

Sexual Therapy in Psoriasis? Is It
Necessary?

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Abstract

Psoriasis is one of the most common a chronic inflammatory skin disease which could be associated with numerous sexual dysfunctions. According to this, the aim of this study was the analysis of sexual problems in patients with psoriasis. To be included in the review, a study had to: (i) Human data; (ii) concerned patients' sexual problems in psoriasis; (iii) be published in an English-language journal. Studies were identified through online database searches of PUBMED, MEDLINE, Web of Knowledge (2000-2016), in all analyzed publications, researcher stressed that there was a strong relationship between psoriasis and human sexual functioning. Moreover, sexual impairment in psoriasis patients occurs in all components of the sexual response such as: sexual interest; excitation; orgasm; and erection (only in males case), as well as global sexual satisfaction. Moreover, the prevalence of sexual dysfunction was significant higher than in controls. What is interesting, the large majority of analyzed publications were focused on male patients with psoriasis. All reported publication about sexual problems in psoriasis was focused on adult patients. There were no publications in context of adolescents. The main conclusion of this paper is fact that, in dermatology, doctor needs to pay special attention to the prevention of the sexual dysfunction development in patients with skin disorders. Currently, there is no specific sexual therapy for patients with psoriasis, which would prevent the development of sexual dysfunction. This suggests the need to develop adequate interventions forms which are aimed at supporting the patients' psychosexual development on the one hand, and prevent the development of sexual dysfunction in psoriasis on the other hand.

Introduction

Psoriasis is one of the most common a chronic inflammatory skin disease whose incidence ranges from 1% to 3% of the population [1-3]. If we review the literature, we will find that several factors contribute to its development such as auto-immunological, genetic, hormonal and psychosomatic ones [4-6].

In the review, it is reported that skin changes are one of the most important aspects of the psoriasis development. Because of this, psoriasis is diagnosed on the basis of observable skin changes and its treatment is one of the most difficult dermatological challenges [4]. These skin changes could influence on patients' interpersonal relations, because of severity of skin changes which are very often visible. It should be noted that many different research fields have conducted extensive research on the appearance of skin. It is observed especially in the fields of medicine and cosmetology which have been most active in the study of skin appearance [2].

Skin has very important functions in human life. Needless to say, skin has aesthetic relevance. The desire to have beautiful skin has been a centuries-old quest for humans. There is an opinion that skin with brighter complexion and smoother surface tends to be perceived as being healthier and more attractive. Moreover, the appearance of skin is of vital importance to the field of medicine. Careful observation and assessment of the appearance of the diseased area is always the first and most important step during the diagnosis of skin diseases [7].

Skin is also important in human non-verbal communication, especially emotional expression. Skin conductivity is sensitive to many different stimuli such as strong emotion, a startling event, pain, exercise, deep breathing, a demanding task, etc. [8,9]. Non-verbal communication gives a lot of information, because all messages can be communicated and understood through hand and arm gestures, body language or posture, eye contact (or its lack), touch, facial expression, as well as dress code, hairstyles or smells [2,10].

Chronic dermatological conditions can interfere human non-verbal communication. It is associated with the fact that every skin changes in psoriasis have a significant effect on patients' psychological condition, self-esteem and body image. This has serious consequences for patients' functioning in all other spheres of life (social, family, professional etc.) and contribute fundamentally to quality of life. Moreover, it could have a negative influence not only on human real-life collaboration, but also may unwittingly lead to psychosexual problems in context of human sexuality [11,12].

It should be stressed that this cutaneous-articular disease has been associated with numerous sexual dysfunctions [13]. Moreover, these dysfunctions can affect patients' lives and psychosocial

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well-being [9]. Recently, there has been a progressive increase in studies examining the impact of psoriasis on sexual function [13]. But there is still too small number of clinical research studies about this subject.

Aims

The aim of this study was the analysis of sexual problems in patients with psoriasis. According to the main aim of this paper, the following research questions were formulated:

1. What kind of sexual patients' problems are reported most frequently in psoriasis?
2. Are there studies which analyses the relationship between the skin changes and development of sexual dysfunction or human psychosexual development in patients with psoriasis?
3. What kind of sexual therapy is recommended in case of sexual patients' problems in psoriasis?

