–	–
Cross-cultural communication	X	–	X	X	–	–
Communication barriers and differences in verbal and nonverbal communication styles	X	–	X	X	–	–
Working with an interpreter	X	–	–	–	–	–
<b>CULTURAL DESIRE</b>						
Characteristics of cultural desire	–	–	X	X	–	–
Willingness to become culturally competent	X	–	–	–	–	–

et al., 2010). Cultural competence education was offered through traditional contact teaching to participants in the majority of the studies (n = 5). Bhat et al. (2015) developed web-based modules for participants, and a total of three weeks was given to complete the modules. Nurses in the intervention group in the study by Smith (2001) attended an 8.5-h session of 'cultural school' and nurses in the control group participated in a nursing informatics class held by experts in the field, which was structured equivalent to cultural school. Berlin et al. (2010) organised a total of three days of cultural competence education for nurses in the intervention group. Nurses in the control group were not offered cultural competence training but were offered the possibility to participate in the training after the study was completed. Cooper Brathwaite (2005) and Cooper Brathwaite and Majumdar (2006) held two-hour sessions every week for a total of five consecutive weeks, and a booster session was held after one month following the course.

The principal researcher was involved in the delivery and design of the intervention in most of the studies. The principal researcher in the study by Smith (2001) held an all-day 'cultural school' session for nurses in the intervention group, and the principal researcher in Cooper Brathwaite (2005) and Cooper Brathwaite and Majumdar (2006) delivered the interventions at the participants' workplace in a classroom setting. In the study by Berlin et al. (2010), the principal researcher was responsible for the content and the implementation of the intervention. Experts with specific knowledge in the field were also invited to hold

lectures. Delgado et al. (2013) had different teams of two instructors who were responsible for holding the cultural competence training courses. The principal researcher in the study by Bhat et al. (2015) designed the three web-based modules that were placed on the same website as the other mandatory annual modules at the organisation.

### 3.5. Outcome measures

Various measures were used to evaluate nurses' cultural competence, all of which were self-assessed perceptions using a Likert-type format (Table 3). Cultural competence was measured using the Clinical Cultural Competency Training Questionnaire-pre (CCCTQ-PRE) and the Clinical Competency Training Evaluation Questionnaire-post (CCCTEQ-POST; Krajic et al., 2005), the Cultural Competence Assessment tool (CCA; Schim et al., 2003), and the Inventory for Assessing the Process of Cultural Competence Among Healthcare Professionals-Revised (IAPCC-R; Cam-pinha-Bacote, 2002a). Smith (2001) used two instruments, the Cultural Self-Efficacy Scale (CSES; Bernal and Froman, 1987) and knowledge-based questions (Rooda, 1990), to measure cultural competence and the level of knowledge nurses have of culturally diverse clients. In the study by Cooper Brathwaite and Majumdar (2006), cultural knowledge was measured using the Cultural Knowledge Scale (CKS), which had items generated from the intervention and the knowledge subscales of two instruments

(Campinha-Bacote, 1998; Bernal and Froman, 1993). The questionnaire distributed by Berlin et al. (2010) contained additional questions regarding nurses' experiences of difficulties and concerns and nurses' evaluation of the training. Cooper Brathwaite (2005) and Cooper Brathwaite and Majumdar (2006) reported distributing open-ended questions to collect qualitative data on the intervention. Follow up in the included studies were conducted at three weeks (Smith, 2001), at four weeks (Berlin et al., 2010), nine weeks (Bhat et al., 2015), at one week and three months (Cooper Brathwaite, 2005; Cooper Brathwaite and Majumdar, 2006), at three months and six months (Delgado et al., 2013).

### 3.6. Effects of educational interventions on nurses' cultural competence

In all of the included studies, educational interventions had positive effects on nurses' self-assessed level of cultural competence (Table 3). Berlin et al. (2010) reported both question-to-question differences and the total score of the answers regarding cultural competence and experiences of difficulties and concerns. Question-to-question analysis revealed statistically significant improvements following the intervention in cultural knowledge, cultural skills, cultural encounters, and difficulties and concerns. Nurses' level of cultural awareness remained unchanged. Summarised total scores revealed statistically significant ( $p=0.03$ ) improvement in cultural skills in the intervention group (T0 mean 2.93, SD 0.87; T1 mean 3.50, SD 0.87) when compared to the control group (T0 mean 3.53, SD 0.92; T1 mean 3.30, SD 0.96). The postintervention between-group effect size for cultural skills was small ( $d=0.22$ ). Postintervention, a total of 92% of nurses from the intervention group reported increased desire to learn more about the subject of culturally competent health services.

