

Emotional Personality/Proximity *Versus* Emotional Authenticity in Patient–Physician Communication in Healthy Study Participants, and in Patients with Benign Breast Disease, and Breast Cancer: A Prospective Case–Control Study in Finland

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Abstract. *Background/Aim:* The associations between emotional personality, proximity and authenticity in patient–physician communication during breast cancer (BC) consultations are rarely considered together in a prospective study. We, therefore, investigated emotional personality/proximity versus authenticity in patient–physician communication in healthy study subjects (HSS) and in patients with benign breast disease (BBD) and breast cancer (BC). *Patients and Methods:* In the Kuopio Breast Cancer Study, 115 women with breast symptoms were evaluated regarding emotional personality, proximity and authenticity in their a patient–physician communication before any diagnostic procedures were carried-out. *Results:* The emotional personality and the emotional proximity in patient–physician communication was highly significantly positively correlated in the BBD group. The kappa-values for emotional personality versus emotional proximity in the HSS, BBD and BC groups were statistically significant. There was also a highly significant positive correlation between emotional personality and emotional authenticity in the HSS, BBD and BC groups and the kappa values in the HSS, BBD and BC groups were statistically significant. There was a highly significant positive correlation between emotional proximity and emotional authenticity in the BBD group, and the weighted kappa-values in the BBD group were statistically significant. *Conclusion:* The results of the present study support a powerful link

between emotional personality/proximity and emotional authenticity, and provides new information in patient–physician communication in the HSS, BBD and BC groups. This finding is of clinical importance, since during breast disease consultation, barriers to patient–physician communication may be associated with difficulties in early BC diagnosis in the breast cancer diagnostic unit.

Barriers to patient–physician communication may be associated with difficulties in early diagnosis (1). We assessed emotional distance *versus* emotional reservation in patient–physician communication during breast cancer (BC) diagnosis (2). Our results suggested that patients with BC appear to be somewhat at-risk for emotional distance and reservation in their patient–physician communication in the BC diagnostic unit (2). However, the results of emotional personality/proximity *versus* authenticity in patient–physician communication during breast cancer consultation in healthy study subjects (HSS) and in patients with benign breast disease (BBD), and breast cancer (BC) has not been compared in a prospective study. Patients have many different barriers affecting communication with their physician and it is important to try to minimize these in order to facilitate optimal early diagnosis in the BC unit (1). In addition, barrier-free patient–physician communication is crucial for patients' psychological well-being, understanding of medical information and their adherence to treatment (3-6). Many trials focus on communication skills interventions for healthcare professionals for making consultation in oncology more patient-centered (7-9). However, there is still need for standardized communication instruments and methods measuring the patient–physician communication content and quality, for example, emotional variables and functions (10, 11).

Because BC is a hormonally-responsive neoplasm and one with great psychological impact, it is the most extensively investigated tumour for possible psychological variables associated with risk and survival (12). Hormonal factors, such as early age at menarche, later age at menopause, later age at

This article is freely accessible online.

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Key Words: Patient–physician communication, emotional, personality, proximity, authenticity, breast cancer.

Table I. *Characteristics of the study participants. Results are shown for patients with breast cancer (BC), for those with benign breast disease (BBD) and for healthy study participants (HSS).*

Variable	HSS (n=28)	BBD (n=53)	BC (n=34)	p-Value
Age (mean, years)	45.7	47.6	51.6	0.12
Height (mean, cm)	160.8	162.3	164.4	0.75
Body weight (mean, kg)	68.3	67.8	72.5	0.25
Age at menarche (mean, years)	13.4	13.4	13.4	0.99
Age at birth of first child (mean, years)	50.0	25.0	25.2	0.92
Age at menopause (mean, years)	2.5	48.9	47.9	0.53
No. of children (mean)	23 (82%)	2.4	2.6	0.27
Parous	3.9	44 (83%)	31 (91%)	0.50
Breast feeding duration (mean, months)	18 (64%)	3.4	3.6	0.77
Use of oral contraceptives	14 (50%)	25 (47%)	13 (38%)	0.44
HRT	18 (64%)	36 (68%)	27 (79%)	0.10
Premenopausal	10 (36%)	28 (53%)	21 (62%)	0.12
Postmenopausal	10 (36%)	22 (42%)	18 (53%)	0.37
History of previous BBD	5 (18%)	5 (9%)	1 (3%)	0.21
Family history of BC	13 (46%)	31 (58%)	21 (62%)	0.44
Use of alcohol	10 (36%)	21 (40%)	15 (44%)	0.80
Smoking				