Search Procedure and Criteria for Study Inclusion

To be included in the review, a study had to: (i) Human data; (ii) concerned patients' sexual problems in psoriasis; (iii) be published in an English-language journal. All types of epidemiological studies regarding sexual function in patients with psoriasis were included. Reviews and case reports were excluded. Full texts of all studies meeting the inclusion criteria were reviewed, and their bibliographic references were checked for additional sources. The variables assessed were as follows: the type of study, sample size, instruments used statistical analysis and results.

Studies were identified through online database searches of PUBMED, MEDLINE, Web of Knowledge (2000-2016), using the key words: sexual problems, psoriasis, sexual dysfunction, dermatological diseases, erectile dysfunction, human sexuality, sexual behavior, psoriasis. These key words were combined with each other.

Results

As a result of review, there was observed 24 publications about patients' sexual problems in psoriasis. All reported publication about sexual problems in psoriasis was focused on adult patients. There were no publications in context of adolescents. Moreover, in all publications, researcher stressed that there was a strong relationship between psoriasis and human sexual functioning. What is interesting, the large majority of analyzed publications were focused on male patients with psoriasis.

Could sexual problems in psoriasis be associated with medicamentous therapy?

In the terms of medicamentous therapy, there was some publication which noted that sexual problems in psoriasis could be associated with this. Some studies reported sexual dysfunction in psoriasis, especially sexual impotence and erectile dysfunction, due to the medicamentous therapy, such as etretinate and methotrexate [14,15]. However, there was a study which noted that sexual dysfunction in psoriasis was not significantly elevated in patients receiving systemic treatment, including retinoid, methotrexate, and cyclosporine [16].

Methotrexate (MTX) is a traditional antipsoriatic drug. This drug is very frequently used either as monotherapy or in combination

with other systemic drugs. Cabello Zurita et al. [17] conducted a retrospective study in patients treated with MTX in the Psoriasis Unit of our Hospital from January 2007 to December 2014. The results of this study showed that MTX is an effective and safe option for the treatment of psoriasis in the real-world clinical practice.

It should be noted that there are some case studies which described side-effects of methotrexate in context of sexual dysfunctions. For example Swale & Sahota [18] reported an unusual complication of low-dose methotrexate for pustular psoriasis which was gynaecomastia with oligospermia. The same observations were made by Schmutz et al. [19]. Other rarely reported side-effects of methotrexate were observed by Aguirre et al. [20]. These authors described two cases of sexual impotence and gynecomastia in patients with psoriasis treated with MTX.

According to this, the relationship between medicamentous therapy and sexual dysfunction is a very important problem in the medical practice. It is especially important in case of some prescription drugs can affect patients' sexual function. If patient observes this relationship, he or she could stop taking these medicaments. This situation can have negative influence on all therapy. Many scientists highlights that it has been difficult to address the issue of sexual functioning and prescription drug use, because of many approaches to it.

It is extremely important that doctor should inform patients about eventually side-effect of treatment, especially in context of sexual dysfunctions.

What kind of sexual dysfunction are the most common in psoriasis?

The sexual dysfunction is defined as: *'the various ways in which an individual is able to participate in a sexual relationship as he or she wishes'*. The ICD-10 classification includes such sexual dysfunction as: sexual dysfunction, not caused by organic disorder or disease (F52), lack or loss of sexual desire (F52.0), sexual aversion and lack of sexual enjoyment (F52.1), failure of genital response (F52.2), orgasmic dysfunction (F52.3), premature ejaculation (F52.4), nonorganic vaginismus (F52.5), nonorganic dyspareunia (F52.6), excessive sexual drive (F52.7), other sexual dysfunction, not caused by organic disorder or disease (F52.8), and unspecified sexual dysfunction, not caused by organic disorder or disease (F52.9) [21].

