

## **The Relationship between Psychotherapeutic Interventions and the course of cancer**

*The cancer disease is considered to be one of the most high-pressure situations for man.* As a result psychiatric symptomatology in patients with cancer is two to three times more evident compared to the general population<sup>1,2,3</sup> This is either due to the diagnosis per se or to the lengthy treatments that cancer patients usually undergo. *Apart from the impact of the disease itself on the patient, the questions raised in researchers are the following: a) is there a correlation between psychological and social parameters affecting the patient and the course of the disease? b) What exactly takes place when considering the effect of psychosocial factors and the development of cancer? c) do psychotherapeutic interventions on psychosocial factors have an effect on the actual course of the disease? This paper aims to address the above questions by means of reviewing the related bibliography.*

*Psychological factors and the course of cancer* Several studies suggest that psychological factors do play a role in the development of the cancer disease. Thus, it has been found that cancer patients displaying a fighting spirit had greater chances of survival compared to those patients who manifested feelings of denial and desperation, a feeling of hopelessness, whereas similarly, patients with breast cancer who had a depressive coping style had a bad course of the disease. An overview of the past twenty years, however, would not render strong evidence that the

*psychological coping style (despair, denial, evasion, fighting spirit) correlates strongly with survival or remission of the disease<sup>6</sup>.*

*Extroversion and social activity are connected to greater chances of survival.<sup>7</sup> Also in melanoma patients, non-assertive individuals and ones who self-characterise themselves as having high psycho-social stress, fared worst.<sup>8</sup> Severe stress-related events of life have been associated with an increase in relapses for breast cancer patients<sup>9</sup>.*

*Nevertheless, there are of course other studies that do not associate psychosocial factors with the course of a cancer disease. On the same issue, other studies find a low degree of correlation between depression and mortality rates due to cancer.<sup>10,11,12,13,14</sup>*

*Type C personality which is characterised by low emotional expression, suppression of emotions especially in the case of anger, non-assertiveness in an attempt to ensure non-friction relationships, seems to aggravate the condition of melanoma patients.<sup>15</sup>*

*Social factors and the course of cancer*  
*Other studies associate social factors with the survival chances of cancer patients. Married cancer patients have a higher life expectancy than single patients who live alone. This seems to apply more to men, who benefit from marriage whilst women benefit more from friendships with other women.<sup>16</sup> The social supportive network has a positive influence on survival rates<sup>17</sup> whereas it can have a*

*positive effect on the activity of natural killer cells, which are considered to be main defence components of the human immune system.*

*A number of studies claim that social network and social support are reversely proportional to mortality .<sup>19,20,21,22,23</sup> Furthermore, social seclusion detected in a sample of 6.848 adult cancer patients, seems to significantly increase mortality.*

*Other researches<sup>25</sup> mention that social support, i.e. emotional support from close relationships is associated with the survival of patients in the early stages of the disease but not in cases where metastasis has occurred. Effectiveness seems to be greater in cases of breast cancer rather than lung or colon cancer. Therefore, we could argue that environmental factors, including social support and biological factors such as the strengthening of the immune parameters, as already set out, have an effect on the development of cancer. The question that arises is what interferes between the effect of psychosocial factors and the development of the cancer disease. It seems that the improvement of psychosocial factors make the patient more energetic and receptive to treatment. Furthermore, they intervene in psychoneuroimmune mechanisms that improve immune system mechanisms such as the killer cells.<sup>26,27,28</sup>*

*Now we must consider the relationship between psychotherapy and the progress of cancer, since psychotherapy is considered to have an effect on the course of cancer since they alter not only the psychosocial factors but also compliance to treatment regarding biological factors (chemotherapy,*

radiotherapy) as well as strengthen the immune system parameters. In 1952 Eysenk, a professor of experimental psychology doubted the effectiveness of psychotherapy, claiming that interventions by psychotherapists are ineffective.<sup>29</sup> It seems that psychotherapists became defensive in the face of such challenges, avoiding to prove the benefits of psychotherapy by means of systematic research.<sup>30</sup> A similar situation existed in the past, even during Freud's lifetime, who identified research with the free associations' method, whilst believing that psychotherapy is a positive science which would eventually find its position and finally become in par with similar branches of science that concern the human mind. Next, psychotherapy was included in studies with research methods in order to test its efficiency in the physically sick,<sup>32,33,34,35,36</sup> where one can proceed to the evaluation of measurable parameters. The aim of the studies focused on proving the relationship between psycho-social interventions and survival, mortality and the quantity of life, rather than the quality, i.e. measurable parameters. The number of studies suggesting that psychotherapeutic interventions improve immunobiological indicators which show the strengthening of the immunobiological system function, such as T-cells, natural killer cells and by considering cortisone levels in salivary glands has increased.<sup>37,38,39,40</sup> Consequently, psychotherapeutic interventions improve immunobiological indicators, whereas the majority of studies agree that these interventions either individual, team, family, cognitive-behavioural, relaxation or psychoeducation, can improve psychic

