# Editorial ştiinţific

# PSYCHOSOMATICS TODAY – AFTER ITS SEMANTIC DISSOLUTION

Prof. dr. Ioan Bradu Iamandescu

Medical Psychology and Psychosomatics Department, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

#### Rezumat:

"Abolirea", de către DSM III și IV, a Psihosomaticii ca știință/ disciplină de studiu pentru pregătirea medicală și psihologică, a avut ca rezultat dispariția termenului de "psihosomatică" (disoluția sa semantică) din vocabularul (inclusiv din indexul) câtorva manuale de Psihologie a Sănătății. Medicina Psihosomatică a fost substituită de Psihologia Sănătății și Medicina Comportamentală, sau a fost limitată la psihiatria de legătură. Totuși, a persistat în multe țări având o arie vastă de studiu, ceea ce este de fapt Psihosomatica clasică, dar purificată de tendințele fanteziste psihanalitice, și întărită de argumente ale Medicinii bazate pe dovezi, susținute de studii psihologice și biomoleculare. O astfel de Psihosomatică nu refuză consultația psihiatrică a bolnavilor somatici (ceea ce este respectat), dar lărgește aria de studiu până la nivelul cercetării etiopatogeniei psihosociale a bolilor somatice, a unei abordări biopsihosociale susținute a bolnavilor somatici de către medici somaticieni și chirurgi și care implică de asemenea psihologi și psihiatri în echipa terapeutică. Pe de altă parte, propunând termenul de Psihosomatică Aplicată, noi avem în vedere selecția unor boli somatice cu o frecvență mare și responsabile de o rată crescută a mortalității, cuprinse în aproape toate subspecialitățile medicale și chirurgicale și unificate printr-o largă participare etiopatogenică a factorilor psihosociali sau printr-un răsunet psihologic major al disconfortului și impactului existențial provocate de aceste boli. Acest tip de selecție - cu riscul asumat de a include prea multe sau prea puţine boli în categoria de psihosomatice poate determina sau chiar incita concentrarea eforturilor profesioniștilor medicali spre o îngustare a câmpului de patologie, acolo unde este foarte justificată nevoia de instrumente psihodiagnostice și psihoterapeutice, la fel ca și de specialiști (psihiatri, psihologi, sociologi, etc.).

Psychosomatics, even if essentially had a psychoanalytical origin (see Graham, Lacan, Luban-Plozza et al.), has operated over the last thirty years, in the diagnostic field, with psycho-physiological, neuro-endocrine-

### Abstract:

The "abolition" of Psychosomatics as science/ study discipline for medical and psychological tuition, by DSM III and IV, resulting in the disappearance of the "psychosomatics" term (its semantic dissolution) from the lexicon (including indexes) of several textbooks of health psychology. Psychosomatic Medicine was substituted by Health Psychology and Behavioral Medicine or was limited to liason-psychiatry. However, it persisted in many countries having a vast area of study, as the classical Psychosomatics is, but purified of fantasist tendencies with psychoanalytical shade and strengthened with arguments of **Evidence-Based Medicine sustained by psychological** and biomollecular studies. Such a Psychosoma-tics does not refuse the psychiatry consultation of somatic patients (which is respected), but also widens its area of study to the level of research of psychosocial etiopathogeny of somatic diseases, of sustained biopsychosocial approach to somatic patients by somatic physicians and surgeons and also involves psychologists and psychiatrists into the therapeutic team. On the other hand, by proposing the Applied Psychosomatics term, we take into account the selection of somatic diseases with an increased frequency and responsible of high mortality, being comprised in about all medical and surgical subspecialities and unified through a large etiopatogenic participation of psychosocial factors or through a major psychological rebound of disconfort and existential impact of these diseases. This type of selection - with the assumed risk of including too many or too less diseases in the category of psychosomatic - could allow or even incite to concentrate the efforts of the medical professionals towards a narrower field of pathology, where it is very justified the need for psychodiagnostic and psychotherapy instruments, as well as for specialists (psychiatrists, psychologists, sociologists etc.).

immune and biochemical concepts, while - in therapeutic context - with a series of psychotherapy methods, mainly based on efforts made in order to change behaviors that are detrimental to the health of the individual.