One of the most important publications about sexual dysfunction in psoriasis was made by Molina-Leyva et al. [22]. In 2015, these authors carried out a prospective case series study with 80 patients diagnosed with moderate to severe psoriasis, and 80 healthy controls. In this study, the Massachusetts General Hospital-Sexual Functioning Questionnaire (MGH-SFQ) was used. The MGH-SFQ questionnaire is consist of 5 items addressing the different phases of the sexual cycle: (1) sexual interest; (2) excitation; (3) orgasm; (4) erection (only in males), and (5) global sexual satisfaction. Each item is scored from 0 (completely reduced) to 4 (normal). High scores mean better sexual functioning. Molina-Leyva et al. [22] observed that sexual impairment in psoriasis patients occurs in all components of the sexual response such as: sexual interest; excitation; orgasm; and erection (only in males case), as well as global sexual satisfaction. Moreover, the prevalence of sexual dysfunction was significant higher (53.7%) than in controls (healthy volunteers; 17.5%).

What is more interesting, Chen et al. [23] carried out cohorts study of the 73,800 sampled patients, 12,300 male patients with newly diagnosed psoriasis and 61,500 matching controls from National Health Insurance Database in Taiwan. These authors noted that the Hazard Ratio (HR) for sexual dysfunction for psoriasis patients was 1.27 times (95% Confidence Interval [CI], 1.11-1.46; P=0.001). Moreover, the risk of sexual dysfunction was higher in patients with psoriatic arthritis (HR: 1.78, 95% CI: 1.08-2.91). One of the most important conclusions was fact that male patients with psoriasis are at increased risk of developing sexual dysfunction. For this reason, doctors should pay more attention to the impact of psoriasis on male patients' sexual health.

It does not mean that female patients with psoriasis do not have any sexual problems. It should be noted that the number of publications about female sexual dysfunctions in psoriasis is relatively smaller than in case of male patients. Maaty et al. [24] carried out cross-sectional study in 52 sexually active female psoriasis patients and 30 controls in context of sexual function. This study showed a negative correlation between the PASI score and the sexual satisfaction in psoriasis female patients.

The negative correlation between sexual dysfunction and skin changes was also noted in cross-sectional study in 936 patients with psoriasis [25]; cross-sectional study in 330 patients with psoriasis [26], cross-sectional study in 487 patients with psoriasis [27].

Ahmed et al [28] carried out randomized clinical trial study in 1996 patients with psoriasis [28]. It was observed that impaired sexual function was reported by 22.6% (women = 27.1%; men = 20.8%). Moreover, the sexual dysfunction was significantly associated with increased psoriasis severity. At week 12, the proportion of ustekinumab-treated patients with impaired sexual function decreased from 22.4% to 2.7% compared with no change with placebo (p<0.001). Very similar results about sexual dysfunction in psoriasis were reported in another prospective case series study [29]. In this publication, study group consisted of 133 patients (44 women; mean age 42.0 ± 14.1 and 79 men; mean age 47 ± 11.7). The results showed that an increase in sexual dysfunction was associated with psoriasis lesions on abdomen, genitals, lumbar region, and buttocks in context of women, and chest, genitals, and buttocks in context of men [29].

Erectile dysfunction as a most common sexual dysfunction in psoriasis

According to the ICD-10, Erectile Dysfunction (ED) is defined as: *'the persistent inability to attain and maintain an erection sufficient to permit satisfactory sexual performance'*. This sexual dysfunction could affect human psychosocial well-being, and have a significant impact on their interpersonal relationship. That is interesting, epidemiological data have shown a high prevalence and incidence of ED worldwide [30].

Erection is a complex phenomenon. Because of this, the pathophysiology of erectile dysfunction may be vasculogenic (e.g. Cardiovascular disease), neurogenic (e.g. Central nervous system tumours), anatomical (e.g. Peyronie's disease), hormonal (e.g. Hypogonadism, Hyperprolactinemia), drug-induced (e.g. Antihypertensives (thiazide diuretics, etc.); Antidepressants (selective serotonin reuptake inhibitors); Antipsychotics (neuroleptics, etc.); Antiandrogens (GnRH analogues and antagonists), and Recreational

drugs) and/or psychogenic such as generalised type (e.g., lack of arousability and disorders of sexual intimacy) or Situational type (e.g., partner-related, performance-related issues or due to distress) [30].