In the study by Smith (2001), nurses in the intervention group demonstrated statistically significantly higher ( $p<0.01$ ) cultural self-efficacy (T0 mean 151.6, SD 43.4; T1 mean 201.8, SD 44.2) immediately after receiving the intervention when compared to the control group (T0 mean 165.7, SD 55.1; T1 mean 162.0, SD 58.7). In addition, cultural knowledge scores were statistically significantly higher ( $p<0.01$ ) in the intervention group (T0 mean 15.06, SD 3.05; T1 mean 18.77, SD 2.27) compared to the control group (T0 mean 15.40, SD 2.47; T1 mean 14.93 SD 2.94). At three weeks follow up, the changes in cultural self-efficacy (T2 mean 199.1, SD 38.4) and cultural knowledge (T2 mean 18.81, SD 2.10) were maintained in the intervention group. The postintervention between-group effect size for cultural self-efficacy was medium ( $d=0.77$ ) and large ( $d=1.47$ ) for cultural knowledge.

Cooper Brathwaite (2005) reported a statistically significant change in participants' mean cultural competence scores over time (T1 mean 2.82, SD 0.18; T2 mean 3.38, SD 0.34,  $p<0.01$ ,  $d=1.46$ ), which was maintained at three months follow up (T3 mean 3.51, SD 0.37). Delgado et al. (2013) found that cultural competence scores were statistically significantly improved following the intervention (T0 mean 2.62, SD 0.26; T1 mean 2.71, SD 0.25,  $p=0.02$ ,  $d=0.35$ ) and scores were maintained at six months follow up (T2 mean 2.70, SD=0.26,  $p=0.03$ ). Following the intervention, the number of participants scoring within the category range of cultural competence increased from 8% to 12.5%.

Bhat et al. (2015) reported statistically significant postintervention changes in total cultural competence scores (T0 mean 5.0; T1 mean 5.52,  $p<0.01$ ), with cultural competence behaviour (T0 mean 4.42; T1 mean 5.07,  $p<0.01$ ) and cultural awareness and sensitivity (T0 mean 5.81; T1 mean 6.81,  $p=0.05$ ) subscales showing statistical significance. Cooper Brathwaite and Majumdar (2006) reported a statistically significant change in participants'

mean cultural knowledge scores over time (T1 mean 3.77; T2 4.57,  $p<0.01$ ), which was maintained at three months follow up (T3 mean 4.58).

The majority of nurses (96%) in the study by Berlin et al. (2010) were satisfied with the quality of the training and felt that the training had an impact on their ability to cope with the demands of their work. The authors speculate that the positive evaluation may have been contributed to by the fact that the training was based on knowledge of nurses' and parents' difficulties and concerns with interaction in health services. Cooper Brathwaite (2005) and Cooper Brathwaite and Majumdar (2006) reported that overall nurses were satisfied with the training and found the content beneficial in clinical practice.

## 4. Discussion

Cultural competence is an ongoing process and requires continuous commitment by nurses to achieve the ability to work effectively in culturally diverse environments. Healthcare organisations should take the initiative to address the challenges associated with cultural and linguistic diversity, and to ensure that quality continuing education in culturally and linguistically appropriate practices is provided to staff on a regular basis (Office of Minority Health (OMH, 2013; Douglas et al., 2014; Oikarainen et al., 2018).

While it is important that organisations focus on promoting diversity within the nursing workforce, it is also imperative that necessary support structures are in place to promote integration of nurses and students from diverse linguistic and cultural backgrounds into cohesive and collegial nursing teams. According to previous research, healthcare students from diverse backgrounds often face challenges while completing their clinical placements (Mikkonen et al., 2016a,b; Mikkonen et al., 2017), and there is an urgent need to educate mentors in the delivery of culturally competent mentoring (Oikarainen et al., 2018). Nurse educators play a key role in teaching cultural competence to students and the cultural competence of educators continues to be an issue of concern (Long, 2012). Also, research shows that nurses feel unsupported in development of their cultural competence. In this review, the majority of nurses had not participated in further professional cultural education. These results are consistent with a study where approximately three out of every four nurses reported receiving some to no cultural diversity training at their work setting (Hart and Mareno, 2016).

This systematic review set out to identify evidence for educational interventions designed to improve nurses' self-assessed cultural competence. A total of six studies were included in this review, published between the years 2001–2015. There was a considerable degree of variability or clinical heterogeneity among the studies in regard to study design, the duration of the interventions and length of follow up, and in the use of different instruments to measure outcomes. The results of this study show that educational interventions had positive effects on nurses' self-assessed cultural competence. We measured the effect sizes for four studies in order to detect the clinical relevance and magnitude of the relationship between the research variables (Polit and Beck, 2017). Both between-group and pre-post test effect sizes ranged from small to very large. The potential positive impact of education in promoting nurses' and nursing students' cultural competence was also identified in a meta-analysis by Gallagher and Polanin (2015), although the results indicated varied effectiveness of cultural competence education. In this study, pre-post test effect size synthesis revealed statistically significant changes in nurses' and nursing students' cultural competence, but synthesis of treatment-control designed studies revealed non-statistically significant changes (Gallagher and Polanin, 2015).

