

Influence of Stressful Life Events on Coping in Psoriasis

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ABSTRACT

Outbreaks of psoriasis usually can be linked with traumatic life stress events. Stressful life events in response to psychosocial trigger have been reported to negatively affect the course of psoriasis and are regarded as preventable causes of morbidity. Aims of this study were to determine which coping strategies are mostly used in psoriatic patients and to determine if there is a difference in coping according genders, clinical stages and stress level. The result shows that denial, active coping, seeking emotional support, positive reframing and acceptance are most frequently used among psoriatic patients. In adaptive coping psoriatic patients Psoriasis Area and Severity Index (PASI) score was 16.24, in maladaptive coping psoriatic patients PASI score was 19.6. Difference between adaptive and maladaptive coping strategies in psoriatic patients according clinical stage measured by PASI score was not statistically significant. Psoriatic patients who had higher score of life stress events (461.57) measured by Life change units (LCU) used maladaptive coping statistically significant more then patients with lower life stress events score (284.71). The results point to the need of psoriatic patients to learn how to cope with stress, enabling them to change ways of coping. There is need for integrating psychological intervention into standard care protocol of chronic dermatologic disease as psoriasis.

Keywords: psoriasis, life stress, coping, maladaptive coping, adaptive coping

Introduction

Stressful life events in response to psychosocial trigger have been reported to negatively affect the course of psoriasis and are regarded as preventable causes of morbidity¹⁻³.

Patients with high stress levels report an increased frequency of psoriasis when compared to people with low stress levels⁴⁻⁸.

Life stress events can activate the hypothalamus-pituitary-adrenal axis and the sympathetic part of nervous system. Various soluble mediators like cortisol, catecholamine and neuropeptides can modulate the immune system. Stress can reduce recovery time of the skin barrier after damage and change process of antigen presentation in Langerhans cells of epidermis⁴. In situation when stress levels are high enough to disrupt homeostasis physical or psychosocial symptoms may appear.

Coping with psoriasis is not only dealing with clinical changes on the skin but also coping with underlining psychological processes^{9,10}.

Folkman and Lazarus consider coping as cognitive and behaviour efforts to deal with external or internal demands that are experienced beyond own resources^{11,12}.

Stress and coping strategies assessment are very important for psoriatic patients because of influence on clinical outcome.

Maladaptive coping predicts disability so it is of utmost importance not only to assess clinical changes of skin but to assess level of stress and ways of coping with psoriasis¹³.

Patients can learn to abandon less useful coping strategies and to adopt more efficient coping strategies¹⁴. It may be considered that if the patients have maladaptive coping mechanisms we can help them to develop more effective coping strategies that would lead to better overall clinical outcome.

Aims of this study are to determine which coping strategies are used in psoriatic patients and to determine a relationship between clinical stages, stress level and different ways of coping?

Subjects and Methods

This study is based on patients with psoriasis and control group verrucae vulgaris patients who were admitted over a period of one year to the dermatology ward of General hospital Karlovac. All included patients gave written consent and the project was authorised by the ethical committee of General hospital Karlovac.

Socio-demographic and clinical data were recorded from electronic data base of General hospital Karlovac.

Participants' characteristics

In total of 244 patients with confirmed diagnosis of psoriasis (n=112) and control group (n=132). 172 (70.49%) were men and women were 72 (29.51%). Control group was otherwise healthy patients with verruca vulgaris. Married were 172 (70.49%), and divorced or widowed 72 (29.51%). Most of them finished high school, mean duration of education 11.6 years SD 2.95. Majority of patients lived in urban areas 158 (64.75%), in rural areas lived 86 (35.25%).

There were no statistical significant differences between the psoriatic and control group of patients with regard to gender, age, level of education, marriage status and place of living.

The COPE Inventory was developed to assess a broad range of coping responses^{15–17}.

The Brief COPE is abbreviated version of COPE Inventory created on experiences with patient samples inpatient with the length of full instrument to solve burden and redundancy^{15–17}. The factor structure is consistent with the full version of the COPE.

The Brief COPE that is used in this study consists of 28 questions measuring 14 coping strategies that are presumable adaptive or maladaptive¹⁶.

Inventory includes six presumable maladaptive strategies (denial, behavioural disengagement, substance use, venting, self-blame and self-distraction). There are eight presumable adaptive strategies (active coping, seeking emotional support, positive reframing, seeking instrumental support, planning, humour, acceptance, religion). Most frequently used coping strategies scored 5–8, less frequently used strategies scored 2–4.

Fourteen coping strategies were collapsed into two: adaptive and maladaptive^{15,16}.

Brief COPE was translated in Croatian and has been previously used in Croatian patients¹⁸. Cronbach's alpha coefficient was used for internal validation of the instruments and a rate of 0.60 was considered good internal consistency¹⁸.

