Sifneos Alexithymia Questionnaire in Assessment of General Alexithymia in Patients with Breast Disease and Breast Cancer: A Prospective Case–Control Study in Finland

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Abstract. Background: In 1973, Sifneos introduced the word ‘alexithymia’ to describe the inability to find appropriate words to describe one’s feelings. To the Authors’ knowledge, the associations between alexithymia and the risk of breast cancer (BC) are rarely considered together in a prospective study. Patients and Methods: In an extension of the Kuopio Breast Cancer Study 115 women with breast symptoms were semi-structurally interviewed in-depth, as well as being asked to complete standardised questionnaires (Beck, Forsen, MADRS, Spielberger), and all study variables were obtained before any diagnostic procedures were carried out. The investigator estimated the alexithymia of the study participants using a 5-point scale. Results: The clinical examination and biopsy showed BC in 34 patients, benign breast disease (BBD) in 53 patients, and 28 individuals were shown to be healthy (HSS). There was a significance for the women with BC to have more alienation from own body (Function C, p=0.03) (mean Alexithymia score, 2.82) than those of the BBD (mean Alexithymia score, 3.40) and HSS groups (mean Alexithymia score, 3.29). The BC group had significantly more alienation from own experience (Function D, p=0.01) (mean Alexithymia score, 2.82) than the patients in the BBD group (mean Alexithymia score, 3.51) and in the HSS group (mean Alexithymia score, 3.36). The BC group also had more alienation from own feelings (Function E, p=0.05) and more deficit in self-experience (Function F, p=0.05) than the patients in the BBD group and the patients in the HSS group. Conclusion: The results of this study show that the patients with BC tended to have an increased risk for alexithymia.

In 1973, Sifneos (1) introduced the word ‘alexithymia’ as a stable personality feature of the inability to express and recognize emotions and difficulty in communicating them. Later, Freyberger (2) suggested alexithymia as a personality trait and a state-like secondary phenomenon after somatic disease or psychological stress. This personality trait concept has been supported by several studies on clinical populations regarding post-traumatic stress disorders (3, 4), panic disorders (5), eating disorders (6), inflammatory bowel disease (7), functional gastrointestinal disorders (8), essential hypertension (9), alcohol dependence (10) and patients with chronic pain problems (11). Recently, a study focusing on the relative stability of alexithymia in women with breast cancer may support the hypothesis of alexithymia as a stable trait (12). Because breast cancer is a hormonally responsive neoplasm and one with great psychological impact, it has been the most extensively investigated tumour for possible psychological variables associated with risk and survival. Hormonal factors, such as early age at menarche, later age at menopause, later age at first full-term pregnancy and hormone replacement therapy, are known to be the main risk factors for sporadic breast cancer (BC) (13). In addition, life-style factors, such as obesity, smoking, alcohol consumption and lack of physical activity, appear to contribute to the increased risk for this malignancy, although the results concerning such factors are inconsistent (13-19). Psychological factors, such as stressful and adverse life events, are widely thought to play a role in the aetiology of BC (20-37). In 1973, Sifneos introduced a simple questionnaire (SAQ; Sifneos alexithymia questionnaire) for screening of alexithymic characteristics even in daily practice (1). To the Authors’ knowledge, the associations between the SAQ and the risk of BC are rarely considered together, and therefore this was a prospective study to examine the role of SAQ in women with breast symptoms referred by physicians to the Kuopio University Hospital (Finland).
Patients and Methods

The Kuopio Breast Cancer Study is a multidisciplinary cooperative project conducted by different departments of the University of Kuopio and Kuopio University Hospital. The participants of the project included all women who were referred to Kuopio University Hospital (North-Savo Health Care District) for breast examination between April 1990 and December 1995. The Kuopio Breast Cancer Study follows 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 (IARC). The collaborative study is based on the assumption that BC and colorectal cancer may have common risk factors. Study centers for the BC study are situated in Canada, Finland, Greece, Ireland, Italy, Russia, Slovakia, Spain and Switzerland (38). The participants of the Kuopio Breast Cancer Study consisted of individuals showing BC symptoms (a lump in the breast or in the axilla, pain in the breast, bleeding from the nipple, nipple discharge and skin dimpling), or an abnormality of the breast and the indications for referral in this study are in line with our previous results in a Breast Cancer Diagnostic Unit in Finland (39).