Educational interventions are complex in nature and consist of several interacting components such as context, target population, and the duration, sequence and frequency of delivery of the intervention (Möhler et al., 2015). In this review, we specify the components of the interventions in the primary studies (Glasziou et al., 2010; Cullum and Dumville, 2015) and explore the theoretical background, educational content and delivery of the interventions instead of solely focusing on the effect of the interventions (Shepperd et al., 2009). Although the results are promising, we were not able to identify specific aspects of cultural competence education contributing to positive effects. Issues such as what type of cultural competence interventions are effective, for whom, in what context, and why continue to remain unknown (Truong et al., 2014).

It is imperative for researchers to promote adoption and faithful delivery of interventions over time, and to consider factors such as user involvement and sustainability of interventions (Abraham et al., 2015). It is known that collaboration of all key stakeholders is critical to intervention success (McCormack, 2015). User involvement was rarely mentioned in the studies included in this review. Although several studies found that nurses' cultural competence scores were maintained over time, strategies used to promote maintenance of changes in cultural competence were listed in only one study (Bhat et al., 2015). These strategies included sharing study results with staff, conducting ongoing education, discussing cultural assessments during daily nursing rounds, and making the web-based educational modules accessible to all health system employees.

In the included studies, cultural competence education was mainly offered through traditional contact teaching. Rapid advancements in healthcare technologies and increases in technology-based teaching approaches requires a shift in how education is provided to future and current nurses (Risling, 2017). Previous research exists on the development and use of web-based educational interventions (Doorenbos et al., 2010; Palmer et al., 2011), but evidence is still needed to establish the effectiveness of traditional contact teaching versus web-based teaching. In a study by Carpenter et al. (2015), web-based cultural competence curriculum was found as effective as traditional lecture format. There also continues to be a lack of evidence on effective strategies to teaching cultural competence (Long, 2012).

Cultural competence education should contain a coherent theoretical basis including educational theories and theories that explain development of cultural competence (Blanchet Garneau, 2016) and human behaviour change (Abraham et al., 2015). Limitations associated with the studies included in this review were that educational theories guiding the interventions were not specified, only one study reported use of a model to enact change in cultural competence (Bhat et al., 2015), and all studies were guided by theoretical frameworks that mainly ascribe to an essentialist perspective of culture. There has been a trend in cultural competence education to move away from the essentialist view, and to provide education that focuses on promoting professionals' open-mindedness, ability to treat patients as individuals, and that encourages reflection of professionals' own cultural backgrounds and biases (Jenks, 2011). Emphasis on individual variation over homogenous groups and on efforts to draw attention to diversity amongst health professionals may, however, lead to a decontextualised approach to culture which lacks consideration of social and cultural context (Jenks, 2011). Furthermore, newly emerging concepts, such as superdiversity (Vertovec, 2007, 2019) may challenge the way educational interventions have been traditionally designed and delivered. Jenks (2011) recommend that critiques of the concept of culture be considered in reforms of cultural competence education, and emphasis be placed on how cultural competence is learned and not solely on how it is taught.

Cultural competence education must be adaptive to the distinct sets of cultures within a country in order for students to capture appropriate cultural context (Cruz et al., 2018). Education alone is most likely insufficient to improve cultural competence, there is a need for organisational or systemic approaches to improvement of cultural competence in which the cost-effectiveness and aspects related to individual and organisational contexts are considered (Truong et al., 2014). Education may need to be tailored to meet the needs of specific groups of health professionals (Truong et al., 2014), and the possible advantages and disadvantages of implementing multidisciplinary versus nursing specific cultural competence education should be considered in future studies.

Future research should focus on establishing methodological rigour and on adhering to reporting guidelines that define the components necessary to report to allow replication of complex interventions (Möhler et al., 2015). According to this review, there is little research on cultural competence interventions designed particularly to improve nurses' cultural competence. Another key issue identified in this review was the wide use of instruments that solely measure nurses' self-reported level of cultural competence. In a review on measures of cultural competence in nurses, Loftin et al. (2013) found that commonly utilized instruments are based on individuals' perceptions of their competence and most often do not offer objective measure of culturally competent care from a patient's perspective. Development of instruments that assess cultural competence in practice and on patient outcomes is a challenge that should be addressed in future research.

#### 4.1. Limitations

A limitation associated with this review is the potential for publication bias. A search for the grey literature was not conducted and only published, peer-reviewed articles written in English or Finnish language were included. Another limitation is associated with the lack of methodological rigour amongst the included studies, many of which used an uncontrolled before and after study design, lacked a control group, and failed to report proper randomisation techniques. Also, statistical synthesis was hindered due the studies being heterogenous in outcome and interventions. In two of the studies, relevant statistical values were not reported hindering calculation of effect sizes. In this review, we report both between-group and pre-post effect sizes and emphasise the need for caution while interpreting the pre-post effect sizes. Uncontrolled before and after studies are prone to secular trends or sudden changes, and the results may overestimate the effects (Eccles et al., 2003; Cuijpers et al., 2017). Lastly, we identified studies conducted in only three countries. Aspects related to the specific context must be taken into consideration during the planning of cultural competence interventions.