*symptoms including stress, depression and quality of life.*<sup>41-54</sup> *An overview of the past twenty years suggests the existence of doubts concerning the effectiveness of psychological interventions in the improvement of the course of the disease.*

*The role of the compliance factor is significant since it seems to be positively affected by psychotherapeutic interventions. It is an important parameter since the side effects of cancer treatments are intense and complex thus hindering the therapeutic process and the patient compliance towards it.*<sup>56-58</sup>

*In a study conducted with the help of 246 oncologists<sup>59</sup>, 85% of them reports that non-compliance is a serious problem to which the patients' psychological problems contribute greatly. Compliance seems to approve the survival rate in hematologic cancer patients<sup>60</sup> as well as in breast cancer patients.<sup>61</sup> Psychotherapeutic interventions that improve compliance increase survival chances.*<sup>60,62</sup>

*One of the factors emphasized by most of these studies is survival, which is the only one that can be measured. There are therefore studies that analyse the connection between psychotherapeutic interventions and survival in cancer patients.* Spiegel and Co.<sup>63</sup> conducted a study on females breast cancer patients where metastasis had occurred, during weekly group therapy sessions. Out of a total of 86 patients, 50 participated in the therapy whilst 36 constituted the control group. The intervention lasted for 1 year whilst under oncologic observation. Ten years later, following the conclusion of the

study, the survival of participants from the study's previous sample was examined. The women participating in the group therapy had an average survival rate of 36.6 months whilst those in the control group, 18.9 months. Four years after the last study all the women in the control group had died whilst 1/3 of the women in the therapy group were still alive.<sup>64</sup> (table1).Richardson et al.<sup>60</sup> conducted a study of 94 patients with hematologic cancer who received psycho-educational interventions. 5 years after entering the study the survival rates were evaluated showing a positive correlation for those receiving interventions (table 1). Fawzy et al conducted a study of 68 patients with melanoma. The therapy group had significantly greater survival rates than the control group. (table 1).There exist however studies with opposite findings. Linn et al <sup>66</sup> studied 120 men with malignant neoplasias, most of the lung (n=65) and then stomach, pancreas, prostate. The prognosis was between 3-12 months (table 2). Intervention was individual and was based on the work by Kubber-Ross. Observation lasted for a year. The mortality rate at that time amounted to 85%. No effectiveness on survival rates was noted. The authors note that this finding is due to the advanced nature of the disease. (table 2). Gellert et al<sup>67</sup> studied 34 women with breast cancer for a period of two years. No significant differences were observed in regards to survival. The limitations of the study included the absence of randomization and the fact that the control group consisted of the cancer patients register of the general population (table 2). Ilhckys et al conducted a study of 127 cancer patients including all types and stages of cancer. After seven years the survival data was evaluated. No difference in

survival was observed (table 2).<sup>68</sup> Goodwin<sup>69</sup> studied 235 with metastatic breast cancer with a minimum of 3 months survival. 158 of them received group supportive-expressive psychotherapy, whilst 77 formed the control group that received no intervention. The group of patients who received psychotherapeutic intervention show no increase in survival, with a 17.9 survival rate, compared to the control group that demonstrated a 17.6 rate. There was a significant improvement of psychological symptoms and improvements in pain perception (table 2).

**DISCUSSION** To sum up, we could argue that psychosocial factors do play a role in the course of cancer in patients, even though unanimity does not exist. Psychosocial factors seem to have an influence on the immunobiological system, the action of killer cells and survival. Psychotherapeutic interventions improve:

- 1) the immunobiological factors
- 2) psychic symptoms including stress, depression and quality of life
- 3) compliance within therapeutic procedure which in turn seems to improve the survival parameter.