The psychosomatic concept - arisen at the beginning of the XXth century, quasi-unanimously was accepted as a theoretical basis for approach to the patients from every medical or surgical domain. It is worth mentioning that contemporary medicine has assimilated, for a couple of decades, this concept, which permits to the medical practitioner to evaluate the implications of the psychological factors in the etiology and evolution of a somatic disease (at first place - the psychosomatic diseases) but also to treat - within the limits of his competence - the psychiatric symptoms of severe somatic diseases (not only cerebral tumours, endocrine diseases etc., but also severe forms of many internal and surgical diseases), by approaching their somatic causes.

While psychiatric disorders are approached from a diagnostic and therapeutic viewpoint by psychologists and psychiatrists - familiar with notions of general psychology and, especially, with those of psychopathology and psychoparmacology –, there is a need for physicians, "nourished" with a psychosomatic conception, to treat somatic diseases accordingly to their medical specializations - from general practitioners to internal medicine (including also allergologists) or surgeons.

These introductive considerations have the role of creating a frame for discussions regarding the "abolition" of Psychosomatics as science / study discipline for medical and psychological tuition, by DSM III and IV, resulting in the disappearance of the notion "psychosomatics" from the lexicon (including indexes) of several textbooks of health psychology (e.g. Bennet, Marks, etc.)

Over the last two decades, Psychosomatics has developed:

- In depth through the scientific character of research on modifications produced by psychological stimuli (especially psychological stress) at the level of cell biology and based on psycho-neuro-endocrine and immune mechanisms;
- On surface by "infiltrating" all clinical medical specialties.

For this reason, **Budderberg** et al. demonstrated in 1996 that the field of psychosomatic medicine began to differentiate into areas that represent the application of psychosomatic concept (including diagnostic methods and especially psychotherapeutic methods centred on psychogenic etiology and somatic-psychic echo of psychosomatic diseases) in various medical-surgical specialties. The authors exemplify these branches of "Special Psychosomatics" by immunologic psychosomatics (psycho-neuro-immunology - founded by R. Ader in 1981) and rheumatic, gynecologic, oncologic psychosomatics.

For sure, other divisions of Psychosomatics will continue to arise, - real "subsidiaries" of clinical medical specialties, as Psychoneuroallergollogy (PNA), legitimated by the two editions of our synonym monograph, printed in 1998 (1st ed., lamandescu IB) and 2007 (2nd ed., lamandescu et al.). For this reason, authors like Hoffmann and Hochpfel (1999) or Studt and Petzold (2000) use terms as "general psychosomatics" and "special psychosomatics" (this one contains the psychosomatic pathology of different systems: locomotor, respiratory, cardiovascular, gastrointestinal, genitourinary, corresponding to different psychosomatic branches). We consider the term "applied psychosomatics" to be more appropriate for this purposes. This is also the name given to the recently created society - in October 2005 - Romanian Society of Applied Psychosomatics and Behavioral Medicine.

In the following, we will present several arguments in favour of semantic viability and, moreover, of theoretic and practical forecasts for psychosomatics.

## **DIRECTIONS OF EVOLUTION OF** PSYCHOSOMATICS, FOLLOWING THE **BIO-PSYCHO-SOCIAL MODEL (ENGEL)**

Following the "legiferation", by Engel, of the possibilities of intervention for the three groups of etiopathogenic factors in the development of the disease - based on variable associations of these factors, opposed by "individual resources" (Antonovsky), also bio-psycho-social Psychosomatics advanced on several important directions:

• Traditional, psychologyzing - mainly, under the influence of psychoanalytic streams, conducting to attractive speculations, with an exclusivist essence.