HRT, Use of hormonal replacement therapy.

first full-term pregnancy and hormone replacement therapy, are known to be the main risk factors for sporadic BC (13-15). In addition, lifestyle factors, such as obesity, smoking, alcohol consumption and lack of physical activity, appear to contribute to an increased risk for this malignancy, although the results concerning such factors are inconsistent (16-21). Psychological factors, such as stressful and adverse life events, are widely thought to play a role in the etiology of BC (22-42). The associations between emotional personality, proximity and authenticity in patient–physician communication during BC consultations are rarely considered together in a prospective study. We, therefore, investigated emotional personality/proximity *versus* authenticity in patient–physician communication in HSS and in BBD and BC.

Patients and Methods

The Kuopio Breast Cancer Study was a multi-disciplinary cooperative project conducted by different Departments of the University of Kuopio and Kuopio University Hospital, and included all women who were referred to the hospital for breast examination between April 1990 and December 1995. The Kuopio Breast Cancer Study followed the protocol of the International Collaborative Study of Breast and Colorectal Cancer coordinated by the European Institute of Oncology in Milan, and was initiated as a SEARCH program of the International Agency for Research on Cancer. The collaborative study was based on the assumption that BC and colorectal cancer may have common risk factors. Study Centers for the breast cancer study are situated in Canada, Finland, Greece, Ireland, Italy, Russia, Slovakia, Spain and Switzerland (43). The study participants had BC symptoms (a lump in the breast or in the

axilla, pain in the breast, bleeding from the nipple, nipple discharge and/or skin dimpling), or an abnormality of the breast. The indications for referral in this study were in line with our previous investigations at a Breast Cancer Diagnostic Unit in Finland (44).

This case–control study was an extension of the Kuopio Breast Cancer Study (45, 46) and was approved by the Research Ethics Committee of the Hospital District of Northern Savo (Kuopio University Hospital), Kuopio, Finland (Number 14/12/1989) and the study complies with the Declaration of Helsinki. Women referred from January 1991 to June 1992 were included. Participation was based on written consent. One hundred and fifteen women participated and were interviewed (to determine the level of emotional depression) by a psychiatrist (PO) before any diagnostic procedures. Thus, neither the interviewer nor the patient knew the diagnosis at the time of the interview. The interviews were recorded and the ratings were completed before the final diagnosis. The clinical examination, mammography and biopsy showed BC in 34 (29.6%) individuals, BBD in 53 (46.1%) and 28 (23.4) patients to be healthy (HSS) (Table I).

Assessment of the patients' attitude to the examiner. The research method was a semi-structured in-depth interview (23-25). It was attempted to establish as good as possible social and emotional contact with the examinees during the introductory discussion. The examiner (PO) carried-out all interviews and the assessment of the patients' attitude to the examiner-questionnaire and also informed them of the purpose of the study and the confidential nature of the information. The mean (SD) duration of the interview for the BC group was 126.5 (21.6) min. The corresponding values for the patients with BBD was 127.3 (23.3) min and for the HSS group 123.0 (23.3) min ($p=0.72$). After the interviews, 'the patient's attitude' to the examiner was rated (by PO) according to the degree of 'personality', 'proximity' and 'authenticity' they were likely to pose. The patient's 'emotional personality' to the examiner (emotional personality score,

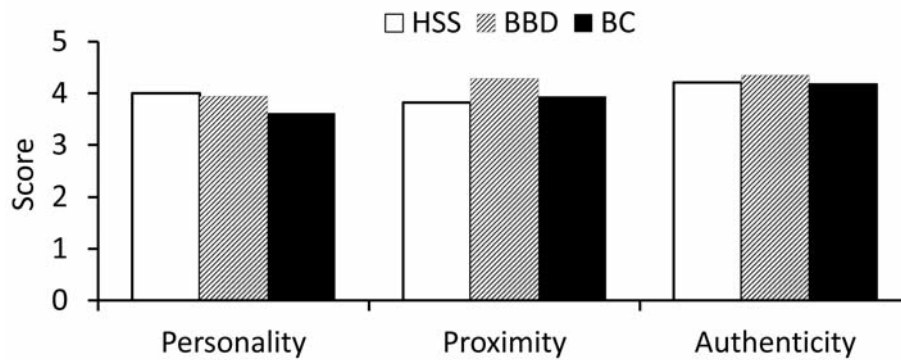


Figure 1. The distribution of the mean of the emotional personality, emotional proximity and emotional authenticity for the healthy study participants (HSS), for those with benign breast disease (BBD) and for patients with breast cancer (BC).