The magnitude of each stressful life event reported by subjects was scored by two independent investigators, blinded to participants' stress and clinical status, using the Recent Life Changes Questionnaire (RLCQ)^{19,20}. This validated scale lists 91 different life events that can lead

to stress and assigns a numerical value (Life change unit- LCU) ranging from 18 to 123 to the level of stress the event causes¹⁹.

Recent Life Changes Questionnaire was translated in Croatian and has been previously used in Croatian patients. Cronbach's alpha coefficient was used for internal validation of the instruments and a rate of 0.71 was considered good internal consistency.

Psoriasis Area and Severity Index (PASI) is a tool for the measurement of clinical severity of psoriasis that combines the assessment of the severity of lesions and the area affected into a single score in the range 0 (no disease) to 72 (maximal disease)²¹.

The descriptive statistics are presented as means ± standard deviation. Correlation analysis (Pearson's r) was used to examine the associations between the continuous variables. Chi-square and t test were used for the difference in two proportions. A data analysis was conducted using the Statistical Package for Social Sciences (v18.0, SPSS Inc., Chicago, IL). The statistical significance was estimated at the level of p<0.05.

Results

The results show that denial, active coping, seeking emotional support, positive reframing and acceptance are the most frequently used among psoriatic patients. The coping strategies used the least are denial and substance use. There were no statically significant difference between adaptive and maladaptive coping strategies comparing psoriatic patients and the control group (Table 1).

TABLE 1
DIFFERENCES BETWEEN PSORIASIS AND CONTROL GROUP
IN ADAPTIVE/MALADAPTIVE WAYS OF COPING

Way of coping	Adaptive	Maladaptive	p
Psoriasis	80	32	0.83
Control group	92	40	

Difference in coping strategies between psoriasis and the control group show us that self-blame and planning strategies are statistically significantly more used in control group (verrucae vulgaris patients). Psoriatic patients used more then control group avoidance, emotional support and religion as coping strategies but the differences were not statistically significant.

Men with psoriasis statistically significantly use more of humour, planning and self-blame, and women statistically significantly use more acceptances.

Denial was statistically significantly correlated with higher level of stress and higher PASI score in psoriatic patients (r= 0.13, p<0.03), and venting coping strategy statistically significantly correlated with higher level of stress and higher PASI score in psoriatic patients (r= 0.14, p<0.02).

Negative correlations for higher level of stress were use of religion and positive reframing but that was not statistically significant.

Difference between adaptive and maladaptive coping strategies in psoriatic patients was not statistically significant according PASI score (Table 2), but psoriatic patients who had higher score of life stress events used maladaptive coping statistically significant more then patients with lower life stress events score (Table 2).

TABLE 2
DIFFERENCES BETWEEN ADAPTIVE AND MALADAPTIVE COPING ACCORDING CLINICAL STAGE OF PSORIASIS AND STRESS LEVEL

Way of coping	adaptive	maladaptive	p
PASI score	16.24	19.61	0.28
Standard Deviation	12.94	15.97	
LCU score	284.71	461.57	0.04
Standard Deviation	224.64	254.82	

PASI – Psoriasis Area and Severity Index
LCU – Life Change Unit

Discussion and Conclusion

The study has focused on how patients with psoriasis cope with their illness.

There are limited studies demonstrating coping strategies in patients with psoriasis. Psoriatic patients as a whole tended to use significantly less active coping strategies, planning and positive reinterpretation and humour when compared to healthy control^{8, 22–25}. Psoriatic patients who use emotional coping styles report more disability and have worse quality of life^{24, 26}. Seeking emotional support was one of the most used coping modality in our study. Of notice is the fact that the self-control and the escape-avoidance strategies are employed significantly more often by the psoriasis group when compared to the control group²⁷. Finzi conducted a study where active coping and planning have been reported to be the most used coping strategy by patients with psoriasis, same were ours results^{28, 29}.

Scharloo demonstrated that coping strategies and disease perceptions influence on health outcome and patients with higher level of perceived control and greater expression of emotion have better health outcomes over the course of a year then those engaging in passive and avoidant coping behaviour³⁰.

The result of our study shows that denial, active coping, seeking emotional support, positive reframing and acceptance are most frequently used among psoriatic patients.

Coping strategies can be adaptive or maladaptive, in our study there was no statistically significant difference between adaptive and maladaptive coping strategies according PASI score in psoriatic patients. Psoriatic patients who had higher score of life stress events used maladaptive coping statistically significant more then patients with lower life stress events score.

Planning and active coping are the most commonly employed by psoriatic patients^{23, 28}. Similar results are in our study of psoriatic patients.

