

<http://dx.doi.org/10.3126/njdv1.v16i1.19407>

## Effect of Psoriasis on Quality of Life

Basnet B<sup>1</sup>, Ranjit A<sup>1</sup>, Subedi A<sup>2</sup>, Shrestha S<sup>3</sup>, Neupane S<sup>1</sup>

<sup>1</sup>Department of Dermatology and Venereology; <sup>2</sup>Department of Psychiatry, Gandaki Medical College, Pokhara, Nepal;

<sup>3</sup>Department of Ophthalmology, Manipal Teaching Hospital, Pokhara, Nepal.

### Abstract

**Introduction:** Psoriasis is one of the common skin disorders which has a significant distressing effects on patients due to its chronicity, joint involvement, therapy related side effects and its impact on physical appearance.

**Objective:** To find out impairment in quality of life among patients with psoriasis.

**Materials and Methods:** Patients attending the Dermatology outpatient department of Gandaki Medical College were recruited for the study from December 2016 to July 2017. Dermatology Life Quality Index (DLQI) was used to assess the psychosocial involvement.

**Results:** Significant increase in DLQI scores depicting graver psychosocial involvement in females compared to males was observed ( $p=0.038$ ). Comparison between severity of disease and DLQI scores showed a positive correlation but was not statistically significant ( $r=0.22$  &  $p=0.187$ ). When we compared the type of psoriasis with severity of disease, chronic plaque psoriasis showed significant statistical correlation ( $p=0.003$ ).

**Conclusion:** Females tend to experience significant impairment in quality of life compared to males. Further studies with more sample size are needed to consolidate or rectify our findings.

**Key words:** Chronic disease; counseling; psoriasis; psychological; quality of life; stress

### Introduction

Psoriasis is a chronic inflammatory dermatosis that affects around 125 million people worldwide.<sup>1</sup> Usually it does not affect survival but has significant harmful effects on quality of life (QOL).<sup>2</sup> Psoriasis has a bimodal age distribution, which peaks in the 20s and 60s.<sup>3</sup> It is often linked with social impairment, decreased self-confidence, pain, physical disability, and psychological distress.<sup>4</sup> Psoriasis can be an upsetting disease both for the patient and the doctor, and its influence on QOL has been well proven leading to limitation in activities, with psychosocial factors being more impaired than physical activities.<sup>5-7</sup> Many factors may be attributed to the decreased QOL in patients, especially the chronic relapsing nature of the disease, lack of control and fear of disease breakout, and hopelessness in terms of cure.<sup>8</sup> Psoriasis has a strong socioeconomic impact on patients' lives; thus, it is essential to find out patient's goals and make a practical and realistic treatment plan. This includes both general measures and specific treatment,

including counseling, rest, and advice on moisturizing the skin round-the-clock, which may be significant in improving the QOL of the patients.

### Materials and Methods

Patients more than 18 years attending the outpatients department of Dermatology of Gandaki Medical College were selected from December 2016 to July 2017. Prior permission was taken from the institutional review board. Informed consent was taken from all patients enrolled in the study. Proforma of all the patients were filled out. For all the patients, Dermatology Quality Life Index (DLQI) was used to

Submitted: 15<sup>th</sup> December 2017

Accepted: 25<sup>th</sup> February 2018

Published: 21<sup>st</sup> March 2018

#### How to cite this article

Basnet B, Ranjit A, Subedi A, Shrestha S, Neupane S. Effect of psoriasis on quality of life. Nepal Journal of Dermatology Venereology and Leprology. 2018;16(1):49-52. doi: <http://dx.doi.org/10.3126/njdv1.v16i1.19407>



Licensed under CC BY 4.0 International License which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

#### Address of Correspondence:

Dr. Binamra Basnet

Assistant Professor

Department of Dermatology

Gandaki Medical College, Pokhara, Nepal

E-mail: [binamrabasnet@gmail.com](mailto:binamrabasnet@gmail.com)

access the psychosocial involvement. We divided the patients into mild (<3% BSA), moderate (3-10% BSA) and severe (>10 %BSA) based only on the area of skin involvement. In this study Body Surface Area (BSA) index was used for assessing the severity of psoriasis. Contrary to Psoriasis Area and Severity Index (PASI), BSA does not include erythema, infiltration, and desquamation. We focused on the severity of disease according to the BSA and did not include detailed clinical findings of psoriasis.