EPeS) was graded on a five-point scale: grade I indicating no emotional personality; grade II, slight emotional personality; grade III, some emotional personality; grade IV, clear emotional personality and grade V, strong emotional personality characteristics. The patient's 'emotional proximity' (emotional proximity score, EPxS) to the examiner was also graded on a five-point scale: grade I indicating, strong emotional clinging, no emotional proximity; grade II, clear emotional clinging, slight emotional proximity; grade III, some emotional clinging; grade IV, slight emotional clinging and grade V, no emotional clinging. Each patient's 'emotional authenticity' (emotional authenticity score, EAuS) towards the examiner was also graded on a five-point scale: grade I indicating strong emotional simulation, no emotional authenticity; grade II, clear emotional simulation, slight emotional authenticity; grade III, some emotional simulation; grade IV, slight emotional simulation and grade V, no emotional simulation, strong authenticity.

Statistical analysis. Significance of the results was calculated with the SPSS/PC statistical package (SPSS Inc., Chicago, IL, USA). Correlations and differences between the study groups (BC, BBD and HSS groups) were measured with the two-sided chi-square test and non-parametric Kruskal–Wallis variance analyses. Results were considered statistically significant at a p -value of less than 0.05. The agreement between ERS and SRS was assessed using unweighted kappa statistic (Cohens's kappa), where all disagreements were arbitrarily regarded as having equal importance (47, 48), and the weighted kappa statistic, where weight matrix cells located on the diagonal (upper-left to bottom-right) represent agreement and thus contain zero (49). The kappa statistic provides a measure of agreement after exclusion of the proportion of agreement expected by chance, and can vary from +1, indicating perfect agreement, to 0, indicating agreement no greater than expected by chance, and can assume negative values up to –1 when agreement is less than expected by chance.

Results

The mean age of the BC patients was 51.5 years, for patients with BBD 47.5 years, and for the HSS group 45.7 years. Although the patients in the BC group were older than those in the BBD and HSS groups, the age difference was not

statistically significant ($p=0.12$). The majority of patients (85/115, 74%) were married or living in a steady relationship. The patients with BC were significantly ($p=0.03$) wealthier than the patients with BBD and HSS, as estimated by the combined gross income of both spouses. The groups differed only slightly from each other as to the factors of the reproductive life of the women (Table I).

Distributions of the EPeS, EPxS and EAuS. The distribution of the mean of the EPeS, EPxS and EAuS, for the three groups are shown in Figure 1. There was a trend ($p=0.30$) for the BC group to have a lower mean EPeS value (3.62) in patient–physician communication than the patients in the HSS and BBD groups (mean EPeS values, 4.0 and 3.94, respectively) (Figure 1). However, the distribution of the EPeS for HSS, BBD and BC groups differed only slightly ($p=0.19$) and the mean values and the distribution for the EPxS and EAuS of the for HSS, BBD and BC groups differed only slightly in five grades (Figure 1, Table II).

Correlations of the EPeS, EPxS and EAuS. The Spearman correlation coefficients and kappa values for emotional personality, proximity *versus* authenticity in patient–physician communication in the HSS, BBD and BC groups are shown in Table III. Emotional personality was highly significantly positively correlated with emotional proximity in patient–physician communication in the BBD group. The kappa values for emotional personality *versus* emotional proximity in the HSS, BBD and BC groups were statistically significant. There was also a highly significant positive correlation of emotional personality with emotional authenticity in the HSS, BBD and BC groups and the kappa values in the HSS, BBD and BC groups also were statistically significant. There was also a highly significant positive correlation between emotional proximity and emotional authenticity in the BBD group and the weighted kappa values in the BBD group were statistically significant.

Table II. The distribution of the scores between the emotional personality, proximity and authenticity in the healthy study subjects (HSS), the patients with benign breast disease (BBD) and breast cancer (BC) [number of patients (%)].

