



Editorial

Research on psoriasis in India: Where do we stand?

Psoriasis is a genetically determined immune-mediated inflammatory disease mediated by T-helper 1 (Th1)/Th17 T cells. With a prevalence of 0.44-2.8 per cent in India, it commonly affects individuals in their third or fourth decade with males being affected two times more common than females¹. Psoriasis significantly impairs the quality of life of patients and their families resulting in great physical, emotional and social burden.

It has been pointed out in the WHO's recent Global Report on Psoriasis² that there are many unmet research gaps in psoriasis addressing various aspects such as epidemiology, aetiology, association with comorbidities, treatment and ways to improve healthcare services. It has been recommended that therapeutic researches should focus on options which can be applicable globally, on a large scale.

Psoriasis is a genetically determined disease with environmental influences; ethnic differences are quite commonly expected involving all aspects of the disease from epidemiology, genetic susceptibility, clinical manifestations and response to treatment. Hence, data obtained from research done on different ethnic communities cannot be generalized globally. Hence, there is a need for research on psoriasis which is population specific or ethnicity specific. This draws attention to the status of research on psoriasis specific to the Indian population, an ethnically, genetically and culturally unique and diversified population.

At present, the data on the prevalence of psoriasis are from hospital-based studies rather than from well-defined large population-based studies. There is a paucity of data related to genetics, epidemiology, disease types, associations, severity and course amongst Indian patients with psoriasis³. Only recently the research on psoriasis from India has started

focusing on the genetics and epigenetics of psoriasis and association with metabolic syndrome, and there is a large gap addressing the therapeutic aspects of psoriasis, particularly on the use of biologics. Studies on risk factors that would aid in identifying preventive strategies which are crucial for chronic non-communicable diseases which lack definitive curative therapy, are barely conducted.

A bibliometric study conducted on Indian psoriasis research in 2013⁴ shows contribution of Indian researchers in the area of psoriasis. This study was undertaken to evaluate the global patterns of psoriasis literature output and to assess the contributions and impact of Indian scientists in the global psoriatic literature. The Indian researchers were ranked 11th when compared to most active countries (such as the US, UK and Germany) and were reported to actively contribute to psoriatic research as evidenced by their substantial number of publications (849 articles during 1973-2012; 2% of global production) with an overall growth rate of 127.5 per cent. International collaborative research was undertaken significantly in 2003-2012, with almost 17 countries with maximum collaboration with the US followed by the UK and Saudi Arabia⁴.

Current research on psoriasis in India focuses on identifying human leukocyte antigen (HLA) associations and genetic polymorphisms conferring psoriatic risk amongst Indians and metabolic syndrome and cardiovascular risk amongst psoriatics⁵⁻¹⁶. We have recently reported that Th2 cytokine/regulatory T-cell genepolymorphism-interleukin-10(IL-10)(rs1800871) polymorphism¹⁰, Th1/Th17 cytokine polymorphisms - IL-12B (rs3212227) and IL-23R (rs2201841) polymorphisms¹¹, tumour necrosis factor alpha (TNF a) polymorphisms - TNFAIP3 (rs610604) and TNIP1

(rs17728338) polymorphisms¹² confer increased risk of psoriasis, whereas Th-2 cytokine/regulatory T-cell gene polymorphism - IL-4 (rs2243250) polymorphism¹¹ is protective against psoriasis in south Indian Tamil speaking population. Th1 pro-inflammatory cytokine genes' IL-2 [-330 (G/T)] single nucleotide polymorphism¹³ was associated with greater disease severity in our population. HLA-C*06 allele was found to be positively associated with susceptibility to psoriasis, female gender and early onset of psoriasis in south Indian Tamil population¹⁴. We also observed psoriasis to be associated with significantly lowered 25-hydroxy vitamin D levels and increased levels of ischaemia-modified albumin correlating with disease severity suggesting increased systemic inflammation and oxidative stress in psoriasis¹⁵. Comprehensive lipid tetrad index, atherogenic index and lipid peroxidation have been reported to be surrogate markers for increased cardiovascular risk in psoriasis¹⁶.

The Indian Association of Dermatologists, Venereologists and Leprologists (IADVL), the national association of Dermatologists has constituted a Special Interest Group (SIG)¹⁷ on psoriasis comprising 11 members. The SIG will work towards updating knowledge by conducting continuing medical education (CME) and publishing symposia on various aspects of psoriasis and undertaking research in psoriasis. Thus, considerable nation-wide progress is being made to improve the awareness, knowledge and research on psoriasis in India¹⁷.

To conclude, despite the prevalence of psoriasis in Indian population and progress in research, India still lags behind in psoriasis research output. With the increasing prevalence and awareness of psoriasis and its association with various co-morbidities, there is ongoing need for research on various aspects of this disease related to epidemiology, aetiopathogenesis, management, co-morbidities, impact on quality of life, economic and societal burden and healthcare costs owing to the paucity of Indian data. Hence, well-conducted research in these areas specific to Indian population considering the differences in genetic makeup, environmental influences and health care costs would go a long way in improving the healthcare services for the affected patients in our country. Setting policy priorities and agenda would be the key and setting up a national research centre by the government bodies or providing funds to enhance the research in psoriasis in India would encourage researchers to continuously work on this chronic

disease wherein definitive curative therapy is not available.

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