

Psoriasis and Psyche – What's New? What is Clinically Relevant?

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SUMMARY The last decades have witnessed an increasing interest in psychological aspects of chronic skin disease. Psoriasis has received much attention, partly due to the pivotal change brought to therapeutic concepts by biologics. This article aims to provide a brief overview, with no claims on exhaustiveness, on recent (i.e. stemming from the last 10-15 years) publications on psychodermatological research in psoriasis, with particular reference to those results that have shown in the past or may show in the near future important consequences for clinical practice (i.e. patient education models, psychotropic effects of TNF-alpha antagonists and others). Some considerations are presented on the difficulties encountered on performing clinical studies of non pharmacological interventions. The possible beneficial effect of e-Health projects is discussed.

KEY WORDS: psoriasis, psyche, psychodermatology

INTRODUCTION

Both the interest in psychodermatology and, consequently, the number of related publications have been rapidly and steadily growing in the last decades. A simple Medline search performed in 2009 with the terms "psychological" and "skin" showed 546 articles published until 1975, 875 articles between 1976 and 1991, and 1827 articles published afterwards, suggesting that the number of publications on psychodermatology may roughly be doubling every 15-16 years. This increase of interest is paralleled by an increase in publications on psychological aspects of psoriasis: analogously, a Medline search performed with the keywords "psoriasis" and "psychological" yielded a total of 395 articles, 34 of these published before 1980, 39 between 1980 and 1899, 95 between 1990 and 1999, and the remaining 228 (!) in the new millennium.

If one strives to summarize in a few sentences the state-of-the-art on "Psoriasis and Psyche" at the end of the 1990s, one can reasonably state that, by the end of the century,

- a) psoriasis had been recognized, on the basis of research made mostly with the support of validated questionnaires, to be associated with high psychiatric morbidity, in particular with anxiety, depression, social withdrawal, significant reduction of the quality of life (QoL), and feelings of stigmatization (1) (whereby the nature of the correlation between the extension of affected skin, or, more generally, the disease severity and the severity of the psychosocial impairments still warrants further investigation); and

- b) the interaction between lifestyle factors (stress, body mass index, food, alcohol consumption, smoking habits, etc.) and psoriasis had been widely accepted and ever more supported by epidemiological data (2).

Nevertheless, a closer look on the present knowledge on the interaction between psoriasis and psyche shows that this knowledge parallels the general situation in psychodermatology: a wide range of theoretical knowledge has been harvested but only little clinical, evidence based research is available for the immediate benefit of patients. This article aims to present a short overview of recent research on psoriasis and psyche, with no claims on exhaustiveness and, on the other hand, with a focus on those results, both theoretical and clinical, that may soon entail implications for the daily practice.

WHAT'S NEW AND CLINICALLY SIGNIFICANT IN BASIC RESEARCH ON PSORIASIS AND PSYCHE?

- a) It is well known that psychological stress alters cutaneous barrier homeostasis. Recently, more publications have provided ever more and sounder evidence to this fact. This explains partly the influence of stress on psoriasis (and atopic dermatitis) since antigens and other immune triggering factors may be facilitated by stress in penetrating the skin and inducing relapses of the skin condition. This mechanism is presumably glucocorticoid mediated (3,4).
- b) An interesting result on how stress may act on the immune system in psoriasis has been published (5). As a matter of fact, psoriasis patients seem to develop a stronger increase of CLA+ CD3+ cells (compared to controls) after stress. (A similar result was obtained for atopic eczema patients). As observed by the Schmid-Ott *et al.*, this may point to the fact that stress induces an increase in a circulating NK lymphocyte subpopulation which has the ability to adhere and emigrate into the skin. Whether this has anything to do to a disease specific interaction between NK cells and dermal dendritic cells in lesional skin, as it has been claimed to be the case for atopic eczema, remains an open issue for psoriasis, worthy of further investigations.
- c) That the relationship between stress and psoriasis may be more complicated than a sheer causative one has been suggested by

an interesting observational study (6) in nine psoriatic patients over an observation period of 210 days at the most, whereby control of blood stress parameters, VAT stress assessment and recording of worsening of the disease where regularly performed. In this small group, no correlation between the increase in stress level and worsening of psoriasis status (assessed by PASI) could be established. With all limitations due to the very limited number of patients observed, this study is worth of praise for being the very first observational study in the field and for suggesting that the stress-psoriasis interaction warrants further investigation and more sophisticated models. (Since relaxation techniques seem to improve response to therapy (7), stress could, for instance, act on psoriasis by lowering the threshold of effectiveness of other cofactors (e.g., endogenous factors) in the aetiology of worsening episodes).