Group	Score I	Score II	Score III	Score IV	Score V	p-Value
Personality						
HSS	0 (0.0)	2 (7.1)	4 (14.3)	14 (50.0)	8 (28.6)	0.30
BBD	1 (1.9)	5 (9.4)	9 (17.0)	19 (35.8)	19 (35.8)	
BC	2 (5.9)	1 (2.9)	11 (32.4)	14 (41.2)	6 (17.6)	
Proximity						
HSS	1 (3.6)	2 (7.1)	8 (28.6)	7 (25.0)	10 (35.7)	0.34
BBD	0 (0.0)	1 (1.9)	8 (15.1)	19 (35.8)	25 (47.2)	
BC	1 (2.9)	3 (8.8)	5 (14.7)	13 (38.2)	12 (35.3)	
Authenticity						
HSS	0 (0.0)	0 (0.0)	5 (17.9)	12 (42.9)	11 (39.3)	0.53
BBD	0 (0.0)	0 (0.0)	6 (11.3)	23 (43.4)	24 (45.3)	
BC	0 (0.0)	0 (0.0)	4 (11.8)	20 (58.8)	10 (29.4)	

Table III. Spearman coefficients and kappa-values for correlation of emotional personality with proximity, and authenticity, and of emotional proximity with authenticity in the healthy study subjects (HSS), the patients with benign breast disease (BBD) and breast cancer (BC).

Group	Spearman (p-value)	Kappa (p-value)	Weighted kappa (p-value)
Emotional personality vs. proximity			
HSS	0.347 (0.070)	0.214 (0.046)	0.237 (0.051)
BBD	0.416 (0.002)	0.301 (0.001)	0.318 (<0.001)
BC	0.290 (0.096)	0.273 (0.004)	0.299 (0.004)
Emotional personality vs. authenticity			
HSS	0.776 (<0.001)	0.449 (<0.001)	0.576 (<0.001)
BBD	0.790 (<0.001)	0.402 (<0.001)	0.504 (<0.001)
BC	0.694 (<0.001)	0.339 (<0.001)	0.410 (<0.001)
Emotional proximity vs. authenticity			
HSS	0.122 (0.536)	0.084 (0.472)	0.076 (0.527)
BBD	0.357 (0.009)	0.139 (0.175)	0.231 (0.027)
BC	-0.065 (0.717)	0.146 (0.186)	0.027 (0.795)

Figure 2 shows scatter plots of the individual values for emotional personality *versus* emotional proximity and emotional authenticity, and of emotional proximity *versus* emotional authenticity in five separate categories, for the HSS, BBD and BC groups.

Discussion

Despite progress in breast oncology, the potential barriers to patient–physician communication include physical, social and emotional problems and 30–45% of the patients with cancer are reported to undergo anxiety and emotional distress (50–52). The barriers to patient–physician communication may be associated with difficulties in early diagnosis (1) and many patients still feel unable to communicate freely with their doctors. Patients differ in how much they want to discuss psychosocial issues and in addition their preferences may change during disease history. In a Swedish study of women

with breast cancer, 24% of patients did not know what questions to ask the doctor, 22% did not know how to talk to the doctor and 20% indicated that they had concerns regarding fear of wasting the doctor's time (53). Ramirez *et al.* suggested a lack of doctors' communication skills to be a major factor associated with high psychological morbidity, emotional burnout and low personal accomplishment (54). Studies that have examined the effects of training of patient–physician communication skills have produced similar findings (4).

There is relatively little data available about validity and inter-relation of different perspectives and methods in patient–physician communication. The methods reported for assessment of patient–physician communication are checklists, interactional analyses and rating scales (4). Rating scales allow observers to rate how well a study subject performs a specific task or behaviour. In checklist studies, the subjects are asked to complete a specific task or behaviour. Both rating scales and checklists are mostly used

