Experience of touch in healthcare: a meta-ethnography across the healthcare professions

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Abstract

Touch mediates health professionals' interactions with patients. Different professionals have reported their practices but what is currently lacking is a well theorized, interprofessional synthesis. We systematically searched eight databases, identified 41 studies in seven professions (nursing (27), medicine (4), physiotherapy (5), osteopathy (1), counselling (2), psychotherapy (1), dentistry (1)) and completed a metaethnographic line-of-argument synthesis. This found that touch is caring, exercises power, and demands safe space. Different professions express care through the medium of touch in different ways. They all, however, expect to initiate touch rather than for patients to do so. Various practices negotiate boundaries that define safe spaces between healthcare professions and patients. A metaphor - the waltz – integrates the practice of touch. Healthcare professionals connect physically with patients in ways that form strong relationships between them whilst 'dance steps' help manage the risk that is inherent in such an intimate form of connection.

Introduction

Health care professionals touch relative strangers in sometimes intimate ways. They use their hands to examine patients' bodies, bathe them, and give physical comfort. Advocates for touch include patients, whose experiences of clinical care can be enriched by touch and, prominent among the healthcare professions, nurses (Paterson & Dodge, 2012; Johnston, 2014). So strong is nurses' advocacy for touch that they have suggested it be regarded a practice in its own right to safeguard its central place in nursing care (Benner, 2004). Members of other professions have also advocated for the significance of touch. Doctors have expressed concern that healthcare practice is becoming remote from the body (Kelly, Tink, Nixon, Dornan, 2015) and argued that physical examination has an enduring place in medical practice (Verghese, 2009). Physiotherapists (Hargreaves, 1982), occupational therapists (Posthuma, 1985), and osteopaths (Patterson, 2012) have advocated for touch, and even archetypically 'hands-off' professionals like counsellors have debated the role of touch in therapeutic relationships (Phelan, 2009; Westland, 2011). But touch is also problematic. Accusations of impropriety have narrowed the divide between professional and unprofessional touching and technology has challenged the primacy of physical examination as a core clinical skill (Feilchenfeld, Dornan, Whitehead, Kuper, 2017). There is a case for developing a practice of touch and, given the breadth of interest in it, perhaps an interdisciplinary one.

The case for including touch in health professions curricula has already been made (Roger et al., 2002; Inoue, Chapman & Wynaden, 2006; Harding, North, & Perkins 2008; Verghese 2009). Specific issues like the need to address the uncertainty and trepidation

students experience when they first touch patients (Tuohy 2003; Grant, Giddings & Beale, 2005) and clinicians' tendency to slip into insensitive ways of touching have been raised (Cocksedge & May, 2009). Researchers have argued that something so contextualized and subtle as touch is best learned in practice (Grant et al., 2005; Verghese 2009) and herein lies another challenge. Whereas the practice of touch has been conceptualized within the bounds of individual professions, today's healthcare delivery by multiprofessional teams and interprofessional education calls for moving towards preparing students for team-based practice. This reinforces the need for an interdisciplinary understanding of touch.

The strength of advocacy for practicing and teaching touch has not been matched by the strength and coherence of empirical research (Gleeson & Timmins, 2005; Cocksedge, George, Renwick, & Chew-Graham, 2013, Bjorbækmo & Mengshoel, 2016). Nurses have researched touch in greatest depth. There has been observational, descriptive research, which identified the location and frequency of touch, and who initiated it (Ingham, 1989; Bottorff, 1991; Routasalo, 1999). There has been taxonomic research, which distinguished the performance of tasks 'necessary' for the functional care of patients from touch as a nonverbal expression of care, comfort, and empathy (Routasalo, 1999). Another type of touch, 'protective touch', which distances nurses and patients from one another for their mutual safety has also been described (Estabrooks and Morse, 1992). A third approach has been to conceptualize, rather than just describe or categorize touch. Estabrooks and Morse (1992), drawing on work by Weiss (1979) and Pepler (1984), theorized touch as a gestalt with multiple dimensions; a form of connection, alongside presence and listening (Fredrikssen, 1999). Best research effort has not, however, prevented a proliferation of terms that are open to misinterpretation and hinder the development of a coherent body of knowledge. (Gleeson & Timmins, 2005; Routasalo, 1999).

Nursing has not been alone in researching touch. There has been research in medicine (Cocksedge et al., 2013; Cocksedge & May, 2009; Williams, Harricharan, & Sa, 2013), physiotherapy (Bjorbækmo & Mengshoel, 2016; Hiller, Guillemin, & Delany, 2015; Roger et al., 2002), and occupational therapy (Moore, 1991; Posthuma, 1985). Whilst this primary research has broadened the scholarship of touch beyond nursing, it has tended to perpetuate the divide between communicative and procedural touch.

Secondary research is limited. There is one systematic review of early nursing research which focuses on the communicative dimension of touch (Fredrikssen, 1999). Qualitative research synthesis provides ways of transcending definitions, dimensions, and disciplines. It would be appropriate to of advance the interdisciplinary practice and pedagogy of touch by the synthesis of results from primary research across a range of disciplines.

A second, and complementary, way of bringing coherence to such a disparate field is to theorize it (Estabrooks 1992; Fredrikssen 1999). Interpreting how others experience lived experience, or phenomenology, is an established way of knowing. Merleau-Ponty's (1945/2013) concept of the body-subject lends itself well in our interpretation of the scholarship of touch. From Merleau-Ponty's perspective, body and mind coexist. Flesh is the materiality through which humans subjectively experience and come to know the world. This recognition of the embodied nature of human experience challenges the scientific objectivity that may lead clinicians to treat patients' bodies as objects of palpation, cleaning, and suturing. The body-subject concept challenges the way health professionals are taught to focus on the body-object in order to set personal and professional boundaries. The experience of touch can never be wholly objective nor unidirectional. Every time a professional touches a patient, they are themselves touched (Edwards, 1998; Routasalo & Isola, 1996; Tommasini, 1990; Watson, 1975); there is intersubjectivity 'grounded in a mutual receiving' (Fredriksson,

1999). There are disclosive spaces between patients and professionals, where therapeutic relationships take place (Benner, 2004). Phenomenology, provides a holistic perspective that may help explain the essence of touch potentially lost when classified into discrete types.

Our aim was to synthesize a coherent conceptualization of touch across health disciplines that could inform health professional education and support an interdisciplinary praxis of touch. We took a phenomenological stance using meta-ethnography (Noblit & Hare, 1988) to support this interpretivist approach.

Methods

Methodology

Meta-ethnography systematically compares concepts and metaphors in research publications in order to translate their findings into one another and synthesize interpretations that are greater than the sum of their parts. Following the methodology of Noblit and Hare (1988), researchers move from translation of the cases, to translations of the interpretations, and rise to higher levels of abstraction.