- d) Some research suggests that inflammatory states may be directly linked with states of depression, since some inflammatory cytokines seem to be implicated in depression (VIP, substance P, tumor necrosis factor alpha (TNF- α)). Conversely, there are reasons to believe that anti-TNF- α therapy in psoriasis may decrease the levels of depression, independently of the direct effect on the skin condition (8-11).

WHAT IS NEW AND CLINICALLY SIGNIFICANT IN PSYCHOMETRIC ASSESSMENT OF DERMATOLOGIC PATIENTS?

Psychometric techniques have increasingly been applied in chronic dermatologic disease in order to show:

- a) the prevalence of certain psychopathological conditions in selected patient groups; and
b) the benefits of therapies that go beyond pure clinical improvement.

Assessments of psychopathological conditions such as depression or alexithymia are generally performed cross-sectionally (i.e. aiming to show that, for instance, depression or alexithymia is over-represented in psoriatic patients)

Clinical studies, on the other hand, are mostly associated with longitudinal QoL assessments, i.e. research aims to show that certain pharmaceutical therapies are linked not only with clinical (such as PASI reduction) but also with significant QoL improvement.

From the point of view of searching a more immediate benefit for the patient, longitudinal studies assessing improvement of psychometric values under a certain therapy are, of course, more interesting.

Three important concepts have recently been introduced in psychometrics that may have important practical consequences:

- a) the concept of suffering and the measurement of the burden or impact of a chronic disease through a visual test, developed about 10 years ago. The measure, Pictorial Representation of Illness and Self Measure (PRISM), takes less than 5 minutes to complete and is unusual in relying only minimally on language. PRISM has first been developed as a research tool and has subsequently been used effectively in routine clinical practice. In the basic PRISM test, patients are shown, by the treating physician, a white A4-size metal board with a fixed, yellow circle 7 cm in diameter in the bottom right-hand corner. The patient is asked to imagine that the board represents his/her life as it is currently, and the yellow disk represents the patient's "self." The patient is then handed a red disk, 5 cm in diameter, with a magnetic strip on its underside, so that it can be attached to the board. The patient is asked to imagine that the red disk represents his/her illness and is asked, "where would you put the illness disk in your life at the moment?" The main outcome of the test is the distance between the centers of the yellow and the red disk, defined by the authors as SIS (self-illness separation) and appears to be inversely proportional to the burden of the disease. Used by the treating physician, the test appears to be a useful tool to get quickly "in medias res" as concerns the impact the disease has on the patient's well being. Also, SIS appears not to correlate with the disease activity or the functional impairment caused by the illness, and it is reasonable to believe that it does provide a measure of discomfort that lies in "new, different" dimension of the patient's existence. A few studies on the use of PRISM in psoriasis patients have already been published (12-14); It would be worth exploring whether physicians regularly using PRISM in their clinical daily practice achieve, on the average, a better communication with their patients.
- b) a new test has been developed and validated by a German group, the Skin Satisfaction

Questionnaire (SSQ), which aims to assess satisfaction and attitudes towards one's skin. As the authors put it, "the SSQ expands the existing spectrum of dermatological-psychosomatic/psychological questionnaires, which primarily address issues like coping with disease, quality of life, stigmatization and disease-specific problems, and includes underlying deep-psychological aspects such as the role of the skin in regulating closeness and distance". Although not yet widely implemented in practice, this tool might be useful in showing the efficacy of psychotherapeutic interventions in psoriasis patients, whenever such interventions may aim to improve the sense of well being of the patients and their coping with the chronic disease (15);

- c) the increasing awareness that a chronic disease has a deep impact not only on the patient him/herself, but also on the patient's family and social ambiance has lead Finlay and Basra to introduce the concept of The Greater Patient. The term is inspired by an analogy with a descriptor applied to some of the world's major cities, such as "Greater London", and it is meant to describe "the patient himself along with the immediate close social group that is invariably affected by the changes in the patient's life caused by the disease". This concept underscores the paramount importance of taking social and family factors into account whenever a strategy is chosen for the treatment of a chronic disease: chronic skin diseases do not only affect the patient's QoL, but also the QoL of the family and of the closer social circle (16). A corresponding questionnaire, The Psoriasis Family Index, has subsequently been developed (17).