This case−control study is an extension of Kuopio Breast Cancer Study (40, 41). The study was approved by the Joint Committee of the University of Kuopio and Kuopio University Hospital. Participation was based on written consent. Women with breast symptoms or a suspicious breast lump had been referred by physicians to the Kuopio University Hospital (Finland) during the study period from January 1991 to June 1992. Women were asked to participate in the study and were interviewed by a psychiatrist (P.O.) before any diagnostic procedures (to determine the level of emotional depression), so 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%) patients, benign breast disease (BBD) in 53 (46.1%) patients and 28 (23.4%) patients with healthy breasts (HSS) (Table I).

Assessment of life events and stress. The research method was a semi structured in-depth interview (26). At the beginning of the interview, the patients drew their ‘life lines’ and a line describing being a woman, which supported the interview. After the interviews, the life events were rated (by P.O.) according to the degree of threat or stress they were likely to pose, and each adverse or stressful life event was graded on a 5-point scale (26). The defences used were also assessed on a five-point scale (26). The ‘Working through and actively confronting the stressful event’ variable was also rated on a five-point scale (26).

SAQ. The original SAQ included 17 questions, and here we have used 8 key questions, which attempt to elucidate the alexithymic characteristics (1). Six main alexithymia function categories were assessed for the HSS, BBD and BC groups: Function A, alienation of being a woman; Function B, alienation of own breasts; Function C, alienation of own body; Function D, alienation of own experience; Function E, alienation of own feelings; Function F, deficit in self-experience. The alexithymic characteristics were assessed on a five-point scale: grade I (one point) indicating high alexithymic characteristic, and grade V (five points) low alexithymic characteristic.

Coping and defence strategies. A modified Haan coping and defence inventory (42) was used. This inventory is divided into ten scales, and each scale has subcales from grade 0 to grade III: with 0 meaning no definition, I: coping, II: defending, and III: fragmentation.

Beck depression inventory (BDI). The women completed the BDI (43) with 21 variables. The investigator used the modified inventory divided into three grades: grade I (score 0-13), no depression; grade II (score 14-24), moderate depression; grade III (score over 24), severe depression.

Forsen inventory (FI). The women completed the Forsen Inventory (44) with 11 variables. The investigator used the FI inventory divided into three grades.

Spielberger trait inventory. All study participants completed the Spielberger trait inventory (45). Trait anxiety was assessed using the subscale from the Inventory, and the ten items refer to how a person generally feels.

Montgomery Åsberg depression rating scale (MADR). The MADRS with ten variables (scores from zero to six) was used to evaluate the depression of the study participants (46), and the test was rated into four grades.

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 <0.05.

Results

The mean age of the BC patients was 51.5 years. The corresponding figure for the patients with BBD was 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 or HSS groups, the age difference was not statistically significant (p=0.12).

The majority of the patients (85/115, 74%) were married or living in a steady relationship. Almost half of the patients (41.7%) had graduated from primary school, and 25% had a college education. By profession, the patients represented industrial and service employees (25.2%), office employees (10.4%), health care employees (8.7%), and farmers (8.7%), and almost 23.5% were retired. The combined mean gross income of both spouses in the patients with BC was 36,100 € per year. The corresponding figures for the patients with BBD were 27,714 € per year and for the HSS group 24,521€ per year. 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 the both spouses. The groups differed only slightly from each other as to the factors of the reproductive life of the women (Table I).

The SAQ and the functions of alexithymia. The deficit in self experience in each group are shown in Table II. There was a
trend for the women with BC to have more deficit in self experience (23/34, 67.6%) than those of the BBD (22/53, 41.5%) and HSS groups (12/28, 42.9%) ($p=0.09$).

The distribution of the mean sum of the Sifneos alexithymia scores for HSS, BBD and BC groups are shown in six separate alexithymia function categories in Figure 1. There was a trend for the women with BC to have more alienation from own body (Function C, $p=0.03$) (mean Alexithymia score, 2.82) than these of the BBD (mean Alexithymia score, 3.40) and HSS groups (mean Alexithymia score, 3.29). The BC group tended to have more alienation from own experience (Function D, $p=0.01$) (mean Alexithymia score, 2.82) than the patients in the BBD group (mean Alexithymia score, 3.51 and 3.79, respectively) and the patients in the HSS group (mean Alexithymia score, 3.46 and 3.75, respectively).

### Discussion

In 1973, Sifneos (1) introduced a word alexithymia, from the Greek language: a=lack, lexis=word, thymos=mood or emotion, to describe the inability to find appropriate words to describe one’s emotions and problems in communicating. Peter Emanuel Sifneos was acting as Head of Psychiatric Clinic at the Massachusetts General Hospital and interviewed the patients who suffered psychosomatic disorders and many of them showed a marked difficulty to communicate with the interviewer and they gave the overall impression of being dull, and they used actions to avoid conflicting and frustrating situations. Furthermore, their most striking characteristic was the inability to find appropriate words to

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

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

HRT, Use of hormonal replacement therapy.

