

**The intensity of breast cancer patients' relationships with their surgeons after their first meeting:  
evidence that relationships are not 'built' but arise from attachment processes**

**Helen Beesley, Macmillan Principal Clinical Psychologist<sup>1,2,</sup>**

**Sarah Goodfellow, Senior Clinical Psychologist<sup>1</sup>**

**Christopher Holcombe, Professor and Consultant Breast surgeon<sup>3</sup>**

**Peter Salmon, Professor of Clinical Psychology<sup>1</sup>**

<sup>1</sup>Division of Clinical Psychology, University of Liverpool, Whelan Building, Brownlow Hill, Liverpool  
L69 3GB, UK

<sup>2</sup>Liverpool Cancer Psychology Service, Linda McCartney Centre, Royal Liverpool University Hospital,  
Prescot Street, Liverpool L7 8XP, UK

<sup>3</sup>Breast Unit, Linda McCartney Centre, Royal Liverpool University Hospital, Prescot Street, Liverpool  
L7 8XP, UK

*S. Goodfellow current address: Psychology Department, Sheffield Children's Hospital, Ryegate  
Children's Centre, Tupton Crescent Road, Sheffield, S10 5DD, UK*

*Correspondence to:*

Dr Helen Beesley

'phone +44 151 706 3126

Division of Clinical Psychology

email: h.c.beesley@liv.ac.uk

University of Liverpool

Whelan Building

Brownlow Hill

Liverpool L69 3GB

UK

Keywords: working alliance; patient doctor relationship; breast cancer

## **Abstract**

**BACKGROUND.** Cancer clinicians are exhorted to build clinical relationships with their patients over time using patient-centred communication skills. An alternative view is that patients' sense of relationship is a response to clinicians' expertise and authority and therefore is normally present from the start.

**OBJECTIVE.** We measured the intensity of breast cancer patients' sense of relationship with their surgeon after their first brief, diagnostically focused meeting in order to compare it with published reports from patients in other types and stages of clinical relationship.

**PARTICIPANTS.** Women (N=133) over 18 years old and due to undergo surgery for primary breast cancer were recruited consecutively from pre-operative clinics.

**DESIGN.** Patients reported the intensity of their relationship with the surgeon on a standardised questionnaire (Working Alliance Inventory). We compared their ratings with published reports over the last 15 years, in which patients in other types of clinical relationship completed the same questionnaire.

**RESULTS.** Patients' alliance with their surgeons was very high (mean 6.13, 95% CI: 5.99, 6.27, on a 1-7 scale), and at 90<sup>th</sup> percentile when compared with scores from other settings, including those characterized by many hours of talk addressing patients' emotional needs.

**CONCLUSIONS.** Patients with breast cancer feel an intense sense of relationship with the surgeon from the first meeting, consistent with the view that their sense of relationship arises primarily from their recognition of the surgeon's expertise and authority. The challenge for surgeons is therefore not usually to 'build a relationship' but to support the sense of relationship that patients have from the start.

## INTRODUCTION

The clinical relationship is widely regarded as central to the quality of cancer care. There are, however, different views about how relationships arise. An influential view is that the relationship depends critically on clinicians recognising and addressing patients' emotional needs [1, 2]. On this analysis, relationships are 'built' gradually over time by clinicians' use of patient-centred communication skills [3, 4].

An alternative view, derived from 'attachment theory', is that patients' sense of relationship arises from their dependency needs and their appreciation of the clinician's expertise [5, 6]. Attachment theory, first developed to explain children's relationship with their care-givers, has been applied to adults and specifically to clinical relationships when people are threatened by serious illness such as cancer [5, 7-10]. From this perspective, in the absence of childhood or later experiences that can disrupt attachment processes, when people feel threatened their overwhelming priority is to create a sense of relationship with someone whom they regard as having the authority and expertise to look after them. Diagnosis of breast cancer leaves patients feeling helpless and vulnerable, and nearly half of women with early breast cancer experience depression, anxiety or both within the first year after diagnosis [11]. The consultant surgeon is normally the clinician whom they see as having the expertise and authority to help and in whom they invest their hopes for the future [12]. Attachment theory therefore predicts that patients would normally feel an intense relationship with the surgeon from the start, based on interactions in consultations that have focused on clinical assessment and treatment and not explicitly on emotional needs.