Finally, there is the need for more research on the long-debated relationship between psoriasis and alexithymia, where results are not unequivocal yet (18). Alexithymia is a term coined as late as 1973 to describe the state of deficiency in being aware of, understanding, processing, or describing emotions. While it still remains an open issue whether alexithymia is over-represented in psoriatic patients as compared with healthy controls, an interesting report shows that low levels of emotional awareness predict better response to dermatologic treatment in patients with psoriasis (19).

WHAT IS NEW AND CLINICALLY SIGNIFICANT IN PSYCHOPHARMACOLOGIC INTERVENTIONS IN PSORIATIC PATIENTS?

Although case reports have suggested the possible efficacy of antidepressant therapy in psoriasis, no significant news seem to have appeared on the subject since the publication of a small, but nevertheless significant study on the efficacy of bupropion in psoriasis and atopic dermatitis (20). It has been suggested that bupropion may have acted through lowering the levels of the proinflammatory cytokine TNF- α (21). On the other hand, the same drug has been associated with generalized pustular and erythrodermic psoriasis (22). Hence, the interplay of proinflammatory cytokines, mood disorders, inflammatory skin disease and the possible role of psychopharmacological drugs in psoriasis remains an issue that warrants further research (8).

WHAT IS NEW AND CLINICALLY SIGNIFICANT IN PSYCHOLOGICAL INTERVENTIONS IN PSORIATIC PATIENTS?

The importance of lifestyle factors in the management of both psoriasis and atopic dermatitis is being increasingly recognized. However, while the effect of educational interventions in atopic dermatitis has already been the object of multicenter, randomized studies (23) and of as much as a Cochrane review (24), education of psoriasis patients is still almost a virgin land. The Task Force on Dermatological Prevention of the German Dermatological Society has issued guidelines (25) on how to structure educational programs, but so far only pilot studies have been published on this issue (26).

Going beyond the educational interventions, studies concerning the efficacy of other psychological interventions such as meditation, relaxation techniques, cognitive behavioural therapy and many others are generally encouraging but, although mostly controlled, limited to small numbers of patients and run over very short periods of time (27). This should not discourage dermatologists to address this issue whenever possible. A review on the indication of psychological intervention in psoriasis patients has recently been published, and the authors stress the need of rational criteria to select patients that might benefit most from such interventions (28).

A promising and interesting strategy is the one of "written emotional disclosure" (29), developed by the USA psychologist J. Pennabaker. This technique, consisting of encouraging patients to write, under certain controlled conditions, about traumatic events they experienced during their life, has been shown to act with modulating effects on the immune system and has produced interesting results in, among others, asthma and rheumatoid arthritis patients (30) as well as in the field of wound healing (31). The first published study (32) on psoriasis patients has not brought an unequivocal picture of the efficacy, but more extensive and differently designed studies may provide promising results.

Finally, a Dutch group has been investigating the clinical and psychological benefit of systematic QoL assessment in clinical practice. Such assessment can be practiced with the help of e-Health techniques (computer assisted interviews, etc.) (33). This is likely to be a promising field of research and the patient-physician relationship, hence the patients themselves will probably take advantage of systematic inclusion of questions concerning their quality of life during dermatologic consultations. Physicians will be more inclined to address issues that are relevant to the patients and to verify whether the therapies chosen will be conducive to better patient satisfaction; hence, benefits of such systematic interventions might be conducive to:

- 1) improvement of awareness and empowerment of the patient;
- 2) improvement of patient centeredness of the dermatologist;
- 3) provider of relevant, additional information for dermatologic treatment;
- 4) improvement of compliance; and
- 5) improvement QoL and patient satisfaction (De Korte J., personal communication, 2009).

THE FUTURE

The issue of how to cover the costs not only of all such interventions but also of the clinical studies that are supposed to assess their efficacy remains unsolved. Clinical research in psychodermatology is generally independent, and the problem of how to fund such research is far from being solved.

Trying to shift psychological interventions whenever possible from the field of conventional, face to face medicine to the methods of e-Health (like for instance, but not only, Internet based patient education programs) may be a method that could

prove conducive to interesting results. Like many other problems presenting in this era of increased global financial difficulties, the solution could lie ahead, in using more and better technology, rather than in going back to the methods of the past. As the title of a film that is already more than 25 years old suggests, we may have to go back to the future.

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I do not have painful feet any more! Saltrat Rodell cream; year 1934.
(From the collection of Mr. Zlatko Puntijar)