In meta-ethnography, metaphors are used as analytic tools. Metaphors are ‘figures of speech in which a word or phrase is applied to an object or action to which it is not literally applicable’ (Oxford dictionary, 2016). Noblit and Hare (1988) identified five criteria for the adequacy of metaphors: 1) their economy; 2) their cogency; 3) their ‘range’ or transferability; 4) their ability to illuminate others’ experiences; and 5) their ‘credibility’ or comprehensibility. Metaphors pervade our daily communication to convey complex ideas economically, expressively, and cogently. In doing so, they enable individuals and communities to transfer thought and understanding from one situation to another. Metaphors portray complex realities (Miles & Huberman, 1994), illuminate aspects of phenomena not

previously noticed (Lakoff & Johnson, 2008), and deepen understanding (Kangas, Warren, & Byrne, 1998). Metaphors are useful tools to interpret data (Patton, 1990), and have been used during research in education (Dexter & LaMagdeleine, 2002); organizational change (Manning, 1979) and medicine (Aita, McIlvain, Susman, & Crabtree, 2003). Analysis of metaphors is compatible with phenomenological inquiry because of the rich insights metaphors provide into lived experiences of others (Fairclough, 1989). Whilst metaphors are valuable interpretive aids, they are open to multiple meanings, which vary across contexts and situations.

Identification of relevant studies

Martina and Caitlin, a research librarian, conducted a preliminary comprehensive search in Medline, refined it, and ran it across eight databases: MEDLINE, Embase, Allied and Complementary Medicine, PsycInfo, CINAHL Plus with Full Text, Psychology and Behavioral Sciences Collection, Web of Science and Scopus from inception to April 2013 initially and repeatedly between April 2013 and May 2016. They combined medical subject heading (MeSH) keywords and the text words ‘touch’, ‘nonverbal communication’, ‘personal space’, ‘relationship’ and by profession, nurse, physician, therapist, and counsellor (see Appendix 1 for search terms). They searched grey literature using: Summon; Open Grey; Proquest Open; Proquest Dissertations and Theses Full Text; PQTD Open; and Literature, Medicine, Medical Humanities: An MLA Commons site. They scrutinized reference lists to identify additional original research, and contacted current researchers, and authors of highly cited studies from different disciplines, to ensure they missed no publications. Relevant studies published in non-English language studies were translated from German, French, Portuguese, Dutch, and Chinese. Martina and Lara independently identified relevant articles

by reviewing citations, abstracts, and full texts. Discrepancies were discussed and inclusion was decided by consensus with Tim.

Inclusion & Exclusion criteria

The review included qualitative studies on touch in adult patients within healthcare professions from all years and in any language. The focus was 'everyday touch' –"*the pat on the hand, squeeze of the fingers or an arm around the shoulder"* (Posthuma, 1985, p 189). The review excluded studies that involved patients:

- With impaired verbal skills (unconscious and/or in intensive care units, and people with intellectual disability, including end-stage dementia) given that these deficits fundamentally change communication.
- With impaired vision or hearing on the grounds that touch would be used to compensate for sensory deficits.

Studies on touch perception (mechanoreceptor responses and brain responses) and the physiology of touch were excluded, as were studies on therapeutic touch (defined by MeSH) because this differs conceptually from physical touch (Chang, 2001). In keeping with the meta-ethnographic tradition, the review included qualitative studies across a range of methodologies. We aimed to integrate the richness of studies from different philosophic traditions in order to capture the phenomenon of touch as a whole.

Quality Appraisal

Two researchers independently assessed the quality of papers using the Critical Appraisal Skills Programme (CASP) Qualitative Checklist (CASP, 2014) (Appendix 2).

Papers with stronger methodologies were given higher priority in the synthesis; however, no papers were excluded on quality grounds.

Data extraction

A data extraction form was developed, piloted, and modified. The final form included study characteristics (e.g. year of publication, country where research was conducted, sample size, and setting), aims, methodology, methods (Table 1), and findings. Two team members independently read each article, extracted first order constructs (respondents' quotations), second order constructs (authors' interpretations) (Britten et al., 2002; Malpass et al., 2009) and metaphors (Sandelowski, Docherty, & Emden, 1997). They proposed higher level themes or concepts as third order constructs (Britten et al., 2002; Malpass et al., 2009). They agreed on the constructs to include in the synthesis, retaining contextual richness by tagging them with original quotations.

Study translation and synthesis

Following data extraction, our interpretations of study findings were translated into each other. Given the large number of studies, we started by examining research within a given healthcare profession. Studies that involved patients were also examined as a group (indicated in Table 1). Adopting this approach to translation enabled us to see the phenomena of touch from different perspectives.

Within individual professions

Table 1 groups the publications by profession. The team identified, and marked with asterisks, index papers that could best stimulate translation (Britten et al., 2002; Elmir, Schmied, Wilkes, & Jackson, 2010). The team met bi-weekly to discuss commonalities,

points of departure, relationships between studies, and emergent third order constructs leading to metaphor development. While the most trustworthy studies had the greatest influence on our interpretations, lesser quality ones opened up different interpretive perspectives that might otherwise have been overlooked. An iterative eight-month process of reading, reflecting, and discussing helped us translate studies into one another and identify common themes within each group. Diagrams (Bondas & Hall, 2007; Sandelowski et al., 1997) representing these themes and metaphors helped synthesize lines of argument specific to each profession, in addition to encompassing narratives. We developed new interpretive metaphors and pictures based on our findings, as shown in Table 2. (See also box 1 and appendix 3). Examining each profession independently helped us avoid adopting any encompassing metaphor too early or transforming findings to fit another metaphor (Carpenter, 2008; Schmitt, 2005).

Box 1: Performing Touch in the Arena: a worked example of metaphorical synthesis in male nursing studies (resource study number 27, 28, 46, 58, 59, 72)

Authors and respondents in the male nursing studies used terms such as 'threatened', 'defensive strategies', uniform as 'armor', 'risk', and 'protection'. This warlike language stimulated the review team to conceptualize touch as a performance in a gladiatorial arena. The arena is a metaphor for a space in which society's wish for 'care' is enacted. The arena is a gladiatorial one because touching a patient juxtaposes threat with care. The body, as a site of work, is not neutral territory.

The central focus of the arena is the interplay between a male nurse and a patient of either gender. The setting in which these exchanges take place is emotionally charged and threatens both parties. Interactions between male nurses and patients involve a range of tactical maneuvers. These include the nurses reinforcing stereotypes (e.g. using denigrating language

to describe homosexuals, pretending to be heterosexual), avoiding physical contact (e.g. assuming roles away from the bedside such as becoming a manager), modifying their clinical skills (e.g. giving injections in patients' arms, when buttocks would be more appropriate), and ensuring they are never left alone with patients. Gender and sexuality overshadow male nurses' professional training.