#### 5. Conclusion

The development of nurses' and nursing students' cultural competence through education should be a priority because nurses work closely with people in increasingly diverse healthcare settings. A comprehensive approach to the assessment of cultural competence and implementation of strategies that have been proven effective in developing competence need to be implemented in order to promote culturally congruent nursing practices. The evidence base for cultural competence interventions could be enhanced through increased emphasis on methodological rigour and the use of randomised controlled trials. Researchers should strive to plan cultural competence

interventions with a strong theoretical foundation and based on previous research. In addition, the use of validated instruments to measure nurses' cultural competence can facilitate comparability across studies and different contexts. This review can be used to facilitate planning of future studies as it builds on previous research and knowledge base and provides a comprehensive summary on the effects and specific components of cultural competence education.

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## Appendix A. Supplementary data

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## References

- Abraham, C., Denford, S., Smith, J.R., Dean, S., Greaves, C., Lloyd, J., Tarrant, M., White, M.P., Wyatt, K., 2015. Designing interventions to change health-related behaviour. In: Richards, D.A., Hallberg, I.R. (Eds.), *Complex Interventions in Health: An Overview of Research Methods*. 1 ed. Routledge, Abingdon, pp. 103–110.
- Aromataris, E., Pearson, A., 2014. The systematic review: an overview. *Am. J. Nurs.* 114 (3), 53–58. doi:<http://dx.doi.org/10.1097/01.NAJ.0000444496.24228.2c>.
- Andrews, M.M., Boyle, J.S., 2002. Transcultural concepts in nursing care. *J. Transcult. Nurs.* 13 (3), 178–180.
- Beach, M.C., Cooper, L.A., Robinson, K.A., Price, E.G., Gary, T.L., Jenckes, M.W., Gozu, A., Smarth, C., Palacio, A., Feuerstein, C.J., Bass, E.B., Powe, N.R., 2004. Strategies for improving minority healthcare quality. Summary, Evidence Report/Technology Assessment: Number 90. Agency for Healthcare Research and Quality, Rockville, MD AHRQ Publication Number 04-E008-1.
- Berlin, A., Nilsson, G., Törnkvist, L., 2010. Cultural competence among Swedish child health nurses after specific training: a randomized trial. *Nurs. Health Sci.* 12 (3), 381–391. doi:<http://dx.doi.org/10.1111/j.1442-2018.2010.00542.x>.
- Bernal, H., Froman, R., 1987. The confidence of community health nurses in caring for ethnically diverse populations. *Image. J. Nurs. Sch.* 19 (4), 201–203. doi:<http://dx.doi.org/10.1111/j.1547-5069.1987.tb00008.x>.
- Bernal, H., Froman, R., 1993. Influences on the cultural self-efficacy of community health nurses. *J. Transcult. Nurs.* 4 (2), 24–31.
- Betancourt, J.R., Corbett, J., Bondaryk, M.R., 2014. Addressing disparities and achieving equity: cultural competence, ethics, and health-care transformation. *Chest* 145 (1), 143–148. doi:<http://dx.doi.org/10.1378/chest.13-0634>.
- Bhat, A.M., Wehbe-Alamah, H., McFarland, M., Filter, M., Keiser, M., 2015. Advancing cultural assessments in palliative care using web-based education. *J. Hosp. Palliat. Nurs.* 17 (4), 348–355. doi:<http://dx.doi.org/10.1097/NJH.0000000000000175>.
- Bhopal, R.S., 2014. *Migration, Ethnicity, Race and Health in Multicultural Societies*, 2nd ed. Oxford University Press, Oxford.
- Blanchet Garneau, A., 2016. Critical reflection in cultural competence development: a framework for undergraduate nursing education. *J. Nurs. Educ.* 55 (3), 125–132 doi:[10.10928/01484834-20160216-02](https://doi.org/10.10928/01484834-20160216-02).