We therefore measured the strength of relationship that breast cancer patients reported with their surgeon after their very first, diagnostic meeting. We calibrated its intensity by comparison with values in published reports of patients' relationships with other practitioners, including in psychological treatment where there is extensive patient-centred emotional discussion over many meetings. If breast cancer patients' sense of relationship is gradually built by surgeons' communication skills, we should expect the intensity of relationship after one diagnostic consultation to be low by comparison with published reports. By contrast, if patients' sense of relationship arises, in part, from their dependency on the surgeon's expertise, we expect the relationship to be at least as intense as in those reports.

## METHOD

### *Participants*

Women aged over 18 years old with primary breast cancer and due to undergo mastectomy or wide local excision were recruited from a specialist breast unit in a large city. Patients with cancer recurrence or metastases were excluded to ensure findings were not influenced by patients' previous interactions with breast cancer surgeons. Patients were under the care of one of six surgeons (three female) whom they had met once for assessment and diagnosis.

### *Procedure*

After ethical approval (05/Q1505/144), patients were told about the study by a breast nurse at a routine home visit. On arrival for the pre-operative clinic, normally within two weeks after diagnosis, a nurse asked suitable patients for agreement to see the researcher who sought written consent. Consenting patients completed self-report questionnaires in a private room before their clinic appointment.

Before recruitment, patients had met their surgeon in either a symptomatic diagnostic clinic or a breast screening results clinic, depending on their presentation. In the symptomatic clinic, they were examined by the surgeon, then underwent diagnostic tests and saw the surgeon again to receive the cancer diagnosis in the presence of a breast nurse. In the screening results clinic, patients met the surgeon once to receive their diagnosis in the presence of a breast nurse. Patients had therefore seen their surgeon for 10 to 40 minutes focusing on clinical assessment, diagnosis and treatment planning.

### *Measurement intensity of clinical relationship*

Patients completed the Working Alliance Inventory (WAI)[13, 14] to indicate their sense of relationship with the surgeon. The full scale contains 36 items, so to expedite patients' participation in the busy conditions of the clinic we used a previously reported short form containing 12 items. Each item is a statement about the clinical relationship (e.g. 'I am confident in the surgeon's ability to help me') and is scored 1 (never) – 7 (always). The short form produces scores which are interchangeable with those from the full scale containing 36 items[15]. The WAI yields scores for

subscales measuring three components of relationship: emotional bond; shared sense of goals; and shared commitment to tasks. These are summed to a total score. To ensure face-validity for a surgical context some items were reworded to refer to a clinical rather than psychotherapeutic consultation. We confirmed that internal consistency reliability (Cronbach's alpha) for the total score in the present sample was high (.85). Scores are presented as the item mean (i.e. range 1-7).

To identify reports of clinical relationships to which we could compare the present findings, we searched research literature (using Medline and Science and Social Science Citation Indices) for English-language reports including 'Working Alliance' in title, abstract or key words from January 1998-September 2014. Abstracts were screened to identify potentially suitable papers. We retained only those that reported scores for relationships with adult patients in a healthcare setting. We excluded reports of patients with psychosis, substance abuse or eating disorders, and noted the nature and duration of the relationship and whether the relationship was with a physical or mental health practitioner.

#### *Data analysis*

We calculated the mean and 95% confidence interval for patients' scores of their relationship in the present study. Scores from published studies were grouped according to whether they indicated relationships with a psychological practitioner (psychotherapist, psychologist, psychiatrist or counsellor) or a physical practitioner (doctor, physiotherapist, case manager ) and relationships that were relatively brief ( $\leq 4$  meetings) or longer established ( $>4$  meetings). Where studies reported multiple values for alliance, describing different samples or different stages in the clinical relationship, each reported value was included. We graphically compared total alliance scores and confidence interval for the present sample with those from previous reports.