Contextual issues like age, illness acuity, care environment, and healthcare discipline guide and bound interactions in a way that constructs the walls of the arena. Touch is expressed differently, for example, in obstetrics and mental health.

Gender and the history of the nursing profession regulate performance in the arena. The profession determines policies, including historical segregation, for example, of male from female nurses during training. Commitment to gender-based protection of both nurses and patients prevails.

In turn, professional bodies, policymakers, and male nurse-patient players in the arena respond to the audience of spectators. The audience is composed of members of society, who are also influenced by dominant gender stereotypes and societal norms. These strong stereotypes define and constrain the roles of male nurses.

Across professions

We then moved from translation of the data of individual groups to examine how the explanations translated into one another, by looking at how these metaphors could help interpret the entire dataset , explain relationships within it (Miles & Huberman, 1994), and open new lines of inquiry (Patton, 1990). Next, we compared, contrasted, and contested encompassing narratives across groups, tabulating this so the final synthesis could be linked back to the original articles (Table 3). Nigel and Albert reviewed the resultant findings and audit trail as a further check of rigour. In this way, metaphors facilitated a dialogic process (Dexter & LaMagdeleine, 2002) to create a line of argument synthesis. In meta-ethnography

a line of argument synthesis generates inferences about the dataset as a whole; it drew from studies, the 'structures of signification' both within each study *and* for studies as a set….to discover a "whole" among a set of parts (Noblit & Hare, 1988). In doing so, our resultant interpretation constructed an interpretation of the studies, their contexts and interrelations by putting similarities and differences across studies into a new interpretative context. An effective line of argument synthesis should 'fit', be parsimonious and demonstrate saturation (Noblit & Hare, 1988).

Reflexivity

We consciously used our individual personal experiences as physician educators working in different healthcare settings in different countries to inform our interpretations. We reflected on, and discussed, how gender, age, and culture affected our interpretations of touch as quoted by others. We paid particular attention to how different authors' representations of touch and our perceptions influenced our analysis. We discussed our embodied reactions to graphic and explicit language in the articles and ensured our interpretive metaphors met Noblit and Hare's (1988) aforementioned criteria.

Reporting

This accords with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) standard (Moher, Liberati, Tetzlaff, & Altman, 2009).

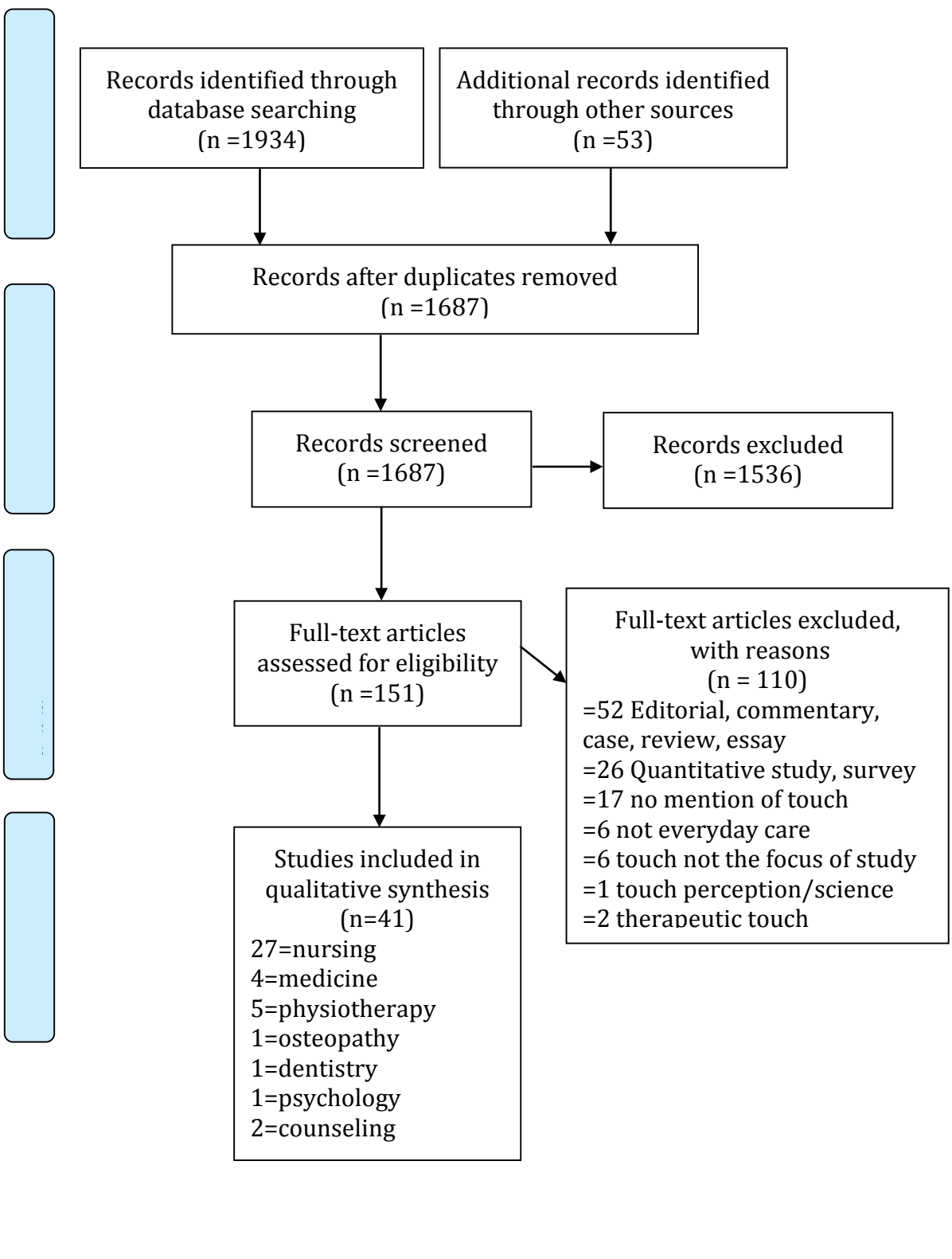
Results

Study characteristics

The final dataset included 41 studies (Figure 1). Their aims, methodologies,

geographical locations, and respondents are listed in Table 1 and Appendix 4. Most professional participants were women. Contexts of care included family doctors', physiotherapists', and counsellors' offices, outpatient departments, acute in-patient care facilities, and long-term nursing homes.

Figure 1 PRISMA 2009 Flow Diagram of Study Selection



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284 **Table 1.** Characteristics of studies synthesized

285 [1] RN=Resource number, [#] Index papers, [+] Studies involving patients only, [$] Studies involving learners.