We can exemplify by the theory of "symbolic language of organs" - Groddek - applicable only for conversion disturbances, tendecies to reduce the types of personality of psychosomatic patients to alexithymia (Sifneous and Nemiah) or to an own psychosomatic structure ("la penseé opératoire" supported by Marty and M'Uzan, representatives of the School of Paris) which brings, during intense or persistent psychic burden, a somatic reaction, in the form of chronic psychosomatic alteration.

- Novating, influenced by Evidence-Based Medicine, which has effectively supported the clinicians to verify several psychosomatic concepts - especially the etiologic role of psychic stress, but also the psychic alteration caused by the somatic disease. Here we can include mainly the psycho-neuro-immunologic researches, upheld by the progresses in endocrinology and in psycho-neuroimmunology, greatly developed following the publication of the monumental work "Psychoneuroimmunology" edited by Robert Ader.
- "Comportamental", based on lifestyle peculiarities, as an element deeply involved in health and illness, but also on the behavior of the ill person - these two area of study being currently equally vindicated by Health Psychology and Behavioral Medicine.

A series of concepts and classic issues have been resumed; their rephrasing allowed the correction or completion by data generated through statistical analysis (of a large number of cases) and by new laboratory techniques - all put together by epidemiology, which is no longer limited to retrospective estimations, but conducts prospective studies, cohorts etc.

### THE PSYCHOSOMATIC SYNTAGM: "PSYCHOLOGICAL FACTORS THAT ALTER A **GENERAL MEDICAL CONDITION"**

The characterization made by DSM IV TR for this important category of pathology (a group of psychosomatic diseases, in our opinion), offer, paradoxically, arguments in favour of the existence of this field of pathology defined adequately by the term "psychosomatic" and shows as deeply involved a series of concepts that we develop within the general psychosomatics.

Thus, among these psychological factors that "alter" somatic diseases are generally considered: mental disorders, psychic symptoms, personality traits, styles of coping, maladaptative behaviours (nocive for health) and physiologic responses related to stress.

The somatic disease is considered to be affected by these psychological factors, when they exert a "clinical adverse" effect on the evolution of the disease (onset, risk etc.)

It is neglected the fact that there are factors with an opposed effect, favourable, which are able to slacken the evolution of somatic illnesses – and here we touch another semantic dissolution – the concept of "eustress".

This real reaction of strengthening/relaxation/regulation of organism's resources, with stimulating effects on immunity, deserves to carry a name (the most appropriate remains the term introduced by H.Selye – "eustress").

This antipode and antidote of distress represent, in fact, the major and final objective of majority types of psychotherapy.

Negative psychological factors that build a psychosomatic disease (usually named "general medical condition altered by psychic factors") are represented by distress, under its major form (occurrence of an event with major connotation of crisis, on Holmes-Rahe scale) with easily recognisable effects, but also under the form of small daily hassles (**Kanner**), producing modifications that accumulate in time.

As we see, DSM IV – TR recognise (but under another name) psychosomatic diseases and, moreover, is highlighted the importance of knowledge of stressors, problems related to the enhancement of the coping mechanism, remodelling the behaviour and personality. A tricky solution is to let at physician's latitude the diseases (these mean "all" or "some of") that are more or less influenced by psychological factors.

This type of selection – with the assumed risk of including too many or too less diseases in the category of psychosomatic – could allow or even incite to concentrate the efforts of the medical professionals towards a narrower field of pathology, where is very justified the need for psychodiagnostic and psychotherapy instruments, as well as for specialists (psychiatrists, psychologists, sociologists etc.).

This field we propose to be named **Applied Psychosomatics**.

# DEFINING THE FIELD OF PREOCCUPATIONS OF PSYCHOSOMATICS

The answer for this problem varies from the **absolute denial of the justification** for existence of psychosomatics (**Wolff**, 1962 and **Lipowsky**, 1972, both cited by **Wirsching**) to the reservation of an area of medico-surgical pathology that needs the corrective intervention for psychological dysfunctions of the patients treated by the somatician, psychiatrist (and psychologist). This is the Engel-Rochester model of "liaison psychiatry" (**Lipowschi**, 1977, cited by Wirsching).