## RESULTS

### *Sample characteristics*

Of 158 patients who were asked for consent, 143 agreed and 133 provided sufficient data for analysis. Mean age was 58.9 years (SD 10.9). All but one described their ethnicity as white British; 84 (63%) were married or living with a partner; 53 (40%) were in work, 55 (41%) retired or 11 (8%) not working for health reasons; 63 (47%) reported no educational qualifications. Cancer was screen-detected in 70 (52%); 80 (60%) were scheduled for wide local excision, the remainder for mastectomy. The Nottingham Prognostic Index[16] indicated probability of 15-year survival at 80% for 50 (37%) patients, 42% for 60 (45%) and 13% for 24 (18%).

### *Intensity of relationship*

Patients' ratings were very high in absolute terms: mean total score was 6.13 (95% CI: 5.99, 6.27), corresponding to a level on the 1-7 scale better than 'very often' on positively worded items such as 'I believe that my surgeon appreciates me' and better than 'rarely' on negatively worded items such as 'My surgeon and I have different views on what my problems are'.

From 45 published studies in which the WAI was used to measure intensity of clinical relationships, we identified 72 measurements of alliance (Figure 1). Most described relationships with psychological practitioners (counsellors and psychotherapists) [15, 17-57]. Three papers reported on relationships with physical practitioners, including relationships of cardiac and multiple sclerosis patients with staff providing cardiac and neuropsychological rehabilitation, respectively [58-60]. Mean score in the present study was very high by comparison with those published reports, being at the 90<sup>th</sup> percentile; i.e. 61 (89%) of the published scores were less than the score in the present study. Only 10 reported measurements (14%) reached the 95% CI around the mean score in the present study, and only three of these exceeded it. We examined the details of those scores in order to identify what kinds of relationship reached or exceeded the intensity of that described by breast cancer patients in the present study. The seven reports of scores within the 95% CI of the mean score of patients in the present study were all from psychotherapeutic or counselling relationships and were recorded after two-20 hours of psychotherapy or counselling [29, 31, 41].

The three values that exceeded the 95% CI of the present study were from cardiac and multiple sclerosis patients after around 12 weeks of weekly rehabilitation [58-60].

## DISCUSSION

Patients with breast cancer reported an intense sense of clinical relationship with their surgeons after only a single, diagnostic meeting. The strength of the relationship exceeded 89% of the values reported previously for clinical relationships, including those in psychological treatment and counselling.

A few published reports did exceed the intensity of relationship reported by patients in the present study, but these described relationships after around three months of weekly interaction in cardiac or neurological rehabilitation programmes. Earlier in those programmes, patients had rated the relationships less intensely than in the present study. Similarly, a few psychotherapeutic or counselling relationships reached the levels reported here but these, too arose after as many as 20 hours of talking. It seems that, judged by their patients' experience, and after only a single consultation that focuses on diagnosis and treatment, surgeons can rapidly achieve intense clinical relationships without the explicit discussion of emotional or social needs that underlies the strength of other practitioners' clinical relationships.

The findings are incompatible with the influential view that cancer clinicians need to build clinical relationships by engaging explicitly with patients' emotional needs[61]. The surgeons' diagnostic meeting with their patients lasted only 10-40 minutes and was necessarily dominated by clinical assessment and treatment planning. Our findings are, instead, compatible with using attachment theory to understand the surgeon-patient relationship in cancer [5, 6]. That is, because of their vulnerability, patients invested their trust in the person whom they felt had the authority and expertise to help them feel safe, i.e. the surgeon. On this analysis, and consistent with previous qualitative evidence[12, 62], breast cancer surgeons foster relationships, not by engaging explicitly with patients' emotional or psychosocial concerns, but by focusing on diagnosis and treatment and by conveying that they can be trusted to deploy their expertise and authority conscientiously for the patient [63].

### *Strengths and limitations*

The study has limitations. The WAI, like other available measures of clinical relationships, was developed for mental health care, and methods tailored specifically to physical health care are needed. The findings describe a single breast unit and further research is needed to test their generalisability. The findings refer only to patients with primary breast cancer, and to their first meeting with the surgeon. We do not know how continuing interaction with the surgeon and the clinical team influence patients' sense of relationship as care continues beyond this consultation or through diagnosis of recurrence or metastases. The key strength of the study is that we measured an aspect of care – patients' experience of the clinical relationship – for which cancer practitioners are widely criticized[61]. Whereas these criticisms are typically based on observations of practitioners' communication, and inferring what these signify for the relationship, we studied the relationship by asking patients about it directly.