In case of psoriasis, interesting observations were reported in case-control study prepared by Chung et al. [31]. In this study, authors estimated the association between erectile dysfunction and having previously been diagnosed with psoriasis. These results highlight a need for doctors to be alert to the development of erectile dysfunction in psoriasis patients. In other study, erectile dysfunction in psoriasis patients was shown too. Cabete et al. [32] showed that psoriasis patients (61.5%) had a higher prevalence of erectile dysfunction than controls (43.8%), and an increased risk of more severe forms of erectile dysfunction.

Some interesting studies about Erectile Dysfunction (ED) in patients with psoriasis were presented in Table 1.

What is interesting, Molina-Leyva et al. [35] stressed that the higher prevalence of smoking and anxiety/depression among patients with moderate to severe psoriasis probably explains the higher

Table 1: Erectile Dysfunction (ED) in psoriasis patients.

Type of Study	Patients	Methods	Results	Source
A population-based case-control study.	4,606 patients with erectile dysfunction, and randomly selected 13,818 controls	This study used administrative claim data from the Taiwan National Health Insurance program	an association between ED and prior psoriasis	Chung et al. [31].
An observational cross-sectional study	135 psoriasis patients and 201 controls	The International Index of Erectile Function (IIEF) Scale	Psoriasis as a risk factor for erectile dysfunction	Cabete et al. [32]
An observational cross-sectional study	37 male psoriasis patients and control group 28 healthy men	International Index of Erectile Function (IIEF) Scale	Psoriasis severity and ED parameters were closely associated	Tasliyurt et al. [33] (2014)
A cross-sectional study	1,756,679 Danish men, of which 26,536 psoriasis (mild = 21,775; severe = 4,761),	The outcome was initiation of pharmacotherapy used for treatment of ED.	An increased prevalence and risk of ED in men with psoriasis	Egeberg et al. [34]
A prospective case series study	Seventy-nine patients with moderate to severe psoriasis and 79 healthy controls	the Massachusetts General Hospital Sexual Functioning Questionnaire	Psoriasis patients had an increased prevalence of erectile dysfunction in comparison to controls	Molina-Leyva et al. [35]
A cross-sectional study	60 with mild psoriasis, 60 with severe psoriasis and a control group including 60 patients without the disease.	International Index of Erectile Function-5 (IIEF-5) score	ED was related to psoriasis, in particular to mild forms	Bardazzi et al. [36]

prevalence of erectile dysfunction in this population. This suggested that doctor should inform patients not only about relationship between lifestyle risk factors and severity of skin changes, but also about negative influence unhealthy behavior on sexual health, especially erectile dysfunction.

Are there any changes of patients' sexual behavior in psoriasis?

The analysis of sexual behavior in psoriasis has not been popular subject. In presented review, only two publications, which were prepared by Armstrong et al. [37,38], were reported. These authors analyzed data from the National Health and Nutrition Examination Survey (NHANES) from 2003 to 2006 and 2009 to 2010.

Very interesting conclusion of this study [37] was fact that the multivariate analysis has shown that psoriasis was not associated with differences in sexual orientation (odds ratio 1.78, 95% Confidence Interval [CI] 0.75–4.15). Moreover, this study provided valuable information about heterosexual men with psoriasis sex life. It was observed that about heterosexual men with psoriasis were characterized by first sexual encounter at an earlier age than those without psoriasis. Additionally, they have significantly fewer lifetime female oral sexual partners compared with controls. In the case of non heterosexual men, no significant differences were reported in terms of age first had sex, number of sexual partners, or frequency of unprotected sex [37].