Thus, Gitlin et al. (2004) define Psychosomatics as the area of Psychiatry where physicians have expertise in diagnosing and treating psychiatric illnesses but difficulties with patients with complex medical diseases. Levenson considers Psychosomatics as being "the newest psychiatric subspecialty, formally approved by American Board of Medical Specialties".

This way, the official return to the old terminology of "Psychosomatics" has been recently made, by paying the price of modification of the initial field of preoccupations of Psychosomatics, which offer integrally its object of study – useful, indeed – to Psychiatry.

The selection of some diseases "more psychosomatic than other" (Kaplan and Sadok, cited by Panconesi) that we consider to belong to an area of pathology – generally, chronic -, having large and constant connections to psychological factors (especially distress), we name, at present, Applied Psychosomatics.

# APPLIED PSYCHOSOMATICS ("SPEZIELLE PSYCHOSOMATIK")

The existence of such diseases and/or disturbances, "more psychosomatic" than others (lamandescu, 1999 and Kaplan and Sadock, 2004 ibidem) – for example, ulcer in comparison to food poisoning, e.g. – led to the appearance of a series of sub-branches of Psychosomatics, as we have already mentioned in an introductive paragraph.

We use the term, of Applied Psychosomatics, because we have in mind a crossing to the declarative meaning of psychosomatics – represented by a concept regarding the relationship between mind and body, unanimously accepted, but also accompanied by numerous controversies – to its application in almost all sectors of medical practice.

This passage to the concrete manages to solve the disputes from the area of interference between medicine and psychology, concentrating on touching two major targets: "qualified re-humanization" of the medical activities – by implicating also other humanists (psychologists, sociologists, anthropologists) and optimization of the therapeutic process, by associating the psychologist and the psychiatrist in the diagnostic process targeting the psychological component of the disease (psychosomatic and somatopsychologic) and also in the psychotherapeutic process, centered on somatic and psychological recovery (both taking into account the risk components regarding rebound and also appearance of other psychosomatic diseases) (lamandescu, 2006).

It the major objectives of health politics in every European country at the beginning of the XXI-st century rely on solid financial grounds, it is easy to understand the fact that complex treatment, with prophylactic tendencies, including targeting risk factors, of certain psychosomatic diseases widely spread – responsible for 80% of world morbidity, (e.g. cardiovascular diseases, cancer, diabetes mellitus, asthma) – the number of emergency interventions and also the hospitalization period drops rapidly, all of this influencing the health budget favorably (example: the experience of Germany – **Deter** and Poland – **Wasilewski**, presented to the IPC Congress, Dubrovnik, 2006).

In the following short presentation we will try to draw the concept of applied psychosomatics with the purpose of discussing some criteria that can allow the isolation of these diseases or cases that need a simultaneous approach, therapeutic and "special" psychosomatic, (relying on the psychologist), aiming the optimization of the therapeutic results.

First of all, we will briefly define the term of applied psychosomatics as the vast application field for the

psychosomatic concept in medical practice (medical and surgical diseases).

The concept of applied psychosomatics implies 2 sides of this term:

- Bio-psycho-social systematic approach of patients with somatic diseases, including the psychosomatic way (establishing the degree of involvement for the psychological factor in comparison to other possible clinical etiological factors) and also the somatopsychological way, with implications in the field of behavioral medicine (analysis of psychosocial impact and modification of patient's pathogenic behavior and treatment, through psychotherapy and psychotropic medication).
- Selecting a group of psychosomatic diseases with high frequency and severity from a variety of medical specialties based on 4 major criteria proposed by the author: (lamandescu, 1993)
- Major etiopathogenic implication of the psychological factor and its participation to the disease dynamics. beside biological "organ-specific" factors
- □ The presence of a double vulnerability of the patient (genetic and acquired) both at psychological and organic level
- □ Chronic, cyclic evolution (periods of activity alternating with disease free intervals)
- □ Benefic influence of psychotherapy and/or psychotropic medication

Finally, the multi-factorial bio-psycho-social algorithm of psychosomatic patients includes simultaneous treatment (Petzold), administered by the doctor and other therapeutic specialists, and physical, chemical and biological therapies applied at the same time with psychological therapies.