#### *Clinical and research implications*

These findings converge with other recent evidence that, in cancer care, patients' sense of clinical relationship arises from their judgment of clinicians' expertise and authority rather than from clinicians taking the role of counsellors [64, 65]. They therefore point to implications for clinical practice and education that diverge greatly from the current emphasis on clinicians using patient-centred communication skills, in particular engaging explicitly with patients' emotional concerns, to 'build' clinical relationships. Surgeons can comfort patients, instead, by focusing on expert clinical care, and by communicating to patients that they will conscientiously apply their expertise and authority for the patients' benefit. They may need to avoid emotional talk in order to prioritise clinical care[62]. They also need to appreciate the intense sense of relationship that patients can have from the start, even with surgeons who barely know them. In this context, surgeon behaviour that patients interpret as lack of authority in clinical management or incomplete commitment to the patient can challenge patients' attachment [12].

Whereas communication teaching currently emphasizes communication skills, surgeons and other clinicians might benefit from learning also about attachment theory so that they can understand how patients' sense of relationship normally arises, and how they can best support this. There are implications for research, too, that diverge from the current concern with clinicians' skills for engaging emotionally with patients. Research into how patients judge their clinicians' expertise and authority in cancer care could inform communication education that addresses patients' needs to feel cared for by conscientious experts. The present study concerned patients' first meeting with their surgeon. A further priority for future research is to examine how the initial sense of



relationship that we described is affected by continuing contact with the clinical team as treatment progresses.

### **ACKNOWLEDGMENTS**

We are grateful to Janet McKechnie and Anne-Marie Sherlock for facilitating patient recruitment, and to the breast care nurses and other staff of the Linda McCartney Centre for their enthusiastic help and cooperation. We are also grateful to the patients who participated.

## References

1. Brown JB, Stewart M, McWilliam CL: **Using the patient-centered method to achieve excellence in care for women with breast cancer.** *Patient Education and Counseling* 1999, **38**:121-129.
2. Siminoff LA, Graham GC, Gordon NH: **Cancer communication patterns and the influence of patient characteristics: Disparities in information-giving and affective behaviors.** *Patient Education and Counseling* 2006, **62**:355-360.
3. Ong LM, L, Visser MRM, Lammes FB, de Haes JCJM: **Doctor-Patient communication and cancer patients' quality of life and satisfaction.** *Patient Education and Counseling* 2000, **41**:145-156.
4. McWilliam CL, Brown JB, Stewart M: **Breast cancer patients' experiences of patient-doctor communication: a working relationship.** *Patient Education and Counseling* 2000, **39**:191-204.
5. Salmon P, Young B: **Dependence and caring in clinical communication: The relevance of attachment and other theories.** *Patient Education and Counseling* 2009, **74**:331-338.
6. Wright EB, Holcombe C, Salmon P: **Doctors' communication of trust, care, and respect in breast cancer: qualitative study.** *BMJ* 2004, **328**(7444):864.
7. Wilkinson SR: *Coping and Complaining: Attachment and the Language of Dis-ease.* Hove: Brunner-Routledge; 2003.
8. Ciechanowski P, Katon W, Russo J, Walker E: **The patient-provider relationship: attachment theory and adherence to treatment in diabetes.** *American Journal of Psychiatry* 2001, **158**:29-35.
9. Maunder R, Panzer A, Viljoen M, Owen J, Human S, Hunter J: **Physicians' difficulty with emergency department patients is related to patients' attachment style.** *Social Science and Medicine* 2006, **63**:552-562.
10. Salmon P, Holcombe C, Clark L, Krespi R, Fisher J, Hill J: **Relationships with clinical staff after a diagnosis of breast cancer are associated with patients' experience of care and abuse in childhood.** *Journal of Psychosomatic Research* 2007, **63**:255-262.
11. Burgess C, Cornelius V, Love S, Graham J, Richards M, Ramirez A: **Depression and anxiety in women with early breast cancer: five year observational cohort study.** *BMJ* 2005, **330**(7493):702.
12. Wright EB, Holcombe C, Salmon P: **Doctors communication of trust, care, and respect in breast cancer: qualitative study.** *British Medical Journal* 2004, **328**(7444):864-867.
13. Horvath AO, Greenberg LS: **DEVELOPMENT AND VALIDATION OF THE WORKING ALLIANCE INVENTORY.** *J Couns Psychol* 1989, **36**(2):223-233.
14. Tracey TJ, Kokotovic AM: **Factor structure of the working alliance inventory.** *Psychological Assessment* 1989, **1**(3):207-210.
15. Busseri MA, Tyler JD: **Interchangeability of the Working Alliance Inventory and Working Alliance Inventory, short form.** *Psychological Assessment* 2003, **15**(2):193-197.
16. Galea MH, Blamey RW, Elston CE, Ellis IO: **The Nottingham Prognostic Index in primary breast cancer.** *Breast Cancer Res Treat* 1992, **22**(3):207-219.
17. Busseri MA, Tyler JD: **Interchangeability of the Working Alliance Inventory and Working Alliance Inventory, short form.** *Psychological Assessment* 2003, **15**:193-197.
18. Reis S, Grenyer BFS: **Fearful attachment, working alliance and treatment response for individuals with major depression.** *Clinical Psychology & Psychotherapy* 2004, **11**:414-424.
19. Hersoug AG, Monsen JT, Havik OE, Hoglend P: **Quality of early working alliance in psychotherapy: Diagnoses, relationship and intrapsychic variables as predictors.** *Psychother Psychosom* 2002, **71**:18-27.
20. Hatcher RL, Gillaspay JA: **Development and validation of a revised short version of the Working Alliance Inventory.** *Psychotherapy Research* 2006, **16**:12-25.