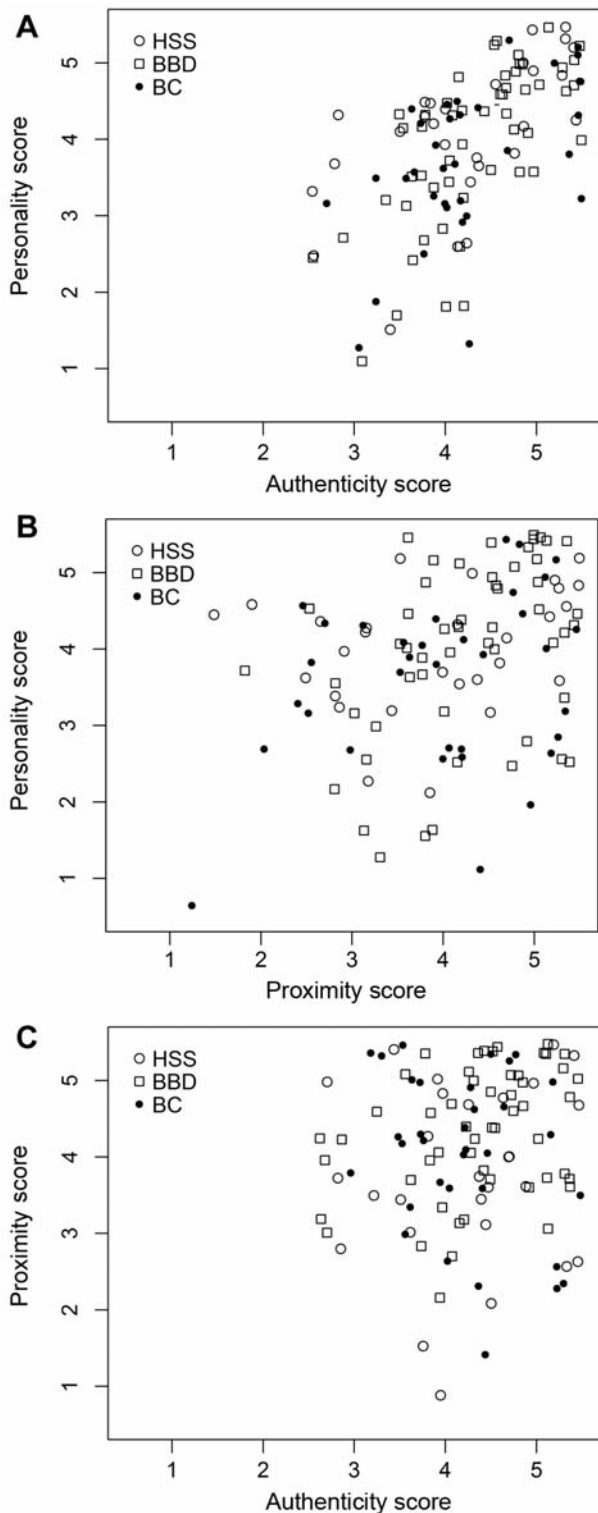


Figure 2. Scatter plots of the individual emotional personality scores versus emotional proximity scores (A) and emotional authenticity scores (B), and the emotional proximity scores versus emotional authenticity scores (C) measuring patient–physician communication, for the healthy study participants (HSS), for those with benign breast disease (BBD) and for patients with breast cancer (BC).

to assess task-focused behaviour and place more emphasis on technically based skills. Interactional analyses place more emphasis on psychosocial behaviour, which can be more difficult to standardize. In a large meta-analysis of Boon and Stewart, the instruments used for assessment of patient–physician communication were reviewed and classified into two types according to their primary use: type 1, medical education category, the assessment and teaching of patient–physician communication skills; and type 2, research category, the assessment of patient–physician communication for research use (3). They reviewed 44 instruments overall and, out of these instruments, 21 were used in only one published study each and 15 instruments have never been validated. Boon and Stewart also pointed out the great variety of variables and concepts assessed, the large number of outcome variables, the different definitions of good communication, and the different purposes of the studies.

Our study describes the quality of three possible barriers against patient–physician communication. Pilot testing of the patients' attitude to the examiner-questionnaire questionnaire was carried-out before the study phase to confirm that the questionnaire would have content validity. To avoid recall bias happen, we conducted this case–control study with a so-called 'limited prospective study design': women were asked to participate in the study, were interviewed, and reports on patient–physician communication characteristics were obtained before any diagnostic procedures, so neither the investigator nor the participants knew the diagnosis at the time of the interview.

Conclusion

The results of this study support a powerful link between emotional personality/proximity and emotional authenticity, and gives new information on patient–physician communication in the HSS, BBD and BC groups. This finding is of clinical importance, since during breast disease consultation, barriers to patient–physician communication may be associated with difficulties in early BC diagnosis in the breast cancer diagnostic unit.

Conflicts of Interest

No conflicts of interest exist. The Authors alone are responsible for the content and writing of this article.

Acknowledgements

We thank Ms A.K. Lyytinen, RN, for help in data collection and Ms E. Oittinen for excellent technical assistance. The support from the Academy of Finland, Paavo Koistinen Foundation and Government (EVO) funds from Kuopio University Hospital is gratefully acknowledged.

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Received November 10, 2014

Revised November 18, 2014

Accepted November 19, 2014