### SOME RECENT ADVANCES IN PSYCHOSOMATICS

Returning to the actual role of Psychosomatics (which persists in many countries of the world), it can be said that this discipline has brought to the fingertips of somatic physicians (from the family doctors and internists to the surgeons) an ensemble of notions and action algorithms from the psychology domain, which permits the consideration, in a certified way, of the causal (etiological) implication of the psychological factor in the diseases that they treat, as well as the psychological implications(somatopsychic ones) of these diseases on the psychic of affected patients.

Referring to the mechanisms through which psychological factors initiate pathological modifications at the somatic level, the research in the last two decades were concentrated in the area of psychoneuroendocrinology and psychoneuroimmunology managing to determine the implication of some psychological factors on a medical biology level in the conversion/translation of psychological products, especially the ones involved in psychological stress, subsequent to biochemical reactions implicating many cytokines, enzymes and other biomarkers.

It is worth mentioning some extremely remarkable new "acquisitions" in psychosomatics, in the field of psycho-biology, connected to what Hellhammer considers to be a fulfillment of Freud's predictions regarding "the possibility that psychological processes be represented as states, situations well defined in quantity, of a material nature, demonstrable and beyond any doubt".

Among these predictions we mention researches developed by authors like Mc Meany et al. that have been able to identify "biomolecular bases" of psychosocial experience starting from the "correlations between mother's stresses during pregnancy and future stress vulnerabilities of the child", manifested either in psychological plane or in somatic plane. The substrate of this relation has been identified in the protein receptors for glucocorticoides in the hippocampus.

Also an important point for understanding certain psychosomatic disturbances (e.g. somatoform disorders in general, or psychomotor diseases like fibromyalgia) can be explained starting from the presence of a hypocortisolism in individuals exposed to a prolonged distress. In this case high concentration during distress can make these areas in the hippocampus more sensitive to the action of glucocorticoides circulating in the blood stream leading to biomolecular "consequences" specific to these hormones (Mc Meany ibidem).

Starting from this hypocortisolism caused by distress, from the study of various cytokine concentrations and other bio-umoral markers. Hellhammer created a conception, in continuous expansion, concerning "Neurophenotypen" ("Neuropatterns"). These real constellations of biomolecular markers having an interrelation with neuronal functions, involved in the genetic background, are making possible to understand how a series of happenings, life experiences, stresses can alter certain features of these genes and transform in this predictable way the phenotype. The consequence of knowing these possible pathologies on a bio-psychological level is the specific approach in the field of pharmacological and psychotherapeutic intervention. Other mechanism of psychologically induced somatic disorders is represented by "cytokines effects on behavior" (Dantzer et al. cited by S. Maier), expressing the similarity between the fever induced by a biological factor and the stress reaction. Both have as "primum movens" the stimulation in the secretion of beta-IL-1. The brain responds to this signal of immune activation through a "neural cascade", de novo, compared by the author with a "endogenous pyrogen" able to initiate a torrent of proinflammatory cytokines transmitted by the brain through "communication points" located in the blood brain barrier (S. Maier, ibidem). Finally a complex psycho-endocrine and immunological reaction is produced, targeted both ways: brain immune system that involves a global reaction of the entire organism labeled as "sickness behavior" (Hart, cit. by Maier). This inflammatory response translates into an energy saving behavior expressed through fever, decrease in physical and sexual activities, loss of appetite, sleep and depression. In conclusion: in a psychological stress condition is involved a chain of biomolecular events specific to an inflammatory response to a physical aggression on the organism.

In the area of biomolecular events can also be included some phenomenon like "stressin", a human glycoprotein serum increased in solders' sera, able to transmit stress effects from mother to the newborn (**Ugolev** et al. and Lauc et al. cit. by Popescu L.M.) The direction for the relations between personality traits and the disposition for psychosomatic diseases represent the objective for many researches.