In terms of the relation between psychotherapeutic interventions and quality of life (survival), some studies consider it positive while others negative. As regards the quality of life in tumour patients, five years is the success landmark. A number of limitations exist in connection with the abovementioned studies. The methodology used during the psychotherapeutic intervention, the treatment's duration and model are different as are is the training the therapists have received.<sup>30,70,71,72</sup> The patients from which the material for the studies were differed in regards to the position of the

cancers and the severity of the disease. Generally, in types of cancer that are considered to have more intense courses, psychotherapeutic interventions have worst results.<sup>73</sup> e.g. breast cancer follows a very different course compared to lung cancer. It is noted that most protocols show a preference for breast cancer. Even organizations and associations deal more with breast cancer and seem to prefer nosological entities with a more optimistic development. In Greece as well, there are a number of breast cancer organisations but none for lung cancer or colon cancer. In the treatment of tumour patients, there is a de factor combination of therapeutic interventions that govern the biopsychosocial spectrum. Patients may be undergoing surgery, chemotherapy, radiotherapy or they may be taking psychotropic drugs and psychotherapy. As far as medication is concerned, it has been shown that benzodiazepines reduce the reflex associated with vomiting<sup>74,75</sup> contributing to the quality of life and to compliance. Antidepressants not only improve psychological factors but also contribute to pain reduction in cancer patients.<sup>76,77</sup>

The use of such medication does not contradict psychotherapy. On the contrary it is often a precondition for psychotherapeutic intervention. Koh<sup>78</sup> suggests the consistent combination of psychotherapeutic, behavioural and pharmaceutical techniques.

Cunningham<sup>79</sup> and Greer<sup>80</sup> suggest a combination of therapeutic interventions called adjuvant intervention, pro rata to the adjuvant<sup>81</sup> chemotherapy which is common practice for the treatment of oncologic patients. Adjuvant therapeutic intervention is proposed to each oncologic patient and is consisted of five types

of interventions: 1) information, 2) behavioural education of treating problems, 3) emotional support, 4) psychotherapy (varying types), 5) spiritual – existential therapy. The adjuvant therapy must adapt to two groups of patients 1) those with an important psychopathology and 2) those with lesser psychopathology.<sup>79,80,82</sup>

This suggestion comes to support a study<sup>83</sup> by Grossath Maticek et al conducted on 8059 women that concludes by stating that “*mortality depends more on physical factors than on psychological ones. Nevertheless, psychological factors seem to reinforce the impact of physical factors*”. The combination of therapeutic techniques in general, is gaining ground throughout the range of psychiatric therapies and its effectiveness is widely praised.<sup>84-87</sup> The combination of therapies will eradicate theory controversy and will benefit research by relieving researchers from defensive attitudes that bring errors or exaggerations in the messages conveyed by their research.

**Table 1** *Psychotherapeutic interventions in positive correlation with survival*

AUTHORS	MATERIAL	INTERVENTION	RESULTS
Spiegel et al. (1989)	86 women with metastatic breast cancer either in the	Weekly 90 minutes in support group	Women in the support group showed significantly greater

	therapy group or in the control group		survival rates averaging 18 months from the time of randomization
<i>Richardson et al (1990)</i>	94 hematologic cancer patientscontrol group therapy group	Training and home visitations	Positive survival correlation for those receiving treatment
Fawzy et al. (1993)	68 melanoma patientscontrol group	6 weeks, stress control and psychological support	The group participating in the therapy showed significantly higher survival rates than the control group

**Table 2** *Psychotherapeutic interventions in negative correlation with survival*

<b>AUTHORS</b>	<b>MATERIAL</b>	<b>INTERVENTION</b>	<b>RESULTS</b>
Linn et al. (1982)	120 male cancer patients with cancer in various locations with lung cancer first (n=65)	Individual consultation support	Non-effective in association with survival
<i>Gellert et al (1993)</i>	34 female breast cancer patients	90' weekly for individual consultation	Non-effective in association with

		supportive family therapy	survival
Ilnyckyj et al. (1994)	Control group 127 patients of all types and stages of cancer	90' weekly of supportive group therapy	Non-effective in association with survival
<i>Goodwin PJ et al (2001)</i>	235 breast cancer patients, metastasis, life-expectancy at least three months, 158 in therapy, 77 in control group	Weekly supportive expressive psychotherapy	Non-survival 17.9 months therapy group 17.6 months control group (Improvement of psychological symptoms, good mood) Pain improvement