21. Busseri MA, Tyler JD: **Client-therapist agreement on target problems, working alliance, and counseling outcome.** *Psychotherapy Research* 2004, **14**:77-88.
22. Missirlian TM, Toukmanian SG, Warwar SH, Greenberg LS: **Emotional arousal, client perceptual processing, and the working alliance in experiential psychotherapy for depression.** *Journal of Consulting and Clinical Psychology* 2005, **73**:861-871.
23. Pos AE, Greenberg LS, Goldman N, Korman LM: **Emotional processing during experiential treatment of depression.** *Journal of Consulting and Clinical Psychology* 2003, **2003**:1007-1016.
24. Cook JE, Doyle C: **Working alliance in Online therapy as compared to face-to-face therapy: Preliminary results.** *Cyberpsychology and Behavior* 2002, **5**:95-105.
25. Paivio SC, Patterson LA: **Alliance development in therapy for resolving child abuse issues.** *Psychotherapy* 1999, **36**:343-354.
26. Hersoug AG, Hogland P, Monsen JT, Havik OE: **Quality of working alliance in psychotherapy: therapist variables and patient/therapist similarity as predictors.** *Journal of Psychotherapy Practice and Research* 2001, **10**:205-216.
27. Paivio SC, Hall IE, Holoway KAM, Jellis JB, Tran N: **Imaginal confrontation for resolving child abuse issues.** *2001* 2001, **11**:433-453.
28. Kivlighan DM, Patton MJ, Foote D: **Moderating effects of client attachment on the counselor experience working alliance relationship.** *Journal of Counseling Psychology* 1998, **45**:274-278.
29. Paivio SC, Bahr LM: **Interpersonal problems, working alliance, and outcome in short-term experiential therapy.** *Psychotherapy Research* 1998, **8**:392-407.
30. Baldwin SA, Wampold BE, Imel ZE: **Untangling the alliance-outcome correlation: Exploring the relative importance of therapist and patient variability in the alliance.** *Journal of Consulting and Clinical Psychology* 2007, **75**:842-852.
31. Goldman GA, Anderson T: **Quality of object relations and security of attachment as predictors of early therapeutic alliance.** *Journal of Counseling Psychology* 2007, **54**:111-117.
32. Schonberger M, Humle F, Teasdale TW: **The development of the therapeutic working alliance, patients' awareness and their compliance during the process of brain injury rehabilitation.** *Brain Injury* 2006, **20**:445-454.
33. Marmarosh CL, Kivlighan DM: **Relationships Among Client and Counselor Agreement About the Working Alliance, Session Evaluations, and Change in Client Symptoms Using Response Surface Analysis** *Journal of Counseling Psychology* 2012, **59**:352-367.
34. Lo Coco G, Gullo S, Prestano C, Gelso CJ: **Relation of the real relationship and the working alliance to the outcome of brief psychotherapy.** *Psychotherapy* 2011, **48**(4):359-367.
35. Hersoug AG, Høglend P, Havik OE, Monsen JT: **Development of working alliance over the course of psychotherapy.** *Psychology and Psychotherapy: Theory, Research and Practice* 2010, **83**(2):145-159.
36. Marmarosh CL, Gelso CJ, Markin RD, Majors R, Mallery C, Choi J: **The real relationship in psychotherapy: Relationships to adult attachments, working alliance, transference, and therapy outcome.** *Journal of Counseling Psychology* 2009, **56**(3):337-350.
37. Sauer EM, Anderson MZ, Gormley B, Richmond CJ, Preacco L: **Client attachment orientations, working alliances, and responses to therapy: A psychology training clinic study.** *Psychotherapy Research* 2010, **20**(6):702-711.
38. Falkenstrom F, Granstrom F, Holmqvist R: **Working alliance predicts psychotherapy outcome even while controlling for prior symptom improvement.** *Psychotherapy Research* 2014, **24**(2):146-159.
39. Samardzic L, Nikolic G: **Transference patterns and working alliance during the early phase of psychodynamic psychotherapy.** *Vojnosanitetski Pregled* 2014, **71**(2):175-182.