The study performed by Segerstrom (dedicated to the relation between personality and immunity) hasn't been very conclusive although it has been confirmed the inhibiting role of negative emotions on the immune system, and also the positive role of consciousness in immunity with applications in longevity. The relation of depression with coronary disease (aggravating role) became a certainty and there is also a recent study that demonstrated through laborious techniques (including the utilization of angiography) the relation between high level of depression in analyzed subjects and the degree of atherosclerotic lesions evolution (Ohni et al., 1996).

Regarding the pathogenic role of distress caused by various factors, it is approached in different researches starting from daily psychosocial distress to the one "manufactured" in a laboratory under the form of stress experimental tests

In the end, we must understand the "biological correlations and functions" studied with the help of "sophisticated modern biotechnological methods" from the area of molecular biology) and trying to point out the differences in psychobiological plain between well-being and illbeing states.

Certainly, there are a lot of other successes of psychosomatics in the area of deciphering the mechanisms that generate the relation between psyché and soma.

#### **CONCLUSIONS**

Within this atmosphere of ideological debates regarding the field of preoccupations of Psychosomatics, we are partisans of a Psychosomatics having a vast area of study, as the classical Psychosomatics is, purified of fantasist tendencies with psychoanalytical shade and strengthened with arguments of Evidence-Based Medicine sustained by psychological and biomollecular studies. Such a Psychosomatics does not refuse the psychiatry consultation of somatic patients (which is respected), but also widens its area of study to the level of research of psychosocial etiopathogeny of somatic diseases, of sustained biopsychosocial approach to somatic patients by somatic physicians and surgeons and also involves psychologists and psychiatrists into the therapeutic team, psychologists being more prone to use psychotherapy instead of psychotropic pharmaceuticals, which remain reserved for difficult cases, when the psychiatrist shall be required.

#### References

- 1. Ader R. (red.) Psychoimmunology Acadenuc Press-London, New York 1981.
- 2. Bennet P., Introduction to clinical health psychology, Ed. Open Univ. Press, Buckingham, 2000, Philadelphia
- 3. Buddeberg C, Willi J, (Hrsg): Psychosoziale Medizin, 2. Aufl. Springer, Berlin Heidelberg New York 1998,.
- 4. Buddeberg Cl., Radvila A., Kaufman P., Was ist Psychosomatiche und Psychosoziale Medizin, in Médecine psychosomatique et psychosociale en Suisse. Verlag Babler-Bern, 1993.
- 5. Dunbar F. Synopsis of psychosomatic medicine, Moby, St. Louis, 1948.
- 6. Engel G. L., The need for a new medical model. A change for bio-science. Science, 1977, 196: 129–136.
- 7. Fritzsche K., Wirsching M. Psychosomatische Medizin und Psychotherapie. Springer, Heidelberg, 2005
- 8. Gitlin D.F., Levenson J.L., Lyketsos C.G. Psychosomatic medicine: a new psychiatric subspecialty. Acad psychiatry, 2004, 28:4–11

- 9. Graham D.T. Psychosomatic medicine, în red. Greenfield M., and Sternbach R., Handbook of Psychophysiol ogy, Rinehart Winston, New York 1972.
- 10. Hellhammer D.H, Von Freud zu Meaney: Die Zukunft der Psychotherapie hat begonnen, Verhaltenstherapie 2005.
- 11. Hellhammer D.H., Hellhammer J., Neuropattern- procedeu pentru dignosticul stresului psihic, Infomedica 2004, 128 (10), 38–42.
- 12. Hellhammer D.H., Wie die Zuwendung der Eltern die Stressvulnerabilitat beeinflusst: Molekularbiologische Grundlagen sozialer Erfanhrung, Verhaltenstherapie 2005;15:110–112.
- 13. Hoffman SO, Hochapfel G, Neurosenlehre, Psychotherapeutische und Psychosomatische Medizin. Schattaner, Stuttgart, 1999.
- 14. Iamandescu I.B. Stresul psihic la interferenta Psihologiei Medicale cu Psihosomatica, – J. Med., 1993;2:17–19.
- 15. lamandescu I.B. Stresul psihic si bolile interne, Ed. ALL, Bucuresti, 1993.
- 16. lamandescu I.B. Corelatii psiho-somatice în astmul bronsic, – Teza de doctorat, IMF Bucuresti 1980.
- 17. lamandescu I.B. L'instertion des stimuli psychiques dans les méchanismes étiopathogeniques de l'asthme bronchiques avec trigger psychogéne. Considerations sur certaines études personnelles (épidémiologique et psychologique), Rev. Roum. Psychol., 1990, 27, 2, pp. 121–135.
- 18. lamandescu I.B., The study of personality type on patients with allergic asthma using MMPI, vol. 4th Cong. "Bronchitis and emphysema" Abstracte, Giornale italiano delle malattie di torace, p. A78, sept. 23–28, 1985.