**Table II. The deficit in self experience vs. mature self experience for healthy study participants (HSS), patients with benign breast cancer (BBD) and patients with breast cancer (BC).**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Study groups</th>
<th>$p$-Value (overall)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deficit in self experience (score 1, 2, 3)*</td>
<td>12 (42.9)</td>
<td>22 (41.5)</td>
</tr>
<tr>
<td>Mature self experience (score 4, 5)*</td>
<td>16 (57.1)</td>
<td>31 (58.5)</td>
</tr>
</tbody>
</table>

*Alexithymia score in parentheses.
describe their feelings. For lack of a better term, Sifneos proposed the word alexithymic, to describe this specific difficulty, which appears more likely to be due to psychological and psychosomatic factors.

Sifneos introduced a psychological questionnaire with 17 questions and there are 8 key questions, which attempt to elucidate the alexithymic characteristics. These are the following: 1, the patient’s tendency to describe endless details instead of feelings; 2, their inability to use appropriate words to describe emotions; 3, their lack of a rich fantasy life; 4 and 5, their use of action to express emotions and avoid conflicts; 6, their tendency to describe endlessly circumstances surrounding an event rather than feelings; 7, her/his inability to communicate; 8, her/his thought content is associated with more with external events rather than with fantasy or emotions. The response to questions 2 and 3 must be ‘no’ and to questions 1, 4, 5-8 must be ‘yes’ for the patient to be considered alexithymic. In Sifneos’ study, 25 individuals with psychosomatic disorders were compared with 25 controls. The psychosomatic group included nine patients with ulcerative colitis, nine patients with peptic ulcer disease and two patients with rheumatoid arthritis. The control group included those with borderline personality disorder, depression, hysterical personality and alcoholism. In the psychosomatic study group, the 8 key questions were answered appropriately for a total score of 128, compared with 72 for the control group. The fact that it was possible for the alexithymic characteristics to be present in some of the individuals in the control group pointed to the existence of these alexithymic characteristics on a larger scale than was originally thought.

Todarello et al. (47) reported on 200 women before mammography at the Breast Center, University of Bari, of whom 13 were found to have BC. All women completed the Schalling-Sifneos Personality Scale and the Middlesex Hospital Questionnaire and women with BC had slightly pronounced alexithymic traits. Anagnostopoulos et al. (48) employed the Personality Deviance Scale and the Toronto Alexithymia Scale in a sample of 487 women attending two public breast screening centers in Athens. After adjusting for most potential confounders, denigratory attitudes were significantly lower in cases (p<0.05), but there were no group differences in expression of alexithymia.

Figure 1. The distribution of the mean sum of the Sifneos Alexithymia Scores are shown for the patients with breast cancer (BC), for those with benign breast disease (BBD) and for the healthy study participants (HSS) in six separate alexithymia function categories: A, alienation of being a woman (p=0.28); B, alienation of own breasts (p=0.37); C, alienation of own body (p=0.03); D, alienation of own experience (p=0.01); E, alienation of own feelings (p=0.05); F, deficit in self-experience (p=0.05). The overall p-values are shown.
Over the past few decades, the alexithymia concept has been refined and now includes the following features (49): (a) difficulty identifying feelings and distinguishing between feelings and the bodily sensations of emotional arousal; (b) difficulty describing feelings to other people; (c) constricted imaginal processes, as evidenced by a paucity of fantasies; (d) a stimulus-bound, externally oriented cognitive style.

Alexithymia may also represent a reflection of a latent inborn defect and a concomitant state reaction to emotional stress resulting from depression, anxiety and illness (50). It has also been suggested that alexithymia could be a state-dependent phenomenon related to depression or other co-morbid conditions at the individual level, although it seems to be a stable trait when comparing the mean alexithymia scores in different study phases (51).

The patients in the BC, BBD and HSS groups differed only slightly from each other when the deficits in self experience variables were considered separately. However, there was a trend for the women with BBD and HSS to have fewer deficits in self experience variable than those of the BC group. The BBD and HSS groups also reported less alienation from own body, own feelings and own experience than the patients in the BC group and the patients in the BBD group.

In summary, the results of this study do not support a specific link between alexithymia in general and BC risk. However, the patients with BC tended to have a risk for deficit in self experience and a risk for alexithymic characteristics such as alienation from own body, own feelings and own experience.

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References


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