Patients with psoriasis avoid confronting the stressful situations attempting to control emotions. Self-control and escape-avoidance strategies are used more often by psoriatic group of patients.

Denial is very important coping mechanism but it can delay treatment and it is the best predictor of compliance²². In our study denial is one of most common way of coping in psoriasis patients and positive correlated with higher PASI score and life stress score.

Venting is positive correlated with higher PASI score and life stress score that can be explained that it is very efficient coping strategy especially in seriously ill patients.

There was no statistically significant difference in adaptive/maladaptive coping between psoriasis patients and control group. We can explain this with the fact that most of chronic skin diseases have same coping pattern.

Self-blame and planning are significantly more often used way of coping in control group (HPV infection veru-ruca vulgaris patients) because they think that their risky behaviour caused illness.

Psoriatic patients tend to use more religion for coping and they are less directed towards social network and support. In our study religion was least used way of coping. The reason for this is that religion is more part of our culture and not of deep emotional and psychological nature.

Our study showed that men with psoriasis statistically significantly use more of humour, planning and self-blame, and women statistically significantly use more acceptances. Difference in the use of coping strategies showed that women tend to use greater number of coping strategies than males and that women use more adaptive coping.

Women uses tend and befriend strategy and men use fight and flight strategy, Finzi founded that female gender was the most important predictive factor for psychological distress²⁸.

In our study psoriatic patients who had higher score of life stress events used maladaptive coping statistically significant more then patients with lower life stress events score. On the other hand there were no statistically significant according PASI score of clinical stage of psoriasis.

Despite of greater disability patients with severe psoriasis in ways of coping did not significantly different form moderate psoriasis patients. Life stress is more important predictor of maladaptive coping then mere clinical status of patients.

Use of adaptive coping strategy is related to better social and psychological functions of the patients and with better clinical outcome^{8, 24, 25}.

This study has the limitations of providing retrospective access to patients past history data and explaining the causal sequence among variables.

The results point to the need of psoriatic patients to learn how to cope with stress, enabling them to change ways of coping. Patients can be taught to adopt most successful adaptive strategies of coping.

There are need for integrating psychological intervention especially stress management into standard care protocol of chronic dermatologic disease as psoriasis.

Understanding their diverse coping mechanism can give psoriatic patients chance for better therapy.

There are needs for integrating psychological intervention into standard care protocol of chronic dermatologic disease as psoriasis.

The results point to the need of psoriatic patients to learn how to cope with stress, enabling them to take actions and to change ways of coping.