  19. Kaplan HI, Sadock BJ. Handbook of psychiatry, 1996,
- 19. Kaplan HI, Sadock BJ. Handbook of psychiatry, 1996, Baltimore, Williams & Wilkins
- 20. Levenson J.L. Introduction XIX-XXI in Levenson JL Textbook of Psychosomatics. Amer Psychiatric Publishing Inc. Washington-London. 2005
- 21. Luban-Plozza B., Poldinger W., Kroger F., Boli psihosomatice in practica medicala (trad. E. Toma). Ed. Medicala, Bucuresti, 1996
- 22. Maier S.F., Bi-directional immune-brain communication: implications for understanding stress, pain and cognition. Brain, Behavior and Immunity 17 (2003) 69–85
- 23. Nemiah J.C., Sifneous P.E., chap. Affect and fantasy in patients with psychosomatic disorders, in Ed. O. Hill. "Modern trends in Psychosomatic" Huber, Bern-Stuttgart-Vienne, 1982.
- 24. Marks D., Murray M., Evans B., Willig C., Udwall C., and Sykes CM., Health Psychology, 2nd edition, Sage Publication, London, New Delhi, 2005.
- 25. Ohni S, Oinuma T, Yamada T, Sakurai I, Matsumoto T, Ueno T, Saito E, Fujioka T, Tochihara T. Atherosclerosis regression in the elderly—correlation between centrally depressed lesions and risk factors. Nippon Ronen Igakkai Zasshi. 1996 Dec;33(12):923–7.
- 26. Panconesi E. Psychosomatic factors in dermatology: special perspectives for application in clinical practice. Dermatol Clin. 2005 Oct; 23(4): 629–33
- 27. Popescu L. M., Phenomena and... Phenomenins, Journal of Cellular and Molecular Medicine, vol 9, no. 1, 2005
- 28. Rosenman R.H., Friedeman M. Modifying type A behaviour pattern, J. Psychosom. Res., 1977, 21, 323–331.
- 29. Ryff CD, Love GD, Urry HL, Muller D et al. Psychological Well-Being and Ill-being: Do they have Distinct or Mirrored Biological Correlates? Psychoter Psychosom 2006; 75:85–95.
- 30. Segerstrom S., Personality and the immune system: models, methods and mechanisms, Ann Behav Med, 2000, 22 (3): 180–190.
- 31. Sivik T: Psychosomatic Medicine: Why Fix It if It Ain't Broken? Psychother Psychosom 2000;69:178–180
- 32. Studt HM und Petzold ER. Pszichotherapeutische Medizin de Gruyter, Stuttgart, 2000
- 33. Von Üexkull T., La médecine psychosomatique, Gallimard, Paris, 1963.
- 34. Willi J., Heim E. (Hrsg.), Psychosoziale Medizin, Bd. I Grundlagen, Springer, Berlin, Heidelberg, N.Y., Tokyo, 1986.
- 35. Wirsching M. Pe drumul unei psihosomatici de familie. Sa vezi boala in contextul ei. Ed. Polirom, lasi, 1995.