- Blanchet Garneau, A., Pepin, J., 2015a. A constructivist theoretical proposition of cultural competence development in nursing. *Nurse Educ. Today* 35 (11), 1062–1068. doi:<http://dx.doi.org/10.1016/j.nedt.2015.05.019>.
- Blanchet Garneau, A., Pepin, J., 2015b. Cultural competence: a constructivist definition. *J. Transcult. Nurs.* 26 (1), 9–15. doi:<http://dx.doi.org/10.1177/1043659614541294>.
- Cai, D.-Y., 2016. A concept analysis of cultural competence. *Int. J. Nurs. Sci.* 3 (3), 268–273. doi:<http://dx.doi.org/10.1016/j.ijnss.2016.08.002>.
- Campinha-Bacote, J., 1998. *The Process of Cultural Competence in the Delivery of Healthcare Services: A Culturally Competent Model of Care*, 3rd edition. Transcultural C.A.R.E. Associates, Cincinnati, OH.
- Campinha-Bacote, J., 2002a. Inventory for Assessing the Process of Cultural Competence among Healthcare Professionals—Revised (IAPCC-R). Transcultural C.A.R.E. Associates, Cincinnati, OH.
- Campinha-Bacote, J., 2002b. The process of cultural competence in the delivery of healthcare services: a model of care. *J. Transcult. Nurs.* 13 (3), 181–184.
- Carpenter, R., Estrada, C.A., Medrano, M., Smith, A., Massie, F.S., 2015. A web-based cultural competency training for medical students: a randomized trial. *Am. J. Med. Sci.* 349 (5), 442–446. doi:<http://dx.doi.org/10.1097/MAJ.0000000000000351>.
- Caruso, R., Fida, R., Sili, A., Arrigoni, C., 2016. Towards an integrated model of nursing competence: an overview of the literature reviews and concept analysis. *Prof. Inform.* 69 (1), 35–43. doi:<http://dx.doi.org/10.7429/pi.2016.691035>.
- Centre for Reviews and Dissemination (CRD), 2009. *Systematic Reviews: CRD's Guidance for Undertaking Reviews in Health Care*. University of York, CRD.
- Chippis, J.A., Simpson, B., Brysiewicz, P., 2008. The effectiveness of cultural-competence training for health professionals in community-based rehabilitation: a systematic review of literature. *Worldviews Evid. Based Nurs.* 5 (2), 85–94. doi:<http://dx.doi.org/10.1111/j.1741-6787.2008.00117.x>.
- Cohen, J., 1992. A power primer. *Psychol. Bull.* 112 (1), 155–159. doi:<http://dx.doi.org/10.1037/0033-2909.112.1.155>.
- Cooper Brathwaite, A.E., 2005. Evaluation of a cultural competence course. *J. Transcult. Nurs.* 16 (4), 361–369. doi:<http://dx.doi.org/10.1177/1043659605278941>.
- Cooper Brathwaite, A., Majumdar, B., 2006. Evaluation of a cultural competence educational programme. *J. Adv. Nurs.* 53 (4), 470–479. doi:<http://dx.doi.org/10.1111/j.1365-2648.2006.03742.x>.
- Cowan, D.T., Norman, I., Coopamah, V.P., 2007. Competence in nursing practice: a controversial concept – a focused review of literature. *Accid. Emerg. Nurs.* 15 (1), 20–26. doi:<http://dx.doi.org/10.1016/j.aeen.2006.11.002>.
- Cruz, J.P., Aguinaldo, A.N., Estacio, J.C., Alotaibi, A., Arguvanli, S., Cayaban, A.R.R., John Cecily, H.S., Machuca Contreras, F.A., Hussein, A., Idemudia, E.S., Mohamed, S.A. M., Sebaeng, J., 2018. A multicountry perspective on cultural competence among baccalaureate nursing students. *J. Nurs. Sch.* 50 (1), 92–101. doi:<http://dx.doi.org/10.1111/jnu.12350>.
- Cuijpers, P., Weitz, E., Cristea, I.A., Twisk, J., 2017. Pre-post effect sizes should be avoided in meta-analyses. *Epidemiol. Psychiatr. Sci.* 26 (4), 364–368. doi:<http://dx.doi.org/10.1017/S2045796016000809>.
- Cullum, N., Dumville, J., 2015. Systematic reviews of the effects of interventions. In: Richards, D.A., Hallberg, I.R. (Eds.), *Complex Interventions in Health: an Overview of Research Methods*. 1 ed. Routledge, Abingdon, pp. 57–65.
- Debiasi, L.B., Selleck, C.S., 2017. Cultural competence training for primary care nurse practitioners: an intervention to increase culturally competence care. *J. Cult. Divers.* 24 (2), 39–45.