Ref	Study Group	Source Paper	Discipline	Dataset	Method of Data Collection	Methodology	Aim
	Nursing n=27						
#60	Nursing elderly people (n=6)	Routasalo, 1998	Nursing	5 nurse-patient pairs	Video-observation	Phenomenology	Find how skilled nurses in long-term care touch elderly patients who have lost their reciprocal verbal communication ability.
#47		Routasalo, 1996	Nursing	25 elderly patients 30 nurses	Interviews	Content analysis	Describe experiences of touching among elderly patients in long-term care and their nurses.
55		Edwards, 1998	Nursing	6 patients 30 hours observation	Interviews and observations	Ethnography	Discover nurses' and patients' perceptions of space and touch during interactions with each other.
30		Tuohy, 2003$	Nursing	8 student nurses (of older people)	Interviews Observation	Ethnography Thematic analysis	Ascertain how student nurses communicate with older people.

Ref	Study Group	Source Paper	Discipline	Dataset	Method of Data Collection	Methodology	Aim
62		McCann, McKenna, 1993	Nursing	16 hours observations 8 interviews with patients	Observation Interviews/ questionnaire	Descriptive	Discover the amount and type of touch received by elderly patients from nurses and asses elderly patients' perceptions of touch.
54		Watson, 1975	Nursing		Observation over 11 months	Descriptive/ quantitative	Describe/interpret observed differences in touching behavior among geriatric nurses in home for the elderly and implications for touching in interpersonal communication.
#28	Male nurses (n=6)	Harding, 2008	Nursing	18 male nurses	Interviews	Discourse	Explore experiences of male nurses regarding the use of intimate physical touch.
#58		Fisher, 2009	Nursing	21 male nurses	Interviews	Life-history Gender relations	Examine labour processes of male nurses in the conduct of bodywork.

Ref	Study Group	Source Paper	Discipline	Dataset	Method of Data Collection	Methodology	Aim
27		Inoue, 2006	Nursing	12 male nurses	Interviews, 4 repeat interviews	Content	Describe male nurses' experiences of providing intimate care for women.
72		Keogh, 2006	Nursing	11 male nurses	Interviews	Thematic analysis	Examine male nurses' experiences of caring for female patients in general and psychiatric contexts.
59		Evans, 2002	Nursing	8 male nurses	Interviewed twice	Thematic analysis Feminist theory	Explore experiences of male nurses and how gender relations structure different work experiences for women and men.
46		O' Lynn, 2011+	Nursing	24 adults	4 focus groups	Thematic analysis	Elicit the attitudes of laypersons on intimate touch provided by nurses in general and male nurses in particular.
#48	Mental health (n=6)	Salzmann-Erikson, 2005+	Nursing	4 patients Psychiatry	Interviews	Phenomenology	Investigate the meaning of physical contact for patients who had been treated for psychosis

Ref	Study Group	Source Paper	Discipline	Dataset	Method of Data Collection	Methodology	Aim
#52		Gleeson, Higgins, 2009	Nursing	10 psychiatric nurses	Interviews		Explore psychiatric nurses' perceptions of use of physical touch with people with mental health problems
49		Shattell, 2007+	Nursing	20 people with mental ill-health	Interviews	Phenomenology	Explore what is therapeutic about therapeutic relationships
63		Tommasini, 1990	Psychiatric nursing	27.5 hours of observation and Interviews with 13 nurses	Observation and Interviews	Content analysis	Describe decision-making processes and intentions of nurses who used nonprocedural touch in inpatient psychiatric settings.
71		Carlsson, 2000	Psychiatric nursing	Two nurses and 3 nurse assistants	Written narratives followed by interviews	Phenomenology	Identify caregiver strategies that brought about positive encounters with aggressive/violent clients in psychiatric-mental healthcare and elucidate/describe tacit caring knowledge.

Ref	Study Group	Source Paper	Discipline	Dataset	Method of Data Collection	Methodology	Aim
73		Van Dongen, 2001	Nursing	Psychiatry		Ethnography	Show: how people deal with touch outside 'normal' social life; how this way of communicating is linked with space, emotions, power; how it is culturally shaped.
36	Nursing – other (n=9)	Chang, 2001	Mixed/nursing	39 adults: healthcare professionals; in-patients; healthy people	Interviews	Thematic analysis	Identify characteristics, aspects, and structure of physical touch in caring.
#50		Pasco, 2004+	Nursing	23 Filipino Canadians	Interviews	Ethnography	Describe culturally embedded values that implicitly guide Filipino Canadian patients' interactions with Canadian nurses and are integral to nurse-patient relationships.

Ref	Study Group	Source Paper	Discipline	Dataset	Method of Data Collection	Methodology	Aim
#65		Picco, 2010	Nursing	14 nurses	Interviews	Phenomenology	Explore ward experiences of nurses in their daily relationships with bodies of patients they had attended to
29		Grant, 2005$	Nursing	1 student nurse	Narrative writing	Discourse analysis	Describe discourses of 'care' in the experience of becoming a nurse
74		Dell'Acqua, 1998	Nursing	37 nurses	Interview		Check perception on use of touch by nurses, classified as instrumental or expressive
53		McBrien, 2009	Nursing	10 nurses	Interviews	Template analysis	Explore nurses' experience of providing spiritual care in the accident and emergency setting
75		Morse, 1983	Nursing	4 nurses	Interviews	Ethnoscience	Explore comfort as a construct

Ref	Study Group	Source Paper	Discipline	Dataset	Method of Data Collection	Methodology	Aim
16		Williams, 2001	Nursing	10 nurses	Interviews	Content analysis	Investigated the perceptions and experiences of intimacy within the nurse-patient relationship
61		Lu, 2014 +	Nursing	18 adults	Focus groups	Thematic analysis	To investigate patient's wishes regarding intimate nursing care
#13	Medicine (n=4)	Cocksedge, 2013	Family medicine	26 -15 GPs -11 Patients	Interviews	Constant comparison	Explore GPs' and patients' experiences of using touch in consultations.
#15		Cocksedge, 2009	Family medicine	23 GPs	Interviews	Constant comparison	Explore subjective influence of individual doctors' selves on everyday doctor-patient interactions.
76		Marcinowicz, 2010+	Family medicine	36 patients	Interviews	Thematic analysis	Elucidate types of non-verbal behaviors perceived by patients interacting with family GPs and determine which cues are perceived most frequently.

