

Alexithymia in patients with cancer: a review of the literature

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Supplementary Material
Table: Characteristics and results from included studies (in alphabetical order of the first author)

First Author, year	Aims of the study	Sample	Design and alexithymia measurement	Focus with regard to alexithymia	Results with regard to alexithymia
Anagnostopoulos et al. 1993	To test an association between the diagnosis of breast cancer and (i) the personality pattern of persistent suppression of emotion and (ii) the inability to express affect and a lack of fantasy.	487 women attending 2 public breast-screening centers for a checkup for suspected breast symptoms.	Quasi-prospective design. A subset of 100 women was assessed with the TAS-26, Greek version.	Alexithymia as secondary focus.	No statistically significant correlation between alexithymia and occurrence of breast cancer.
Carta et al. 2000	To obtain additional information concerning the association between alexithymia and cancer.	239 asymptomatic women, who consulted for a routine pap test. At the time of the study, women were unaware of the results.	(semi-) prospective design. TAS-26, Italian version.	Alexithymia as a primary focus.	Patients with a positive pap smear showed higher mean scores of the TAS compared to healthy controls. Women with a negative pap test showed no statistically significant differences compared to healthy controls.
Dalton et al. 1989	To identify the differential role of fear, anxiety, alexithymia, family factors and coping in cancer patients with pain.	27 ambulatory cancer patients with pain (breast, lung, colon, prostate, ovarian and other), 26 patients with chronic non-cancer	Controlled design. Schalling-Sifneos Personality Scale (SSPS), 20-item	Alexithymia as secondary focus.	Chronic non-cancer pain patients scored significantly lower on alexithymia than cancer patients, patients with chronic illness without pain and healthy controls.

		pain, 27 patients with chronic illness but no pain (hypertension), and 45 healthy controls.	self-report scale, English version.		No differences on alexithymia scores between cancer patients and healthy controls.
Grassi et al. 2004	To examine the application of the Diagnostic Criteria for Psychosomatic Research (DCPR), and the association between the DCPR and coping, and illness-related worries.	105 woman with breast cancer.	Correlational study. Diagnostic Criteria for Psychosomatic Research (DCPR), Italian version.	Alexithymia as secondary focus.	Patients meeting the DCPR cluster of alexithymia had higher scores on the Mini-MAC subscale avoidance.
Grassi et al. 2005	To compare the DSM-IV and the DCPR in cancer patients.	146 patients with different types of cancer (84% female).	Explorative study. Diagnostic Criteria for Psychosomatic Research (DCPR), Italian version.	Alexithymia as secondary focus.	Patients reporting alexithymia were older. The three most frequent DCPR syndromes were related to health anxiety, demoralization and alexithymia.
Greenberg et al. 1983	To evaluate if alexithymia predicts development of a somatic disorder.	181 disease free males at baseline, who over a 10 year period developed: (i) physical illnesses (N=83), such as lung cancer, prostate cancer, multiple carcinomas, benign tumors; (ii) psychosomatic illnesses (N=42), such as hypertension or gastrointestinal ulcers; (iii) psychiatric disorders (N=25), such as; or (iv) remained disease free (N=37).	Prospective design. MMPI alexithymia scale, English version.	Alexithymia as primary focus.	No differences of alexithymia among groups..

Luminet et al. 2007	To assess the stability for alexithymia factor scores.	122 patients with a first diagnosis of breast cancer.	Pre-post design. TAS-20, French version.	Alexithymia as primary focus.	Alexithymia relatively stable, even in a context of threat. Significant correlations between depression and alexithymia and anxiety and alexithymia. Subscales of alexithymia showed different patterns of change and different correlations to depression and anxiety.
Manna et al. 2007	To explore the possible presence of alexithymic traits in women with breast cancer.	86 women, of whom 44 with breast cancer and 42 without, referred to a breast check-up.	Controlled explorative study. TAS-20, Italian version.	Alexithymia as primary focus.	A higher percentage of alexithymic subjects in the cancer group.
Mantani et al. 2007	To investigate alexithymia, family functioning, and other factors that might affect anxiety and depression levels in women with breast cancer and in their husbands.	Woman who had surgery for breast cancer at least 3 months before interview and their husbands.	Cross-sectional design. TAS-20, Japanese version.	Alexithymia as primary focus.	High degrees of alexithymia among patients and husbands correlated with high degrees of anxiety, but not with depression.
Porcelli et al. 2007	To investigate the role of alexithymia in the experience of pain in cancer patients and the association of alexithymia with other illness-related behaviors, such as maladaptive coping and abnormal illness behavior.	108 patients (56.5% female) with different types of cancer.	Controlled study. TAS-20, Italian version.	Alexithymia as primary focus.	Pain not associated with global alexithymia, but DIF was significantly higher in pain patients and constituted one of the independent predictors of pain.

Ripetti et al. 2008	To identify the prevalence of alexithymia and to examine its relationship with future QoL in colorectal cancer patients undergoing surgery.	60 colorectal cancer patients (58% male) and 60 cholelithiasis patients.	Controlled prospective design. TAS-20, Italian version.	Alexithymia as primary focus.	Alexithymia significantly correlated with QoL. QoL significantly higher in LA than in HA subsets of both patient groups before surgery. After surgery, QoL significantly higher in HA than in LA patient groups.
Servaes et al. 1999	To observe if breast cancer patients express negative emotions less intensely (higher alexithymia) than healthy controls.	48 formerly breast cancer patients and 49 controls.	Controlled retrospective design. TAS-20, Dutch version.	Alexithymia as primary focus.	No significant differences between groups with regard to alexithymia. No development of secondary alexithymia in patients with cancer.
Todarello et al. 1989	To measure alexithymia in patients with breast cancer and its correlation with other psychopathological symptoms.	Women (N = 200) who had mammographic examination either for suspected carcinoma of the breast or for a routine checkup.	Semi-prospective design. Schalling-Sifneos Personality Scale (SSPS), 20-item self-report scale, Italian version	Alexithymia as primary focus.	Women with carcinoma of the breast (13) had significantly more alexithymic traits than women in the control group (187). No correlation between alexithymia and other psychopathological symptoms.
Todarello et al. 1994	To search for a possible relationship between alexithymia, cancer and the immune system.	26 women affected by cervical intraepithelial neoplasia and 36 healthy women, not aware of status.	Controlled prospective design. Schalling-Sifneos Personality Scale Revised (SSPS-R), 20 item self-report scale, Italian version.	Alexithymia as primary focus.	An association between alexithymia and changes in immune system and between alexithymia and diagnosis of neoplasms.

<p>Todarello et al. 1997</p>	<p>To assess alexithymia in women prior to the diagnosis of a precancerous lesions of the cervix.</p>	<p>43 women with cervical dysplasia and 67 controls, not aware of status.</p>	<p>Controlled design, prospective. TAS-20, Italian version.</p>	<p>Alexithymia as primary focus.</p>	<p>More alexithymia in women with cancer than in control group. Lower immune system in women with higher alexithymia.</p>
<p>Van Dijk et al. 2002</p>	<p>To study the prevalence of alexithymia in childhood cancer survivors and to explore the medical determinants predicting alexithymia.</p>	<p>72 patients (57% male) recruited during a follow up visit.</p>	<p>Retrospective study (controlled with general population). Bermond-Vorst Alexithymia Questionnaire (BVAQ), self-report scale, Dutch version.</p>	<p>Alexithymia as primary focus.</p>	<p>Stress due to childhood cancer does not affect alexithymia scores in females. Male cancer survivors score less alexithymic than age matched controls. None of the medical determinants associated with alexithymia scores.</p>