Moreover, in prior research, clinically assessed disease severity and specific psoriasis characteristics were consistently found to be the least useful parameter regarding differences in stress, depression and psychological distress.<sup>9-12</sup>

### Results

All analysis were done using statistical package for social sciences (SPSS). Univariate or Bivariate analysis was done using t-tests wherever appropriate, p value less than 0.05 was considered statistically significant. The total number of participants were 36 (23 males and 13 females). Mean age of the patients was 31.64±10.22 yrs, youngest patient being 19 years and the eldest was of 52 years. Out of 36 patients only 4 had severe disease, 12 had mild disease and remaining 20 had moderate disease. Two patients had very large psychosocial involvement (DLQI Score 11-20), 20 patients had small effect, four had moderate effect and 10 patients had no psychosocial involvement at all. Relevant data are given in Table 1.

Bivariate correlation between DLQI scores and body surface area (BSA) showed a positive correlation but was not statistically significant (r=0.22 & p=0.187). Independent sample t-Test showed significant increase in DLQI scores in females compared to males (p value 0.038) (Table 2).

There was no significant correlation between the type of Psoriasis and DLQI scores but when we compared the type of psoriasis with severity of disease, chronic plaque psoriasis had a higher mean BSA of 5.26% compared to 2.56% in other types resulting in significant statistical correlation (p=0.003).

### Discussion

The most important aspect in the management of psoriasis is counseling. The clinician has to be considerate, he should have ample patience and counsel the patient regarding nature of the disease; its non-contagious nature; its remitting and relapsing

**Table 1:** Participants' characteristics.

Age (years), Mean±SD	31.64±10.22
Sex, n (%)	
Male	23 (64%)
Female	13 (36%)
BSA mean±SD (range)	4.58±2.48 (1-12)
BSA involved, n (%)	
<5%	12 (33.3%)
5-10%	20 (55.6%)
>10%	4 (11.1%)
DLQI mean (range)	3.78 (0-11)
Psychosocial involvement	
No effect	10
Small effect	20
Moderate effect	4
Very large effect	2
Extremely large effect	none

BSA-body surface area, DLQI- Dermatology Life Quality Index, SD-Standard deviation

**Table 2:** DLQI scores in males and females.

	Sex	n	Mean	SD	Std. Error Mean	t- test value	P-value
DLQI	M	23	2.96	2.011	0.419	-2.642	0.038
	F	13	5.23	3.166	0.878		

DLQI- Dermatology Life Quality Index, SD-Standard deviation

course; the factors which lead to its relapse such as stress, both physical and mental, drugs, and alcohol; and how to cope with the disease and carry out routine activities.<sup>13</sup> Patients should be very well informed about the therapeutic options available and the potential side effects. Control of the disease should be the primary objective rather than cure of the disease.<sup>14</sup> Emotional stress may play an important role in the development and exacerbation of psoriasis in 37–78% of patients.<sup>15</sup> Since many skin disorders are commonly associated with social stigmatization, patients can suffer from frustration, anxiety, or depression. Most of the patients with psoriasis suffer from depression, anxiety and social isolation.<sup>16-17</sup> Dalgard FJ et al found that patients with psoriasis were more prone to have psychological effects than those with other skin conditions.<sup>18</sup>

Wojtyna E et al found the impact of physical appearance in personal life and its blemishes having significant association with risk for depression.<sup>19</sup> Awareness of the patient, and the reactions of others, may play an important role in psychosocial stability. In comparison to other skin conditions psoriasis has more negative psychosocial impact on the patients. Misconception of infectious and contagious nature of psoriasis is very

common.<sup>20</sup> Kurd SK et al showed that the adjusted hazard ratio (HR) of depression was higher in severe (1.72; 95% CI, 1.57–1.88) compared with mild psoriasis (1.38; 95% CI, 1.35–1.40). The adjusted hazard ratio of suicidal thoughts was higher in patients with severe psoriasis (1.51, 95% CI, 0.92, 2.49) compared to mild psoriasis.<sup>21</sup>

Elevated inflammatory cytokines have been found in postmortem patients who have attempted or completed suicide, indicating a possible role of inflammation in mood disorders.<sup>22-23</sup> Mutations in genes associated with psoriasis which increase pro-inflammatory cytokines can lead to HPA axis over activity and disturbance of negative feedback inhibition of circulating corticosteroids. This in turn can lead to lower serotonergic levels and depressive symptoms.<sup>24</sup> Elevated levels of prostaglandin E2, C-reactive protein (CRP), TNF- $\alpha$ , IL-1 $\beta$ , IL-2 and IL-6 have been associated with depression.<sup>25-26</sup>