The study which was made by Armstrong et al. [38] showed that psoriasis was not associated with differences in sexual orientation (Odds Ratio [OR] 0.90, 95% Confidence Interval [CI] 0.62–2.01) in case of women. Nevertheless, psoriasis was associated with a significantly reduced number of sexual partners in non heterosexual women (Rate Ratio [RR] 0.11, 95% CI 0.04–0.33, $P = 0.001$). In the context of heterosexual women, no differences was reported in terms of age of first sexual encounter, number of lifetime male sexual partners, and number of lifetime male oral sex partners. The authors emphasized that heterosexual women with psoriasis had 1.13 times more unprotected sex (RR 1.13, 95% CI 1.02–1.24, $P = 0.03$) compared with those without psoriasis. Contrary to men, women sexual behavior based on sexual orientation could be more modified by psoriasis than in case of men [38].

Sexual therapy in psoriasis

It should be noted that there are too small number of publication about sexual therapy in psoriasis. What is interesting, Ricardo Ruiz-Villaverde et al. [39] reported that there were not many studies regarding the impact of psoriasis on sexual life's quality.

In much publication, sexual problems of patients with psoriasis were reported as side-effect of medical therapy or an additional diseases or disorders co-occurring with psoriasis. For example, Erectile Dysfunction (ED), is one of the most common sexual dysfunction in psoriasis [31–36]. Management of ED most often will occur concurrently with lifestyle modification and treatment of organic or psychosexual dysfunctions. The first step in treatment of erectile dysfunction is oral therapy combined with patient re-education and PDE5-inhibitor use (e.g. Sildenafil, Tadalafil, Vardenafil). Stepwise progression from oral agents through second- and third-line occurs therapies as needed. It is important that treatment should be

individualized and patient follow-up should be arranged to assess the efficacy of treatment [40].

Moreover, in literature, the problems associated with psychosexual development in psoriasis were not analyzed. Perhaps this is related to the fact that, in this review, all the analyzed publications about sexual dysfunctions was carried out among adults. For this reason, analysis of dysfunction in the context of psychosexual development in adolescents is a research gap.

It should be noted that the psychosexual development is an important element in the development of every human being. According to the World Health Organization (WHO), sexuality is a basic human need, as well as an important aspect of human beings. This need can not be separated from others. WHO highlights that sexuality is extremely important in maintaining good mental health [41,42].

Therefore, it is important to prepare specific interventions which support the psychosexual development of patients with psoriasis on one hand, and prevent the development of sexual dysfunction on the other hand.

Preventing sexual problems of these patients can be crucial in case of the therapy effectiveness. Adolescents and young adults are particularly important in this context. What are extremely important, visible symptoms of psoriasis have an impact not only on the relationship of these patients with others, but also to determine their quality of life [2,8,10,11].

Additionally, the period of adolescence is also important in the development of self-esteem, physical attractiveness and social acceptance. For example, lack of social acceptance can have a negative impact on the patients' mental state, including depression, suicide attempts, etc. Moreover, low self-esteem and low physical attractiveness may cause avoidance of interpersonal relationships with others. It could lead to looking for other alternative forms of sexual satisfaction in the later stages of life [2,8].

It should be noted that there is no specific sexual therapy for patients with psoriasis. By the way, Ricardo Ruiz-Villaverde et al. [39] carried out pilot study. These authors have tried to assess the impact on sexual dysfunction in patients with psoriasis who have started treatment with biological therapy. This pilot study was a first step for a more detailed approach to the study of sexual function in patients with psoriasis. Ricardo Ruiz-Villaverde et al. [39] stressed that, in their series, they have observed a clear improvement in female sexual function index and International Index of Erectile Function for men associated with a good response to treatment with biological therapy.

Conclusion

The main conclusion of this paper is fact that, in dermatology, doctor needs to pay special attention to the prevention of the sexual dysfunction development in patients with skin disorders. Currently, there is no specific sexual therapy for patients with psoriasis, which would prevent the development of sexual dysfunction. What is more, sexual dysfunction in patients with psoriasis is considered as a side effect of therapy or as other illness. This suggests the need to develop adequate interventions forms which are aimed at supporting the patients' psychosexual development on the one hand, and prevent the development of sexual dysfunction in psoriasis on the other hand.

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