40. Yoo S, Hong S, Nanhee S, O'Brien KM: **Working alliance as a mediator and moderator between expectations for counseling success and counseling outcome among Korean clients.** *Asia Pacific Education Review* 2014, **15**:271-281.
41. Sauer EM, Lopez FG, Gormley B: **Respective contributions of therapist and client adult attachment orientations to the development of the early working alliance: A preliminary growth modeling study.** *Psychotherapy Research* 2003, **13**:371-382.
42. Hersoug AG, Monsen JT, Havik OE, Hoglend P: **Quality of early working alliance in psychotherapy: Diagnoses, relationship and intrapsychic variables as predictors.** *Psychotherapy and Psychosomatics* 2002, **71**(1):18-27.
43. Hayes SA, Hope DA, VanDyke MM, Heimberg RG: **Working alliance for clients with social anxiety disorder: relationship with session helpfulness and within-session habituation.** *Cogn Behav Ther* 2007, **36**(1):34-42.
44. Missirlan TM, Toukmanian SG, Warwar SH, Greenberg LS: **Emotional arousal, client perceptual processing, and the working alliance in experiential psychotherapy for depression.** *Journal of Consulting and Clinical Psychology* 2005, **73**(5):861-871.
45. Hatcher RL, Gillaspay JA: **Development and validation of a revised short version of the Working Alliance Inventory.** *Psychotherapy Research* 2006, **16**(1):12-25.
46. Schonberger M, Humle F, Teasdale TW: **The development of the therapeutic working alliance, patients' awareness and their compliance during the process of brain injury rehabilitation.** *Brain Injury* 2006, **20**(4):445-454.
47. Busseri MA, Tyler JD: **Client-therapist agreement on target problems, working alliance, and counseling outcome.** *Psychotherapy Research* 2004, **14**(1):77-88.
48. Mallinckrodt B, Porter MJ, Kivlighan DM: **Client attachment to therapist, depth of in-session exploration, and object relations in brief psychotherapy.** *Psychotherapy* 2005, **42**(1):85-100.
49. Bachelor A, Salame R: **Participants' perceptions of dimensions of the therapeutic alliance over the course of therapy.** *J Psychother Pract Res* 2000, **9**(1):39-53.
50. Hersoug AG, Hoglend P, Monsen JT, Havik OE: **Quality of working alliance in psychotherapy: therapist variables and patient/therapist similarity as predictors.** *J Psychother Pract Res* 2001, **10**(4):205-216.
51. Stiles WB, Agnew-Davies R, Barkham M, Culverwell A, Goldfried MR, Halstead J, Hardy GE, Raue PJ, Rees A, Shapiro DA: **Convergent validity of the Agnew Relationship Measure and the Working Alliance Inventory.** *Psychological Assessment* 2002, **14**(2):209-220.
52. Paivio SC, Bahr LM: **Interpersonal problems, working alliance, and outcome in short-term experiential therapy.** *Psychotherapy Research* 1998, **8**(4):392-407.
53. Samstag LW, Batchelder ST, Muran JC, Safran JD, Winston A: **Early identification of treatment failures in short-term psychotherapy. An assessment of therapeutic alliance and interpersonal behavior.** *J Psychother Pract Res* 1998, **7**(2):126-143.
54. Paivio SC, Patterson LA: **Alliance development in therapy for resolving child abuse issues.** *Psychotherapy* 1999, **36**(4):343-354.
55. Rector NA, Zuroff DC, Segal ZV: **Cognitive change and the therapeutic alliance: The role of technical and nontechnical factors in cognitive therapy.** *Psychotherapy* 1999, **36**(4):320-328.
56. Vera EM, Speight SL, Mildner C, Carlson H: **Clients' perceptions and evaluations of similarities to and differences from their counselors.** *Journal of Counseling Psychology* 1999, **46**(2):277-283.
57. Høglend P, Hersoug AG, Bøggwald K-P, Amlo S, Marble A, Sørbye Ø, Røssberg JI, Ulberg R, Gabbard GO, Crits-Christoph P: **Effects of transference work in the context of therapeutic alliance and quality of object relations.** *Journal of Consulting and Clinical Psychology* 2011, **79**(5):697-706.