Mood disorders, particularly depression, have been suggested to be more in patients with psoriasis than in the general population (up to 62% prevalence). In a meta-analysis of 98 cross-sectional studies examining the association between psoriasis and depression, patients with psoriasis had more depressive symptoms (pooled standardized mean difference, 1.16 [95% CI,

0.67-1.66]) and were nearly 1.6-fold more likely to experience depression (pooled OR, 1.57 [95% CI, 1.40-1.76]) than patients without psoriasis.<sup>27</sup>

The risk of depression in psoriasis has been evaluated in two cohort studies. In a study from UK, psoriasis was found to be associated with increased risk of depression (HR, 1.39 [95%CI, 1.37-1.41]), anxiety (HR, 1.31 [95% CI, 1.29-1.34]), and suicidality (HR, 1.44 [95% CI, 1.32-1.57]).<sup>28</sup> Among patients who were receiving therapies for severe psoriasis the risk of depression was the most (HR, 1.72 [95% CI, 1.57-1.88]). Similarly, a study of women in the Nurses' Health Study found psoriasis to be associated with a nearly 30% increased risk of depression (RR, 1.29 [95% CI, 1.10-1.52]), independent of age.<sup>29</sup>

## Conclusion

Our study showed that females had significant impairment of quality of life compared to males. Chronic plaque psoriasis was positively associated with severity of disease than other types of psoriasis. Further studies with more sample size are needed to consolidate or rectify our findings.

**Financial disclosure:** None.

**Conflicts of interest to disclosure:** None declared.

## References

1. National Psoriasis Foundation. Available from: [https://www.psoriasis.org/cure\\_known\\_statistics](https://www.psoriasis.org/cure_known_statistics)[accessed on 13th September 2017].
2. Finlay AY, Kelly SE. Psoriasis-An index of disability. *Clin Exp Dermatol.* 1987;12(1):8-11. <https://doi.org/10.1111/j.1365-2230.1987.tb01844.x>
3. Queiro R, Tejon P, Alonso S, Coto P. Age at disease onset: a key factor for understanding psoriatic disease. *Rheumatology(Oxford).* 2014;53(7):1178–85. <https://doi.org/10.1093/rheumatology/ket363>
4. Weiss SC, Kimball AB, Liewehr DJ, Blauvelt A, Turner ML, Emanuel EJ. Quantifying the harmful effects of psoriasis on health-related quality of life. *J Am Acad Dermatol.* 2002;47(4):512-8. <https://doi.org/10.1067/mjd.2002.122755>
5. Bhosle MJ, Kulkarni A, Feldman SR, Balkrishnan R. Quality of life in patients with psoriasis. *Health Qual Life Outcomes.* 2006;4:35. <https://doi.org/10.1186/1477-7525-4-35>
6. Finlay AY, Coles EC. The effect of severe psoriasis on the quality of life of 369 patients. *Br J Dermatol* 1995;132(2):236-44. <https://doi.org/10.1111/j.1365-2133.1995.tb05019.x>
7. Fortune DG, Richards HL, Griffiths CE. Psychologic factors in psoriasis: Consequences, mechanisms, and interventions. *Dermatol Clin.* 2005;23(4):681-94. <https://doi.org/10.1016/j.det.2005.05.022>
8. Basra MK, Hussain S. Application of the dermatology life quality index in clinical trials of biologics for psoriasis. *Chin J Integr Med.* 2012;18(3):179-85. <https://doi.org/10.1007/s11655-012-1007-0>
9. Fortune DG, Richards HL, Griffiths CE, Main CJ. Psychological stress, distress and disability in patients with psoriasis: Consensus and variation in the contribution of illness perceptions, coping and alexithymia. *Br J Clin Psychol.* 2002;41(2):157–74. <https://doi.org/10.1348/014466502163949>
10. Janowski K, Steuden S, Pietrzak A, Krasowska D, Kaczmarek L, Gradus I, et al. Social support and adaptation to the disease in men and women with psoriasis. *Arch Dermatol Res.* 2012;304(6):421–32. <https://doi.org/10.1007/s00403-012-1235-3>
11. Magin PJ, Pond CD, Smith WT, Watson AB, Goode SM. Correlation and agreement of self-