- Delgado, D.A., Ness, S., Ferguson, K., Engstrom, P.L., Gannon, T.M., Gillett, C., 2013. Cultural competence training for clinical staff: measuring the effect of a one-hour class on cultural competence. *J. Transcult. Nurs.* 24 (2), 204–213. doi:<http://dx.doi.org/10.1177/1043659612472059>.
- Doorenbos, A.Z., Lindhorst, T., Schim, S.M., Van Schaik, E., Demiris, G., Wechkin, H.A., Curtis, J.R., 2010. Development of a web-based educational intervention to improve cross-cultural communication among hospice providers. *J. Soc. Work End Life Palliat. Care* 6 (3–4), 236–255. doi:<http://dx.doi.org/10.1080/15524256.2010.529022>.
- Douglas, M.K., Rosenkoetter, M., Pacquiao, D.F., Callister, L.C., Hattar-Pollara, M., Lauderdale, J., Milstead, J., Nardi, D., Purnell, L., 2014. Guidelines for implementing culturally competent nursing care. *J. Transcult. Nurs.* 25 (2), 109–121. doi:<http://dx.doi.org/10.1177/1043659614520998>.
- Eccles, L., Grimshaw, J., Campbell, M., Ramsay, C., 2003. Research designs for studies evaluating the effectiveness of change and improvement strategies. *Qual. Safe Health Care* 12 (1), 47–52. doi:<http://dx.doi.org/10.1136/qhc.12.1.47>.
- Engelbreton, J., Mahoney, J., Carlson, E.D., 2008. Cultural competence in the era of evidence-based practice. *J. Prof. Nurs.* 24 (3), 172–178. doi:<http://dx.doi.org/10.1016/j.profnurs.2007.10.012>.
- Ergin, E., Akin, B., 2017. Globalization and its reflections for health and nursing. *Int. J. Caring Sci.* 10 (1), 607–613.
- Fernandez, N., Dory, V., Ste-Marie, L.-G., Chaput, M., Charlin, B., Boucher, A., 2012. Varying conceptions of competence: an analysis of how health sciences educators define competence. *Med. Educ.* 46 (4), 357–365. doi:<http://dx.doi.org/10.1111/j.1365-2923.2011.04183.x>.
- Gallagher, R.W., Polanin, J.R., 2015. A meta-analysis of educational interventions designed to enhance cultural competence in professional nurses and nursing students. *Nurse Educ. Today* 35 (2), 333–340. doi:<http://dx.doi.org/10.1016/j.nedt.2014.10.021>.
- Giger, J.N., Davidhizar, R., 2002. The Giger and Davidhizar transcultural assessment model. *J. Transcult. Nurs.* 13 (3), 185–188.
- Glasziou, P., Chalmers, I., Altman, D.G., Bastian, H., Boutron, I., Brice, A., Jamtvedt, G., Farmer, A., Ghersi, D., Groves, T., Heneghan, C., Hill, S., Lewin, S., Michie, S., Perera, R., Pomeroy, V., Tison, J., Shepperd, S., Williams, J.W., 2010. Taking healthcare interventions from trial to practice. *BMJ* 341, c3852. doi:<http://dx.doi.org/10.1136/bmj.c3852>.
- Govere, L., Govere, E.M., 2016. How effective is cultural competence training of healthcare providers on improving patient satisfaction of minority groups? A systematic review of literature. *Worldviews Evid. Based Nurs.* 13 (6), 402–410. doi:<http://dx.doi.org/10.1111/wvn.12176>.
- Gray, D.P., Thomas, D.J., 2006. Critical reflections on culture in nursing. *J. Cult. Divers.* 13 (2), 76–82.
- Halm, M.A., Wilgus, E., 2013. Impacting the Latino birthing experience with a cultural competence training program. *Online J. Cult. Competence Nurs. Healthc.* 3 (2), 1–15. doi:<http://dx.doi.org/10.9730/ojcnh.org/v3n2a1>.
- Hart, P.L., Mareno, N., 2016. Nurses' perceptions of their cultural competence in caring for diverse patient populations. *Online J. Cult. Competence Nurs. Healthc.* 6 (1), 121–137. doi:<http://dx.doi.org/10.9730/ojcnh.org/v6n1a10>.
- Higgins, J.P.T., Altman, D.G., Sterne, J.A.C., 2011. Chapter 8: assessing risk of bias in included studies. In: Higgins, J.P.T., Green, S. (Eds.), *Cochrane Handbook for Systematic Reviews of Interventions*. Version 5.1.0 [Updated March 2011]. The Cochrane Collaboration Available at [www.handbook.cochrane.org](http://www.handbook.cochrane.org) (Accessed 28 February 2019).
- Horvat, L., Horey, D., Romios, P., Kis-Rigo, J., 2014. Cultural competence education for health professionals. *Cochrane Database Syst. Rev.* 5, CD009405 doi:<http://dx.doi.org/10.1002/14651858.CD009405.pub2>.

