

## Original Research Article

# Practice pattern and use of a novel skin moisturizer containing skin barrier therapy in patients with atopic dermatitis: a cross-sectional survey among dermatologists in India

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## ABSTRACT

**Background:** Atopic dermatitis is considered as the most common chronic, inflammatory dermatological disorder. Skin barrier dysfunction represents an early pathology of this condition. Various factors contribute to development of such defects. Skin moisturizers remain the mainstay of therapy for AD along with other treatment modalities.

**Methods:** Dermatologists across India were administered a questionnaire consisting of questions related to number of the patients seen with AD every week and their clinical experience regarding the use of novel skin moisturizer containing skin barrier therapy for the management of AD. The responses were analysed as number and percentages.

**Results:** A total of 1605 patients were included in this survey. The complete responses were obtained from a total of 58 dermatologists. The majority (98%) of the dermatologists found the overall efficacy of novel skin moisturizer (Atoderm Intensive Baume) in AD patients as 'satisfactory'. Atoderm Intensive Baume was found as efficacious in improving various parameters of AD such as skin dryness, severity of pruritus, inflammation, insomnia, itching, and urge to scratch. It was also well tolerated. It plays an important role in the repair of damaged skin barrier caused by AD.

**Conclusions:** This survey findings indicated that novel skin moisturizer (Atoderm Intensive Baume) is a preferred formulation by dermatologists across India for the management of AD with proven efficacy and safety.

**Keywords:** Atopic dermatitis, Survey, Skin moisturizer, Skin barrier therapy

## INTRODUCTION

Atopic dermatitis (AD), also known as atopic eczema, represents an inflammatory chronic-relapsing skin disorder which originates during early childhood period. It is a part of the atopic trinity which includes AD, allergic rhinitis (hay fever) and asthma. AD is a complex genetic disease which involves varied interaction between genes and the environment.<sup>1</sup> The prevalence of AD declines with

advancing age.<sup>2</sup> AD affects around 20% of the children and 5% of the adult population.<sup>3</sup> AD significantly impairs the quality of life in children and their family.<sup>4</sup> Intense pruritus as well as sleep disturbance are the major symptoms experienced by children suffering from AD. Excessive scratching due to itching often leads to skin dryness, xerosis and transepidermal water loss (TEWL).<sup>5</sup> The diagnosis of AD is usually made by utilizing clinical criteria.<sup>6</sup> The severity of AD is objectively assessed by

SCORing AD (SCORAD) score. Higher the score, more is the severity.<sup>2</sup>

AD is often linked with skin barrier abnormalities which promote an easier allergen penetration into the skin, resulting into higher chances of irritation and consequent cutaneous inflammation. The deficiency of essential intercellular lipids in stratum corneum and an inadequate ratio between lipid compounds such as cholesterol, essential fatty acids, ceramides, along with filaggrin defects lead to increased TEWL.<sup>6</sup>

Treatment of AD involves strategies to control pruritus, skin dryness, to reduce the inflammation, provide long-term hydration and restore the skin barrier function.<sup>5</sup> For repairing of the damaged skin barrier, the regular use of skin moisturizers as well as topical anti-inflammatory agents such as steroids for controlling the inflammation is warranted.<sup>7</sup>

In this survey, the efficacy and safety of a novel skin moisturizer containing skin barrier therapy (marketed as Atoderm Intensive Baume) was evaluated.

Skin Barrier Therapy (SBT) complex in Atoderm Intensive Baume contains vitamin B3 Palmitoyl Ethanolamide which is an anti-pruritic agent along with sucro-esters, beta-sitosterol which is an anti-inflammatory agent and zinc which is known for its antibacterial activity against *Staphylococcus aureus* identified for triggering the episodes of AD. Numerous pilot, unpublished studies have demonstrated that SBT complex containing vitamin B3 aids to restore the natural skin barrier biologically by encouraging the production of epidermal lipids and by strengthening the action on the skin barrier. SBT complex also contains a multilamellar lipid complex augmenting the incorporation into the skin of ceramides, which lacks in AD skin, along with other active ingredients, consequently restoring the deficient natural skin barrier.<sup>8</sup>

The objective of this study was to determine the practice pattern and preference for use of novel skin moisturizer containing skin barrier therapy by dermatologists across India in the management of AD patients. The information collected would throw further light on proven safety and efficacy of novel skin moisturizer containing skin barrier therapy.

## METHODS

In this multicentre, prospective, observational, questionnaire-based survey, dermatologists from major cities of India were contacted from February 2020 to November 2020 for their willingness to participate in the study.

The questionnaire aimed at evaluating their clinical experience regarding the novel skin moisturizer (Atoderm Intensive Baume, Bioderma), widely used for the management of AD. The questions covered number of

patients with AD seen every week, use of novel skin moisturizer in these patients, efficacy and safety of this moisturizer in reducing different parameters of AD.