Ref	Study Group	Source Paper	Discipline	Dataset	Method of Data Collection	Methodology	Aim
356		Williams, 2013	Medical students	36 students	4 focus groups	Thematic analysis	Understand the problems Caribbean students faced with nonverbal communication practices.
#17	Other health professionals (n=10)	Roger, 2002	Physiotherapy	15 physiotherapists	Video observations Interviews	Cross case analysis	Determine how physiotherapists use touch in inpatient acute and rehabilitation settings.
51		Helm, 1997	Physical therapy	40 physical therapists	Telephone interviews	Thematic analysis	Examine physical therapists' acquisition of touching style and how touch has influenced physical therapists' work with patients.
18		Hiller, 2015	Physiotherapy	9 physiotherapists patients	Observations Interviews	Ethnography	Explore models of healthcare communication between physiotherapist-patient in private practice

Ref	Study Group	Source Paper	Discipline	Dataset	Method of Data Collection	Methodology	Aim
12		Bjorbaekmo, 2016	Physiotherapy	9 physiotherapists 9 patients	Observations Interviews	Phenomenology	Explore and elaborate the meaning and significance of touch in physiotherapy
77		Jensen, 2000	Physiotherapy	12 physical therapists	Observation and interview, case study	Grounded theory	Identify the dimensions of clinical expertise in physical therapy practice.
#78		Consedine, 2007+	Osteopathy	5 patients	Interviews	Phenomenology	Examine and describe patients' experiences of touch during consultations with osteopaths.
#35		Schifter, 1999$ (dentistry)	Dentistry	41 students, residents, faculty	Focus group	Thematic analysis	Investigate acquisition and use of touching styles in dental students' and dentists' caring for patients within the context of professional education.
79		Tune, 2001	Psychotherapy	6 psychotherapists	Interviews	Grounded theory	To explore views of experienced therapists concerning use of touch in therapy.

Ref	Study Group	Source Paper	Discipline	Dataset	Method of Data Collection	Methodology	Aim
#57		Harrison, 2012	Psychology	6 psychologists	Interviews	Phenomenology (IPA)	Investigate views of clinical psychologists on touch in therapy
#56		Burkholder, 2010$	Counseling	Counseling 7 faculty 16 students	Focus groups	Phenomenology	Illuminate experiences of educators and students of training/ being trained in non-erotic touch in counselling

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290 **Table 2 – Studies examined by profession, themes, metaphors and new interpretative metaphors.**

Health profession, sub-group	Study resource number	Study themes	Author metaphors	Reviewer metaphors	Brief explanation of new metaphor
Nursing – touch as experienced by nurses caring for elderly patients	60, 47, 55, 30, 62, 54	Touch as care Touch as communication Touch is relational Touch is gendered Touch as power (who initiates) Touch is natural Touch is feminine	Warm fuzzies	Maternal Matriachal	Touch in nursing studies of elderly patients presented touch as 'mothering'. It is given by the nurse/ Mother, and is perceived as being caring. The nurse has a powerful influential role. Patients who break rules risk being disciplined.
Nursing – touch experienced by male nurses	28, 58, 27, 72, 59, 46	Touch is gendered (stereotypes) Touch is risk Touch as control Intimate (genital) touch Space & boundaries	Being a chameleon Uniform as a cloak Finding a safe space Vulnerable bodies Bodywork	Performing in the arena Space invaders	Touch is a strategic performance, in a high risk environment expressed through defensive language

Health profession, sub-group	Study resource number	Study themes	Author metaphors	Reviewer metaphors	Brief explanation of new metaphor
Medicine	13, 15, 76, 356	Touch as communication Touch as connection Touch as risk Space and boundaries	Offering Kleenex and retreating on coasters	A scaffold nail	Touch is an important communication tool, yet the doctor remains aloof. There is a distinction between touch as professional and touch as personal.
Physical therapies (physiotherapy, osteopathy)	17, 51, 18, 12, 77, 78	Touch is care Touch as communication Touch establishes relationships Touch is security Touch is part of healing	Safety Hands on	Hands on Support Security	Touch is about provision of physical and emotional security. Its integral to the job.
Mental health (mental health nursing, psychotherapy, psychology, counselling)	48, 52, 49, 63, 71, 73, 79, 57, 56	Touch as connection Touch as a boundary Touch is risk Space and boundaries The shame of touch	Take my hand Touch is taboo The untouchable Beyond words	An extended hand A lifeline Risky business Cost-benefit analysis	The ambiguity of the extended hand represents the tension between mental health professionals who recognize the value of touch in this vulnerable

Health profession, sub-group	Study resource number	Study themes	Author metaphors	Reviewer metaphors	Brief explanation of new metaphor
					population and the taboo of touch from a professional standpoint.
Patient studies	13, 76, 46, 48, 49, 47, 62, 36, 50, 78, 12, 18, 61	Touch occurs in the context of a relationship Touch from a HCP is expected and accepted		A balanced weighing scale	Patients acknowledge the risk and intimacy of touch but expect and accept touch is part of the experience of illness

302 **Table 3 Translation of second order constructs from study groups, to third order constructs and overarching themes.**

Resource number	2nd order construct(s)	3rd order construct	3rd order label	Theme
30, 47, 60 27, 58, 59 6, 36, 50, 53, 61 48, 49, 52, 57, 63, 71 13, 15, 76 17 12, 18, 75, 77	Touch (task and communicative) plays an important affective role to express comfort, love, reassurance.	Touch is an important means for healthcare professionals to convey caring attitudes and regard for patients.	Touch is Caring ('hands on')	Touch communicates caring
47, 60 48, 61 17, 51, 78	Caring involves creating security.			
49, 52, 56, 57, 13, 15, 76, 79	Offering, shaking, and holding a hand is a gateway to expressing care.			
51, 60, 61	Touch without caring is harmful.			

Resource number	2nd order construct(s)	3rd order construct	3rd order label	Theme
30, 47, 60 48, 52, 56, 48, 63, 73 13,15, 76 52, 12, 75	Touch is communicative. Although non-verbal, it invites verbal communication. Professionals must pay attention to the whole communicative context to determine if touch is appropriate or not.	Touch is a central need, which extends beyond words to express humanity. Touch makes us feel connected with one another and a wider community. This counteracts the isolation of illness. Loss of touch deprives us of our humanity.	Touch is 'beyond words'; a form of human connection	
47, 60, 62 50 47, 51, 57, 56,48, 63 36, 65 17, 75	Touch is relational. It is more acceptable when it occurs within a relationship that develops over time and less acceptable when the person who touches is a stranger, except in the severest illness.			
15, 36, 48,53	Touch is spiritual.			
60 63, 13, 17, 51, 77 35 16	Professional status permits purposeful touch.	Touch is an active tool to mediate power.	Touch is Power	Touch exercises power

Resource number	2nd order construct(s)	3rd order construct	3rd order label	Theme
47, 54, 55, 60, 62 72 48, 57, 49, 79 13, 15	There are different social rules about how professionals touch patients versus how patients touch professionals. The rules permit professionals to initiate touch, because it is 'beneficial', and patients accept it as a consequence of being ill. Social rules do not authorize patients to touch professionals, who may perceive touch as threatening.			

Resource number	2nd order construct(s)	3rd order construct	3rd order label	Theme
47, 54, 60	The interpretation of touch by professional and patient differs under different circumstances, e.g. professionals may feel touch is warranted as part of patient care but patients may not interpret it this way – in such cases, the authority of the professional is generally accepted and patients do not object to the use of touch.			
55, 62	The positioning of the professional and patient is important. Touch from above is associated with exertion of power.			
54, 55, 62 65 76	Professionals have the power to distance themselves by removing their hands or not touching patients in the first place. Just as touching is an expression of power, *not* touching can also be an expression of power.			