- Jenks, A.C., 2011. From "lists of traits" to "open-mindedness": emerging issues in cultural competence education. *Cult. Med. Psychiatry* 35, 209–235. doi:<http://dx.doi.org/10.1007/s11013-011-9212-4>.
- Jongen, C., McCalman, J., Bainbridge, R., 2018. Health workforce cultural competency interventions: a systematic scoping review. *BMC Health Serv. Res.* 18, 232. doi:<http://dx.doi.org/10.1186/s12913-018-3001-5>.
- Krajic, K., Straßmayr, C., Karl-Trummer, U., Novak-Zezula, S., Pelikan, J.M., 2005. Improving ethnocultural competence of hospital staff by training: experiences from the European "Migrant-friendly Hospitals" project. *Divers. Health Soc. Care* 2, 279–290.
- Köpke, S., Noyes, J., Chandler, J., Meyer, G., 2015. Exploring complexity in systematic reviews of complex intervention. In: Richards, D.A., Hallberg, I.R. (Eds.), *Complex Interventions in Health: An Overview of Research Methods*. 1st edn. Routledge, Abingdon, pp. 73–79.
- Lakens, D., 2013. Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for *t*-tests and ANOVAs. *Front. Psychol.* 4, 863. doi:<http://dx.doi.org/10.3389/fpsyg.2013.00863>.
- Leininger, M.M., 1991. *Culture Care Diversity and Universality: A Theory of Nursing*. NLN Press, New York.
- Leininger, M.M., 2006. Culture care diversity and universality theory and evolution of the ethnoscience method. In: Leininger, M.M., McFarland, M.R. (Eds.), *Cultural Care Diversity and Universality: A Worldwide Nursing Theory*. 2nd ed. Jones and Barlett, Sudbury, MA, pp. 1–42.
- Loftin, C., Hartin, V., Branson, M., Reyes, H., 2013. Measures of cultural competence in nurses: an integrative review. *Sci. World J.* 289101 doi:<http://dx.doi.org/10.1155/2013/289101>.
- Long, T.B., 2012. Overview of teaching strategies for cultural competence in nursing students. *J. Cult. Divers.* 19 (3), 102–108.
- Maier-Lorentz, M.M., 2008. Transcultural nursing: its importance in nursing practice. *J. Cult. Divers.* 15 (1), 37–43.
- McCalman, J., Jongen, C., Bainbridge, R., 2017. Organisational systems' approaches to improving cultural competence in healthcare: a systematic scoping review of the literature. *Int. J. Equity Health* 16 (1), 78. doi:<http://dx.doi.org/10.1186/s12939-017-0571-5>.
- McCormack, B., 2015. Action research for the implementation of complex interventions. In: Richards, D.A., Hallberg, I.R. (Eds.), *Complex Interventions in Health: An Overview of Research Methods*. 1 ed. Routledge, Abingdon, pp. 300–311.
- Mikkonen, K., Elo, S., Kuivila, H.-M., Tuomikoski, A.-M., Kääriäinen, M., 2016a. Culturally and linguistically diverse healthcare students' experiences of learning in a clinical environment: a systematic review of qualitative studies. *Int. J. Nurs. Stud.* 54, 173–187. doi:<http://dx.doi.org/10.1016/j.ijnurstu.2015.06.004>.
- Mikkonen, K., Elo, S., Tuomikoski, A.-M., Kääriäinen, M., 2016. Mentor experiences of international healthcare students' learning in a clinical environment: a systematic review. *Nurse Educ. Today* 40, 87–94. doi:<http://dx.doi.org/10.1016/j.nedt.2016.02.013>.
- Mikkonen, K., Elo, S., Miettinen, J., Saarikoski, M., Kääriäinen, M., 2017. Clinical learning environment and supervision of international nursing students: a cross-sectional study. *Nurse Educ. Today* 52, 73–80. doi:<http://dx.doi.org/10.1016/j.nedt.2017.02.017>.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G., The PRISMA Group, 2009. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA Statement. *PLoS Med.* 6, e1000097 doi:<http://dx.doi.org/10.1371/journal.pmed.1000097>.
- Möhler, R., Köpke, S., Meyer, G., 2015. Criteria for Reporting the Development and Evaluation of Complex Interventions in healthcare: revised guideline (CReDECI 2). *Trials* 16, 204. doi:<http://dx.doi.org/10.1186/s13063-015-0709-y>.
- Morris, S.B., 2008. Estimating effect sizes from pretest-posttest-control group designs. *Organ. Res. Methods* 11 (2), 364–386. doi:<http://dx.doi.org/10.1177/1094428106291059>.
- Munn, Z., Tufanaru, C., Aromataris, E., 2014. Data extraction and synthesis: the steps following study selection in a systematic review. *Am. J. Nurs.* 114 (7), 49–54. doi:<http://dx.doi.org/10.1097/01.NAJ.0000451683.66447.89>.
- Office of Minority Health (OMH), 2013. *National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care: A Blueprint for Advancing and Sustaining CLAS Policy and Practice*. Office of Minority Health, U.S. Department of Health and Human Services Available at <https://www.thinkculturalhealth.hhs.gov/pdfs/EnhancedCLASStandardsBlueprint.pdf> (Accessed 28 February 2019).