The efficacy outcome of skin moisturizer containing skin barrier therapy was measured using an ordinal scale which ranged from least efficacious, efficacious, works well, satisfactory to the most efficacious. The final statistical analysis of the parameters was carried out by pooling the data obtained.

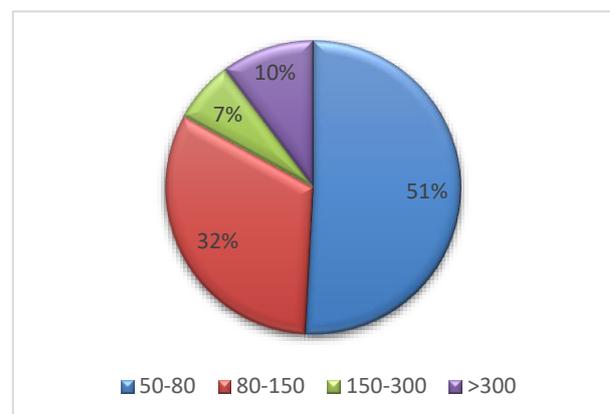
## RESULTS

In this survey, a total of 61 dermatologists participated. However, completed forms were collected from 58 dermatologists. The results presented here are of these 58 dermatologists.

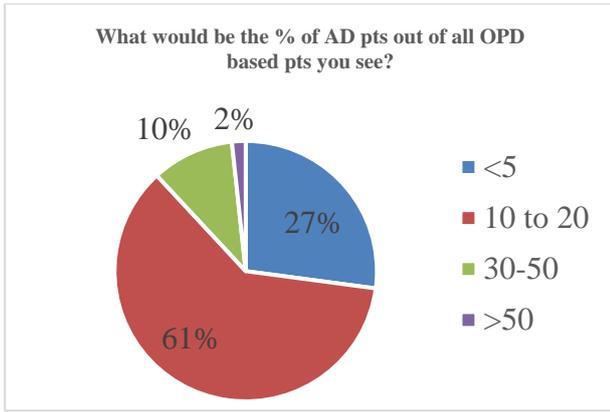
A total of 1605 patients were included in this survey by all the dermatologists. Among these, 1471 patients (92%) received Atoderm Intensive Baume. On an average, 28 patients were prescribed Atoderm Intensive Baume by each of these dermatologists.

It was observed that 51% of the dermatologists see 50-80 patients per week, 32% dermatologists see 80-150 patients each week, 7% dermatologists see 150-300 patients per week and 10% dermatologists see the highest number of more than 300 patients per week (Figure 1).

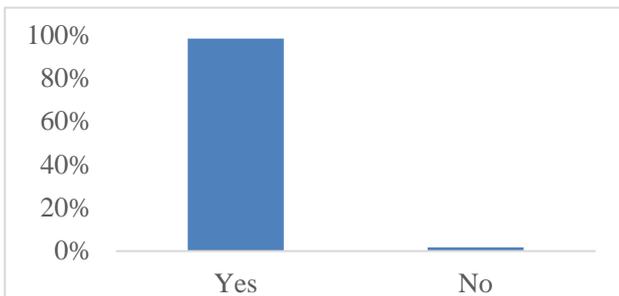
Among these, majority (61%) of the dermatologists opined that 10-20 patients were of AD (Figure 2). Almost all the dermatologists (98%) agreed that active ingredient which acts biologically to reconstruct the skin barrier and to regulate bacterial imbalance is important for treatment of AD patients (Figure 3). Also 93% dermatologists agreed that they prescribe Atoderm Intensive Baume containing lipid complex made up of ceramides, phytosphingosine, cholesterol and essential fatty acids (Figure 4). The majority (98%) of the dermatologists found overall efficacy of Atoderm Intensive Baume in AD patients as 'satisfactory' (Figure 5).



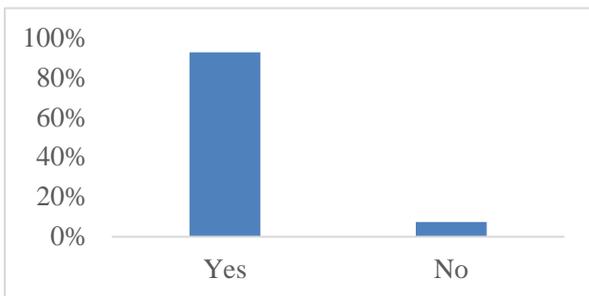
**Figure 1: Percentage of overall patients seen by dermatologists per week.**