Resource number	2nd order construct(s)	3rd order construct	3rd order label	Theme
54, 58, 65	Bodywork is hierarchical; lower status healthcare professionals do more intimate work and vice versa.			
47, 60 28, 46, 58, 59, 72	Caring touch is feminine.	Touch is framed positively in nursing, traditionally a female profession. Expressions of care and touch tend to be presented in terms of 'warm fuzziness', which challenges how men, particularly male nurses, use touch. Sexual stereotypes of touch, particularly negative male stereotypes, challenge (almost prohibitively) male healthcare professionals' and patients' touching.	Touch is Gendered	
27, 28, 46, 58, 59, 72 61	Touch is a gendered performance.			
47, 54, 55, 60, 62 57 13, 15	Male and female patients are touched differently.			
27, 28, 59	Caring touch is feminized to the extent that male nurses feel they do not know how to touch and need to learn it.			

Resource number	2nd order construct(s)	3rd order construct	3rd order label	Theme
47 48, 52, 57, 75	Touch can be uncomfortable.	Touch is sensitive and has negative connotations. These range from discomfort to risk, threat or 'taboo'. Both patients and healthcare professionals may experience touch as threat. Unwanted touch causes fear.	Touch is Threat (touch is 'touchy'; 'hands off')	
54 56, 57, 79 13, 15, 16, 356	Touch is risk.			
27, 28, 58, 59, 72 48, 52, 56, 57	Touch is threatening.			
47, 54, 55, 60 50, 16, 356 48, 52, 56, 57, 63, 75, 79 13,15 17 35,75	The following types of boundary exist: -gender -physical -emotional -personal -professional	There are multiple boundaries related to touch. These are defined by the language of space (safe zones, territory). Professionals and patients use this language to negotiate boundaries. Each feels vulnerable and intimidated when the other invades their space.	Boundaries and Space	Touch demands safe spaces

303

Integrative Themes

Three themes were identified across the health professions literature. First, we interpreted authors' findings to suggest touch is an important means of communication, which expresses care. Second, our interpretations suggest using physical space sensitively helps professionals cross social boundaries in caring ways but patient experiences suggest it is easy to transgress by touching insensitively. Third, touch expresses power. We first present the themes and then use an overarching metaphor, the waltz of touch, to express the dynamic nature and social complexity of touching we drew from the primary publications cited.

Touch communicates care

A consistent finding across the literature was that professionals and patients value touch as a medium of caring communication. Yet how touch communicates care varies between professions. When nurses perform intimate bodily functions such as bathing and toileting, they use touch judiciously to deliver instrumental and emotional care according to individual patients' needs. Doctors do the same as they fulfil their diagnostic, procedural, and consoling roles through the medium of touch. In physiotherapy and osteopathy, touch appears to have two inextricable linked purposes: physically steadying patients both stops them falling and expresses security and safety. Mental health practitioners (psychiatric nurses, psychotherapists, psychologists, and counselors), who traditionally avoid touching patients, in these data, are much less accepting of touch as a means of expressing caring. Conversely, patients, including those admitted for mental health issues, say they expect to be touched (Cocksedge et al., 2013; O'Lynn & Krautscheid, 2011) and appreciate the way touch humanizes their experiences of care (Cocksedge et al., 2013; Pasco, Morse, & Olson, 2004; Routasalo & Isola, 1996; Salzmann-Erikson & Eriksson, 2005; Shattell, Starr, & Thomas, 2007). Touch is described by some authors using affective language; touch is comforting,

328 loving, gentle, and reassuring (Chang, 2001; Routasalo & Isola, 1996; Salzmann-Erikson &
329 Eriksson, 2005). Touch expresses warmth, compassion, serenity, and security (Helm, Kinfu,
330 Kline, & Zappile, 1997; Routasalo & Isola, 1996; Salzmann-Erikson & Eriksson, 2005).
331 Touching gives professionals a means of communication "*beyond words"*
332 (Bjorbækmo & Mengshoel, 2016; Cocksedge et al., 2013; Salzmann-Erikson & Eriksson,
333 2005), which fundamentally expresses humanity. Touch can help distressed patients, with
334 whom verbal communication is "*limited, inadequate or unnecessary"* (Gleeson & Higgins,
335 2009, p 386). It "*connects with clients at an emotional level or … as a way of communicating*
336 *'that you felt something in your heart for them . . .*" (Gleeson & Higgins, 2009, p 386).
337 Touch, according to some authors, has an almost spiritual dimension (Chang, 2001;
338 Cocksedge & May, 2009; McBrien, 2010; Shattell et al., 2007).

339 ***Touch crosses boundaries and requires safe spaces***

340 Overall, the studies we included lead us to understand healthcare touch as a dynamic
341 activity that involves constantly negotiating boundaries and spaces. Boundaries can be
342 physical, personal, or professional. Physical boundaries include states of dress (wearing
343 uniforms) or undress (receiving intimate body care), curtains, side-rooms, and desks. Age,
344 gender, culture, and prior experience of touch define patients' and healthcare professionals'
345 personal boundaries. The way healthcare professionals touch do so, however, is poorly
346 defined. Boundaries define 'safe spaces', or 'territories' that can be invaded or respected
347 (Cocksedge & May, 2009; Harding, North, & Perkins, 2008; McCann & McKenna, 1993;
348 Pasco et al., P. Routasalo & Isola, 1996). Categorization of parts of the body where touching
349 is acceptable has been suggested by some researchers to help inform this complex high stakes
350 interaction though recognition of cultural differences is less well documented (Burkholder,
351 Toth, Feisthamel, & Britton, 2010; Helm et al.,1997; Roger et al., 2002; Schifter, Bogert &

Boston, 1999). Our reading of the literature identifies physical space as an important factor. Authors suggest physical space may be the interpersonal space between a healthcare professional and a patient, the space between a patient and other patients, or the space within physical environments such as a ward, an outpatient clinic, a consultation room, or a patient's bedside, or home.

Touch exercises power

The idea that touch is linked to status appears repeatedly in the literature. Touch is most often initiated by people of higher status (Watson, 1975) and allows them to control people of lower status. Healthcare professionals are careful of the power of touch and use both verbal and non-verbal cues from patients to guide how they use touch in individual circumstances. The literature suggests touch is least likely to exert undue power over patients when it occurs within established relationships. Edwards found that nurses felt more comfortable to initiate touch than to be on the receiving end of it; patients who touched nurses deviate from 'rules' (Edwards, 1998) that define the status and rights of the two parties. Doctors, likewise, touch patients in the context of a professional relationship and do not expect patients to touch them back (Cocksedge et al., 2013). One study, in the context of mental illness, documented how patients who touch professionals exercise power, of a sort, over them. These authors conclude that by doing so, patients affirm their own humanity and encourage professionals to see beyond the diagnostic label attached to them and behave respectfully (Salzmann-Erikson & Eriksson, 2005).