- Oikarainen, A., Mikkonen, K., Tuomikoski, A.-M., Elo, S., Pitkänen, S., Ruotsalainen, H., Kääriäinen, M., 2018. Mentors' competence in mentoring culturally and linguistically diverse nursing students during clinical placement. *J. Adv. Nurs.* 74 (1), 148–159. doi:<http://dx.doi.org/10.1111/jan.13388>.
- Palmer, R.C., Samson, R., Triantis, M., Mullan, I.D., 2011. Development and evaluation of a web-based breast cancer cultural competency course for primary healthcare providers. *BMC Med. Educ.* 11, 59. doi:<http://dx.doi.org/10.1186/1472-6920-11-59>.
- Petticrew, M., Rehfuess, E., Noyes, J., Higgins, J.P.T., Mayhew, A., Pantoja, T., Shemilt, I., Sowden, A., 2013. Synthesizing evidence on complex interventions: how meta-analytical, qualitative, and mixed-method approaches can contribute. *J. Clin. Epidemiol.* 66 (11), 1230–1243. doi:<http://dx.doi.org/10.1016/j.jclinepi.2013.06.005>.
- Pigott, T., Shepperd, S., 2013. Identifying, documenting, and examining heterogeneity in systematic reviews of complex interventions. *J. Clin. Epidemiol.* 66 (11), 1244–1250. doi:<http://dx.doi.org/10.1016/j.jclinepi.2013.06.013>.
- Polit, D.F., Beck, C.T., 2017. *Nursing Research: Generating and Assessing Evidence for Nursing Practice*, 10 ed. Wolters Kluwer Health/Lippincott Williams & Wilkins, Philadelphia.
- Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K., Duffy, S., 2006. *Guidance on the Conduct of Narrative Synthesis in Systematic Reviews: A Product of the ESRC Methods Programme (Version 1)*. University of Lancaster, Lancaster, UK.
- Poritt, K., Gomersall, J., Lockwood, C., 2014. Study selection and critical appraisal: the steps following the literature search in a systematic review. *Am. J. Nurs.* 114 (6), 47–52. doi:<http://dx.doi.org/10.1097/01.NAJ.0000405430.97383.64>.
- Purnell, L., 2002. The Purnell model for cultural competence. *J. Transcult. Nurs.* 13 (3), 193–196. doi:<http://dx.doi.org/10.1177/10459602013003006>.
- Richards, D.A., 2015. The complex interventions framework. In: Richards, D.A., Hallberg, I.R. (Eds.), *Complex Interventions in Health: An Overview of Research Methods*. 1 ed. Routledge, Abingdon, pp. 1–15.
- Risling, T., 2017. *Educating the nurses of 2025: technology trends of the next decade*. *Nurse Educ. Pract.* 22, 89–92. doi:<http://dx.doi.org/10.1016/j.nepr.2016.12.007>.
- Rooda, L.A., 1990. *Knowledge and Attitudes of Nurses Toward Culturally Diverse Patients*. Purdue University, ProQuest Dissertations Publishing.
- Rosenthal, J.A., 1996. Qualitative descriptors of strength of association and effect size. *J. Soc. Serv. Res.* 21 (4), 37–59. doi:[http://dx.doi.org/10.1300/J079v21n04\\_02](http://dx.doi.org/10.1300/J079v21n04_02).
- Schim, S.M., Doorenbos, A.Z., Miller, J., Benkert, R., 2003. Development of a cultural competence assessment instrument. *J. Nurs. Meas.* 11 (1), 29–40.
- Shea, B.J., Reeves, B.C., Wells, G., Thuku, M., Hamel, C., Moran, J., Moher, D., Tugwell, P., Welch, V., Kristjansson, E., Henry, D.A., 2017. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ* 358, j4008. doi:<http://dx.doi.org/10.1136/bmj.j4008>.
- Shepperd, S., Lewin, S., Straus, S., Clarke, M., Eccles, M.P., Fitzpatrick, R., Wong, G., Sheikh, A., 2009. Can we systematically review studies that evaluate complex interventions? *PLoS Med.* 6 (8) e1000086 doi:<http://dx.doi.org/10.1371/journal.pmed.1000086>.
- Smith, L.S., 2001. Evaluation of an educational intervention to increase cultural competence among registered nurses. *J. Cult. Divers.* 8 (2), 50–63.
- Truong, M., Paradies, Y., Priest, N., 2014. Interventions to improve cultural competency in healthcare: a systematic review of reviews. *BMC Health Serv. Res.* 14, 99. doi:<http://dx.doi.org/10.1186/1472-6963-14-99>.
- Tufanaru, C., Munn, Z., Aromataris, E., Campbell, J., Hopp, L., 2017. Chapter 3: systematic reviews of effectiveness. In: Aromataris, E., Munn, Z. (Eds.), *Joanna Briggs Institute Reviewer's Manual*. The Joanna Briggs Institute Available at <https://reviewersmanual.joannabriggs.org/> (Accessed 28 February 2019).
- Vertovec, S., 2007. Super-diversity and its implications. *Ethnic Racial Stud.* 30 (6), 1024–1054. doi:<http://dx.doi.org/10.1080/01419870701599465>.
- Vertovec, S., 2019. Talking around super-diversity. *Ethnic Racial Stud.* 42 (1), 125–139. doi:<http://dx.doi.org/10.1080/01419870.2017.1406128>.
- World Health Organization, 2015. *European Strategic Directions for Strengthening Nursing and Midwifery towards Health 2020 Goals*. WHO Regional Office for Europe, Copenhagen Available at <http://www.euro.who.int/en/health-topics/Health-systems/nursing-and-midwifery/publications/2015/european-strategic-directions-for-strengthening-nursing-and-midwifery-towards-health-2020-goals> (Accessed 28 February 2019).