- assessed and objective skin disease severity in a cross-sectional study of patients with acne, psoriasis, and atopic eczema. *Int J Dermatol.* 2011;50(12):1486–90. <https://doi.org/10.1111/j.1365-4632.2011.04883.x>
12. Zachariae R, Zachariae H, Blomqvist K, Davidsson S, Molin L, Mørk C, et al. Quality of life in 6497 Nordic patients with psoriasis. *Br J Dermatol.* 2002;146(6):1006–16. <https://doi.org/10.1046/j.1365-2133.2002.04742.x>
  13. Lebowitz MG, Heymann WR, Jones JB, Coulson I. *Treatment of skin disease: Comprehensive therapeutic Strategies.* 2nd ed. New York: Mosby International; 2002. p.533-43.
  14. Reich K, Mrowietz U. Treatment goals in psoriasis. *J Dtsch Dermatol Ges.* 2007;5:566-74. <https://doi.org/10.1111/j.1610-0387.2007.06343.x>
  15. Heller MM, Lee ES, Koo JY. Stress as an Influencing Factor in Psoriasis. *Skin Therapy letter.com.* *Skin Therapy Lett.* 2011;16(5):1-4.
  16. Gupta MA, Gupta AK, Watteel GN. Perceived deprivation of social touch in psoriasis is associated with greater psychologic morbidity: an index of the stigma experience in dermatologic disorders. *Cutis.* 1998;61(6):339–42.
  17. Schmid-Ott G, Jaeger B, Kuensebeck HW, Ott R, Lamprecht F. Dimensions of stigmatization in patients with psoriasis in a “Questionnaire on Experience with Skin Complaints”. *Dermatology* 1996;193(4):304–10. <https://doi.org/10.1159/000246275>
  18. Dalgard F J, Gieler U, Tomas-Aragones L, Lien L, Poot F, Jemec GB, et al. The psychological burden of skin diseases: A cross-sectional multicenter study among dermatological out-patients in 13 European countries. *J Invest Dermatol.* 2015;135(4):984–91. <https://doi.org/10.1038/jid.2014.530>
  19. Wojtyna E, Łakuta P, Marcinkiewicz K, Bergler-Czop B, Brzezińska-Wcisło L. Gender, body image and social support: Biopsychosocial determinantsof depression among patients with psoriasis. *Acta DermaVenerol.* 2017;97(1):91-7. <https://doi.org/10.2340/00015555-2483>
  20. Donigan JM, Pascoe VL, Kimball AB. Psoriasis and herpes simplex virus are highly stigmatizing compared with other common dermatologic conditions: A survey-based study. *J Am Acad Dermatol.* 2015;73(3):525–6. <https://doi.org/10.1016/j.jaad.2015.06.035>
  21. Kurd SK, Troxel AB, Crits-Christoph P, Gelfand JM. The risk of depression, anxiety, and suicidality in patients with psoriasis: a population based cohort study. *Arch Dermatol.* 2010;146: 891–5.
  22. Brundin L, Erhardt S, Bryleva EY, Achtyes ED, Postolache TT. The role of inflammation in suicidal behaviour. *Acta Psychiatry Scand.* 2015;132:192–203. <https://doi.org/10.1111/acps.12458>
  23. Black C, Miller BJ. Meta-analysis of cytokines and chemokines in suicidality: distinguishing suicidal versus nonsuicidal patients. *Biol Psychiatry.* 2015;78:28–37. <https://doi.org/10.1016/j.biopsych.2014.10.014>
  24. Tohid H, Aleem D, Jackson C. Major depression and psoriasis: a psychodermatological phenomenon. *Skin Pharmacol Physiol.* 2016;29:220–30. <https://doi.org/10.1159/000448122>
  25. McNally L, Bhagwagar Z, Hannestad J. Inflammation, glutamate, and glia in depression: a literature review. *CNS Spectr.* 2008;13:501–10. <https://doi.org/10.1017/S1092852900016734>
  26. Rosenblat JD, Cha DS, Mansur RB, McIntyre RS. Inflamed moods: a review of the interactions between inflammation and mood disorders. *Prog Neuropsychopharmacol Biol Psychiatry.* 2014;4: 23–34. <https://doi.org/10.1016/j.pnpbp.2014.01.013>
  27. Dowlatshahi EA, Wakkee M, Arends LR, Nijsten T. The prevalence and odds of depressive symptoms and clinical depression in psoriasis patients: a systematic review and meta-analysis. *J Invest Dermatol.* 2014;134(6):1542-51. <https://doi.org/10.1038/jid.2013.508>
  28. Kurd SK, Troxel AB, Crits-Christoph P, Gelfand JM. The risk of depression, anxiety, and suicidality in patients with psoriasis: a population-based cohort study. *Arch Dermatol.* 2010;146(8):891-5.
  29. Dommasch ED, Li T, Okereke OI, Li Y, Qureshi AA, Cho E. Risk of depression in women with psoriasis: a cohort study. *Br J Dermatol.* 2015;173(4):975-80. <https://doi.org/10.1111/bjd.14032>.