Studies also demonstrated that although professionals use touch to express power, they are subject to its power. This is exemplified by studies of male nurses who avoid touching, are careful what they say about it, and use humor to mitigate its effects (Evans, 2002; Fisher, 2009; Harding et al., 2008; Inoue, Chapman, & Wynaden, 2006; Keogh &

Gleeson, 2006; O'Lynn & Krautscheid, 2011). For this group of men, touching was charged with emotions, which are mainly negative and include discomfort, fear, and a sense of vulnerability. Whilst strongest among male nurses, and weakest among physiotherapists and osteopaths, the risky nature of touch pervades all disciplines. Research in psychology contends touch is '*taboo*'; it is a '*high-risk activity'* (Burkholder et al., 2010). According to Harrison, Jones and Huws (2012) the idea of a psychologist touching a patient is shameful (Harrison, Jones, & Huws, 2012). It has also been documented that physicians can also behave evasively, using boxes of tissues and pushing their chairs back to avoid touching patients (Cocksedge & May,2 009).

We interpreted the literature to mean, touch is risky because of its unspoken, sexualized nature. It is a gendered act. In a study of male nursing that investigated touch from the nurses' point of one male nurse respondent, said "*I steer clear of female patients because I am just very aware of allegations...it's just something that I am very uncomfortable if I would be left on my own with a female patient."* (Keogh & Gleeson, 2006, p. 1173). In a different study conducted with family physicians, a family doctor is quoted as saying"*I almost never use physical contact, because I think it can be misinterpreted. You're putting yourself at risk."* (Cocksedge et al., 2013, p. 287). This sexualization helps begin to explain why experiences of touch appear to be so different for male compared to female nurses. Nursing was, historically, a female profession; the word *nurse* means suckling, a female, motherly function. Research from approximately a decade past conclude, it may have been acceptable for women to have intimate, non-sexual contact with another's body because touch is accepted as a *female* expression of care (Harding et al., 2008). Routasalo and Isola (1996) suggest female nurses' touch is natural and maternal "*They described the nursing of elderly patients as similar to that of small children; it was essentially about looking after a*

weak person" (p. 173). We noted researchers have shown male touch, in contrast, is sexualized and associated with the stereotypes of sexual predator and homosexual person (Evans, 2002; Inoue et al., 2006; Fisher, 2009). Male nurses may, to mitigate this risk, stop participating directly in patient care (Evans, 2002). Others have reported even female nurses avoid touching 'risky' patients, including elderly men (Watson, 1975; Routasalo & Isola, 1998). The link between the sexualization of touch and risk is also apparent in psychology and counseling, where young women with psychiatric illness are seen as risky (Gleeson & Higgins, 2009). Getting touch wrong has significant personal and social consequences, particularly for professionals, who can lose their livelihood as a result.

Integrating metaphor: The waltz of touch

Our conceptualization of touch that crosses boundaries between health disciplines, to summarize, is that the research to date on touch indicate touch communicates care 'above words' whilst exercising power over the person who touches as well as the person who is touched. How, then, can it be a dynamic activity where boundaries and spaces are constantly negotiated? Metaphor rises above words. We use it now to convey the holistic, integrated nature of touch.

Imagine you are in a crowded 19th century Viennese ballroom. An orchestra plays a Strauss waltz and silk swirls as pairs of dancers twirl across the floor. This is a magical sight – almost beyond words - yet your gaze is drawn towards the subtly different ways in which couples lead and follow one another. Some dance competently and yet look uncomfortable, some clumsily follow the rules of the dance, whilst others glide effortlessly in tune with the music and each other. Around the room, others are taking in the magic but perhaps also trying to take in its essence so they can glide effortlessly too. Through open windows, you spy a couple dancing out of the public eye, on the balcony. What does it take to fall under the

spell of the waltz?

A strength of metaphors is that they can put the familiar alongside the unfamiliar and make new meaning. But that can also be weakness when, for example, likening touch in healthcare to a crowded room of dancers seems disrespectful and jars. Yet the Viennese dance floor has much in common with everyday healthcare: a dynamic, ever-changing, rule-bound environment, which shapes interactions between partners whose status can never, truly, be the same. Waltz in a rehearsal room is different from waltz in a ballroom just as touching a patient in a curtained bed on an open ward is very different from the privacy of a consultation room, and different again from in patient's home. What seems to be a routine part of healthcare is, in reality, highly individual to the professional and patient who interact at a particular moment and in a particular context. Think for a moment how this metaphor enlivens touch in a way that defies categorization.

As a couple connect through dance, so two people are connected by touch in the intimacy of healthcare; like the couple waltzing on the balcony. Their experience varies with their professional and professional experience, their ages, and their genders. It is easy enough to learn the basic steps of a waltz but dancers will quickly tire of books and rehearsal halls and yearn for ballrooms. When they partner with strangers, they may move clumsily or they may be magically transformed. The 19th century ballroom could make or break peoples' reputations, depending on how others interpreted their behavior. At present, the practice of touch lacks the magic of dance because different professions have different rulebooks, dance steps and rhythms. The waltz of touch in healthcare is not a dance of equals because professionals are taught to leads and expect patients to follows. Men have traditionally led the dance of touch yet women may be better at leading the waltz of touch, particularly when careless leadership could lead to accusations of impropriety. The waltz shows us how much,

448 despite centuries of progress in clinical science, clinical practice and education have to learn
449 from 19th century Viennese ballrooms.

450 ## Discussion and Conclusion

451 Every day, in clinics and hospitals worldwide, patients allow healthcare professionals
452 to touch their bodies. Despite that, touch has not been the focus of extensive study. We
453 identified 41 research studies spanning 40 years and seven disciplines that report patients'
454 and healthcare professionals' experiences of touch. We use the metaphor of a waltz to
455 express our final line of argument. The evidence suggests touch fulfills many roles in
456 healthcare: touch is diagnostic, procedural, and an expression of care. As, a medium of
457 communication, the affective dimension surpasses the meaning of spoken words. Touch,
458 even when it performs essential clinical tasks, can be interpreted as an expression of
459 compassion, empathy, care, and presence. Touch is credited with healing power when a
460 patient and a professional together create a space where they can safely touch. Creating that
461 space, however, may be fraught with potential danger.