58. Evon DM, Burns JW: **Process and outcome in cardiac rehabilitation: An examination of cross-lagged effects.** *Journal of Consulting and Clinical Psychology* 2004, **72**(4):605-616.
59. Burns JW, Evon D: **Common and specific process factors in cardiac rehabilitation: Independent and interactive effects of the working alliance and self-efficacy.** *Health Psychol* 2007, **26**(6):684-692.
60. Rosti-Otajarvi E, Mantynen A, Koivisto K, Huhtala H, Hamalainen P: **Predictors and impact of the working alliance in the neuropsychological rehabilitation of patients with multiple sclerosis.** *Journal of the Neurological Sciences* 2014, **338** 156-161.
61. Stiefel F, Barth J, Bensing J, Fallowfield L, Jost L, Razavi D, Kiss A: **Communication skills training in oncology: a position paper based on a consensus meeting among European experts in 2009.** *Ann Oncol* 2010, **21**(2):204-207.
62. Salmon P, Mendick N, Young B: **Integrative qualitative communication analysis of consultation and patient and practitioner perspectives: towards a theory of authentic caring in clinical relationships.** *Patient Educ Couns* 2011, **82**(3):448-454.
63. Salmon P, Young B, Mendick N: **Integrative qualitative communication analysis of consultation and patient and practitioner perspectives: towards a theory of authentic caring in clinical relationships.** *Patient Education and Counseling* 2011, **82**(3):448-454.
64. Young B, Hill J, Gravenhorst K, Ward J, Eden T, Salmon P: **Is communication guidance mistaken? Qualitative study of parent-oncologist communication in childhood cancer.** *British Journal of Cancer* 2013, **109**(4):836-843.
65. Salmon P, Young B: **The validity of education and guidance for clinical communication in cancer care: evidence-based practice will depend on practice-based evidence.** *Patient Educ Couns* 2012, **90**(2):193-199.

#### **Conflict of interest statement**

None of the authors have any conflict of interest to declare.

**Figure 1: Reports of intensity of patients' sense of relationship with practitioners in published literature (2000-2013).** Each data point indicates a mean value for patients' scores on the WAI questionnaire for relationships categorized according to whether they concern psychological or physical practitioners and whether they are measured after  $\leq 4$  or  $>4$  meetings. Dotted line and shading depicts mean and 95% confidence interval for patients in the present study.