REFERENCES

1. BERG M, SVENSSON M, BRANDBERG M, NORDLIND K, J Eur Acad Dermatol Venereol, 22 (2008) 670. DOI: 10.1111/j.1468-3083.2008.02642. — 2. VERHOEVEN EW, KRAAIMAAT FW, JONG EM, SCHALKWIJK J, VAN DE KERKHOFF C, EVERS, AW, J Invest Dermatol, 129 (2009) 2075. DOI: 10.1038/jid.2008.460. — 3. BULJAN D, BULJAN M, ŠITUM M, Psychiatr Danub, 17 (2005) 76. — 4. HALL JM, CRUSER D, PODAWILTZ A, MUMMERT DI, JONES H, MUMMERT MM, Dermatol Res Pract, 2012 (2012) 403908. DOI: 10.1155/2012/403908. — 5. BILJAN D, LAUFER D, FILAKOVIĆ P, ŠITUM M, BRATALJE-NOVIĆ T, Coll Antropol, 33 (2009) 889. — 6. DELLAVALLE RP, JOHN-SON KR, J Invest Dermatol, 125 (2005) 6. — 7. PICEK P, BULJAN D, ROGULJ A, STIPETIĆ-OVČARIĆEK J, ČATIĆ A, PLEŠTINA S, VUČI-ČEVIĆ BORAS V, VIDOVIĆ-JURAS D, Coll Antropol, 36 (2012) 157. — 8. JANKOVIĆ S, RAZNATOVIĆ M, MARINKOVIĆ J, MAKSIMOVIĆ N, JANKOVIĆ J, DJIKANOVIĆ B, Acta Derm Venereol, 89 (2009) 364. DOI: 10.2340/00015555-0669. — 9. SATHYANARAYANA RTS, BASA-VARAJ KH, DAS K, Indian J Psychiatry, 55 (2013) 313. DOI: 10.4103/0019-5545.120531. — 10. HUYNH M, GUPTA R, KOO JY, Semin Cutan Med Surg, 32 (2013) 68. — 11. LAZARUS RS, Psychosom Med, 55 (1993) 234. — 12. WAHL A, HANESTAD BR, WIKLUND I, MOUM T, Qual Life Res, 8 (1999) 427. — 13. HILL L, KENNEDY P, Psychol Health, 7 (2002) 261. — 14. BILLINGS AG, MOOS RH, J Behav Med, 4 (1981) 139. — 15. CARVER CS, SCHEIER MF, WEINTRAUB JK, J Pers Soc Psychol, 56 (1989) 267. — 16. MEYER B, J Psychopathol Behav, 23 (2001) 265. — 17. SCHEIER MF, WEINTRAUB JK, CARVER, CS, J Pers Soc Psychol, 51 (1986) 1257. — 18. GENČ A, PEKIĆ JJ, MATANOVIĆ J, Primenjena psihologija, 6 (2013) 155. — 19. MILLER MA, RAHE RH, J Psychosom Res, 43 (1997) 279. — 20. HOLMES TH, RAHE RH, J Psychosom Res, 11 (1967) 213. — 21. FREDRIKSSON T, PETERSSON U, Dermatologica, 157 (1978) 238. DOI: 10.1159/000250839. — 22. GUD-JONSSON GH, SIGURDSSON JF, Eur J Psych Assess, 19 (2003) 117. DOI: 10.1027//1015-5759.19.2.117. — 23. FORTUNE DG, RICHARDS HL, MAIN CJ, GRIFFITHS CE, Clin Exp Dermatol, 27 (2002) 177. — 24. SELIĆ P, PETEK D, SEREC M, RUS MAKOVEC M, Coll Antropol, 36 (2012) 1175. — 25. FAZLIĆ H, BRBOROVIĆ O, VUKUŠIĆ RUKAVINA T, FIŠTER K, MILOŠEVIĆ M, MUSTAJBEGOVIĆ J, Coll Antropol, 36 Suppl 1 (2012) 165. DOI: dx.doi.org/10.5671/ca.2012361s.165. — 26. AL-TUNAY I, DONER N, MERCAN S, GULSEN TDG, Dermatologica Sini-ca, 31 (2013) 130. DOI: 10.1016/j.dsi.2013.02.001. — 27. SILVA JD, MÜLLER MC, BONAMIGO RR, An Bras Dermatol, 81 (2006) 143. — 28. FINZI A, COLOMBO D, CAPUTO A, ANDREASSI L, CHIMENTI S, VENA G, SIMONI L, SGARBI S, GIANNETTI A, J Eur Acad Dermatol Venereol, 21 (2007) 1161. DOI: 10.1111/j.1468-3083.2007.02079.x. — 29. RAPP SR, FELDMAN SR, EXUM ML, FLEISCHER AB, REBOUSSIN DM, J Am Acad Dermatol (1999) 401. — 30. SCHARLOO M, KAPTEIN, AA, WEINMAN, J, HAZES, JM, WILLEMS LN, BERGMAN W, ROOIJMANS H.G, J Psychosom Res, 44 (1998) 573. DOI: 10.1016/S0022-3999(97)00254-7.

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UTJECAJ ŽIVOTNIH STRESNIH DOGAĐAJA NA SUOČAVANJE U PSORIJAZI

SAŽETAK

Pojava, a napose pogoršanje psorijaze je povezano s životnim stresnim događajima koji kao značajan psihosocijalni čimbenik negativno utječu na tijek bolesti. Smatra se da utjecajem na smanjenje i kontrolu stresa mogu se prevenirati ili ublažiti simptomi psorijaze. Cilj ovog rada je utvrditi koje strategije suočavanja sa stresom su najčešće upotrebljene u bolesnika s psorijazom te da li postoje razlike u načinima suočavanja obzirom na spol, kliničko stanje i razinu stresa. Bolesnici s psorijazom najčešće upotrebljavaju kao način suočavanja: negiranje, aktivno suočavanje, traženje emocionalne podrške, ponovno promišljanje te prihvatanje. S obzirom na kliničko stanje prema Psoriasis Area and Severity Index (PASI) nije bilo statistički značajne razlike u bolesnika koji upotrebljavaju adaptivni način suočavanja (PASI 16,24) u odnosu na bolesnike koji upotrebljavaju maladaptivne načine suočavanja (PASI 19,6). Bolesnici s psorijazom koji su imali značajniju izloženost životnim stresnim događajima mjereno prema Upitniku nedavnih životnih događaja (Life change units – LCU 461,57) statistički su značajnije upotrebljavali maladaptivne načine suočavanja sa stresom nego bolesnici koji su imali manji broj životnih stresnih događaja (LCU 284,71). Rezultati pokazuju potrebu da bolesnici s psorijazom nauče kako se suočavati sa stresom te da im se omogući psihološka potpora da promjene načine suočavanja. Psihološka intervencija bi trebala biti dio standardnog postupovnika u liječenju kronične kožne bolesti kao što je psorijaza.