462 The risks and dangers of abusing touch permeate the studies. Social and psychological
463 harm has been researched more than physical harm. Men and women, as initiators and
464 recipients of touch may interpret touch in ways differently than intended, which may
465 overshadow the potential therapeutic benefits of touch. These findings make clinical practice
466 difficult because those providing care must remain conscious of the different interpretations
467 of this activity and the inherent risk of touching individuals placed in their cares. They must
468 decide if, when, and how to touch as they negotiate personal and professional boundaries
469 specific to each case. The publications in this review mostly present this enactment as
470 'intuitive' yet it may not necessarily remain the case (Tommasini, 1990; Routasalo & Isola,

1996; Roger et al., 2002 Cocksedge & May, 2009; Harrison et al., 2012). At best, the research on touch to date indicates touch in the healthcare professions is a conflicted and ill-defined practice in which wider societal rules operate. Findings indicate that sociopolitical and culture inform how touch is experienced by professionals and patients in the different care contexts.

A phenomenological approach to understanding touch, such as is advocated here, suggests this more holistic approach is warranted. Drawing on the body-subject concept (Merleau-Ponty, 1945/2013) our experiences of the body and mind coexist. We cannot leave our bodies. Flesh is the materiality through which we know the world. Being touched back by a patient brings the 'person-subject' into focus. As I touch, I am touched; in that moment of touching, we connect. The body sensate asserts itself. If we conceptualize touch as a physically and metaphorically bi-directional phenomenon and abandon the view that professionals are exclusive purveyors of touch, we move beyond power hierarchies that emphasize patients' vulnerabilities. We invite connection on a level that is grounded in mutual regard and reciprocity. We acknowledge our own as well as our patients' vulnerability and humanity. This is more in keeping with contemporary notions of relationship-centred care (Beach & Inui, 2006). The neutrality of the term 'connection' broadens the concept of touch beyond comfort, which, despite being the dominant focus in nursing, does not represent the totality of touch.

The context in which people touch one another influences their experiences in important ways (Bottorff, 1992; Estabrooks & Morse, 1992; Jones & Yarbrough, 1985; Routasalo, 1999). Our synthesis highlights the multiple dimensions of context, from the immediate 'micro-environment' in which it occurs to meso (nursing home, hospital, clinic factors) and macro (discipline, system, societal) levels.

Strengths and limitations

An important feature of this study is our multidisciplinary team approach. We met regularly, kept extensive records and reflective notes, and rotated our work in pairs to ensure that the method of analysis was consistent. We phased our synthesis, starting by clustering studies according to professional discipline. The advantages of this were that we could more readily identify similarities and differences as well as outliers or extreme cases (Paterson, Thorne, Canam, Jillings, 2001). Two senior authors acted as 'critical friends' to interrogate our process and challenge preliminary findings. As the study progressed, we presented our initial findings to various healthcare professionals, including at conference. We discussed our preliminary results with subject experts and with three first authors of papers included in the review, to solicit feedback on methods and findings.

A potential criticism is our focus on 'everyday practice'. We chose this because a substantial proportion of clinical practice is non-specialized adult care. Also, it allowed us to focus our question and consider a manageable dataset for analysis. Pediatrics, oncology, and palliative care remain as topics for future research.

We chose a meta-ethnographic approach, which limited us to primary research. In doing so, we excluded many editorials, letters, and opinion pieces that represent a 'voice' within healthcare. Choosing meta-ethnography required us to synthesize findings from a variety of theoretical backgrounds and epistemological positions, which were often left unstated. Working as a team allowed us to examine this heterogeneous group of studies from a variety of perspectives and reaching consensus through rich discussion. We acknowledge that a different group of researchers using the same interpretive approach might have arrived at a different account. Our choice of the waltz metaphor was even more subjective; and other research teams may have interpreted the data from a different perspective with a different

different outcome (Noblit & Hare, 1988, p. 32). We chose the waltz metaphor because it best encapsulated our interpretation of the research findings to date and the essence of touch. The waltz communicates the complexity more holistically and makes our findings more accessible to at least some readers. It was the metaphor that best fulfilled Noblit and Hare's criterion of apparency.

Practice Implications

Until relatively recently, there was an assumption that communication skills could not be learned. Now it is unthinkable for a medical school not to teach them. Touch could be considered similarly. Described as a 'gestalt' (Estabrooks & Morse, 1992) and 'intuition', the messiness and ambiguity of touch creates educational needs. These include: being more explicit about using the word; talking about how (and why) we touch in healthcare; acknowledging differences between disciplines; including patients; and not hiding from gender roles and risks.

Others before us have called for touch to be included within formal curricula in medicine (Verghese, 2009), nursing (Evans, 2002; Grant, Giddings, & Beale, 2005; O'Lynn & Krautscheid, 2011; Tuohy, 2003), physiotherapy (Roger et al., 2002), and dentistry (Schifter et al., 1999). Before such interventions are introduced, however, we need to understand more about how practicing healthcare professionals learn to touch. In tandem with this, we need to know if and how current healthcare educators teach touch. The focus of much research to date has been on classifying touch and mapping which parts of patients' bodies are touched. Our synthesis moves beyond a taxonomic approach to emphasize the relational nature of touch and the importance of context. Exploring the social and professional milieu in which touch occurs fosters deeper consideration of its complexity as a form of human interaction and moves forward from a solely behavioral focus. Whilst it

expresses a serious point, our final integrative metaphor is deliberately playful and could be used that way in classrooms; for example, by using dance as a novel form of non-verbal communication. Just removing the concept of touch from specific activities, such as examining patients and washing them, could facilitate critical reflection by 'making the familiar strange' (Kumagai & Wear, 2014).

This review shows that further research could usefully broaden and deepen a limited evidence base. Our knowledge comes from a small pool of studies of selected populations, often lacking theoretical depth and detail. Age and culture, for example, are repeatedly referenced as issues to consider when using touch, yet neither area is expanded upon. Even in studies of elderly people, the age range of respondents is wide, and only four studies specifically examined culture (Chang, 2001; Lu, Gao, & Zhang, 2014; Pasco et al., 2004; Williams et al., 2013). There is a dearth of research on everyday touch in medicine; there have only been two studies and these were by the same research team in a single discipline: family medicine (Cocksedge et al., 2013; Cocksedge & May, 2009). Increasingly medicine is moving away from the bedside, and 'hands-on' care is delegated to others s, which suggests medicine no longer values touch. Finally, there appears to be a systematic publication bias towards touch as a positive experience. Whilst there are anecdotal reports in the media and all of us have heard people say they were touched harshly, researchers have had little to say about violent or rough touch.

Conclusion

Touch is central to human experience and yet it has been the focus of surprisingly little research in healthcare. On first reading, much of the published literature presents touch as an undervalued means to communicate care. Yet the praxis of touch is conflicted. Subliminal messages of sexual tension, power, and the need for regulation pervade our

interpretation of the research evidence so far. We understand that fear of misinterpretation of other's touch and healthcare's increasing reliance on technology as means of understanding the body and the experiences of the other are but two of the potential threats to ca continued role of touch in health care. Deepening our understanding of providers' experiences of touch and dialogue on touch may help to protect the role of touch as a powerful means of connecting with our patients.

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