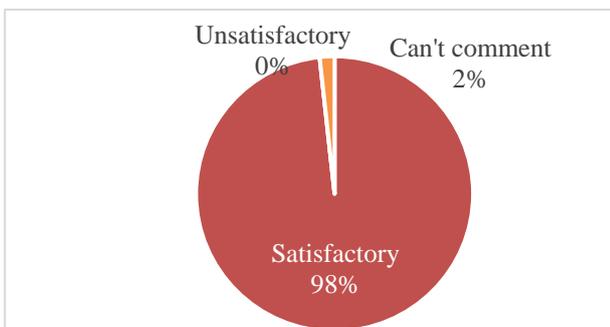
**Figure 2: Percentage of AD patients out of all OPD patients seen by dermatologists.**



**Figure 3: Percentage of dermatologists agreed that active ingredient which acts biologically to reconstruct the skin barrier and to regulate bacterial imbalance is important for treatment of AD patients.**



**Figure 4: Percentage of dermatologists prescribing Atoderm Intensive Baume.**



**Figure 5: Overall efficacy assessment of Atoderm Intensive Baume by dermatologists in AD patients.**

In terms of reducing the severity of pruritus, 41% of the dermatologists found efficacy of Atoderm Intensive Baume as 'satisfactory', 40% dermatologists found efficacy as 'works well', 7% dermatologists found as 'most efficacious' whereas 12% dermatologists found as 'efficacious' (Table 1).

For reducing the skin dryness, 47% of the dermatologists found efficacy of Atoderm Intensive Baume as 'satisfactory', 34% dermatologists found efficacy as 'most efficacious', 10% dermatologists found efficacy as 'works well' whereas 9% dermatologists found as 'efficacious' (Table 1).

In terms of reducing the insomnia, 48% of the dermatologists found efficacy of Atoderm Intensive Baume as 'satisfactory', 28% dermatologists found efficacy as 'works well', 17% dermatologists found as 'efficacious', 5% dermatologists found as 'most efficacious' whereas only 2% dermatologists found as 'least efficacious' (Table 1).

For reducing the itching, 43% of the dermatologists found efficacy of Atoderm Intensive Baume as 'satisfactory', 36% dermatologists found efficacy as 'works well', 16% dermatologists found as 'most efficacious' whereas 5% dermatologists found as 'efficacious' (Table 1). In terms of reducing the inflammation, 55% of the dermatologists found efficacy of Atoderm Intensive Baume as 'satisfactory', 21% dermatologists found efficacy as 'works well', 14% dermatologists found as 'most efficacious', 9% dermatologists found as 'efficacious' whereas only 2% dermatologists found as 'least efficacious' (Table 1).

In terms of reducing the urge to scratch, 38% of the dermatologists found efficacy of Atoderm Intensive Baume as 'satisfactory', 28% dermatologists found efficacy as 'most efficacious', 24% dermatologists found as 'works well', 9% dermatologists found as 'efficacious' whereas only 2% dermatologists found as 'least efficacious' (Table 1). 45% of the dermatologists found efficacy of Atoderm Intensive Baume as 'most efficacious' in maintaining the long-term hydration whereas 36% dermatologists found efficacy of Atoderm Intensive Baume as 'satisfactory'. 45% of the dermatologists found efficacy of Atoderm Intensive Baume as 'satisfactory' in reducing the usage of corticosteroids in the treatment of AD (Table 1).

Also 34% of the dermatologists found the safety profile of Atoderm Intensive Baume as 'satisfactory' for paediatric usage whereas 29% dermatologists found efficacy of Atoderm Intensive Baume as 'most efficacious'. Also 54% of the dermatologists rated 'Skin Barrier Therapy' Patent in Atoderm Intensive Baume as 'satisfactory' for rebuilding and recreating the natural skin barriers to reduce TEWL (Table 1). 88% of the dermatologists did not find any safety issue with Atoderm Intensive Baume.

**Table 1: Opinion of dermatologists regarding efficacy and safety of Atoderm Intensive Baume.**

Parameters	Most efficacious (%)	Satisfactory (%)	Works well (%)	Efficacious (%)	Least efficacious (%)
Reduction in severity of pruritus	7	41	40	12	0
Reduction in skin dryness	34	47	10	9	0
Reduction in insomnia	5	48	28	17	2
Reduction in the itching	16	43	36	5	0
Reduction in inflammation	14	55	21	9	2
Reduction in the urge to scratch	28	38	24	9	2
Maintenance of long-term hydration	45	36	7	13	0
Reduction of the use of corticosteroid	17	45	19	17	2
Safety in paediatric usage	29	34	29	7	0
'Skin barrier therapy' patent in Atoderm Intensive Baume in rebuilding and recreating natural skin barriers to reduce TEWL	25	54	14	7	0

## DISCUSSION

In this questionnaire-based opinion survey, we examined management pattern of AD with focus on novel skin moisturizer containing skin barrier therapy (Atoderm Intensive Baume).

Majority of the dermatologists included in this survey found efficacy and safety of Atoderm Intensive Baume as 'satisfactory' against various parameters such as reducing the skin dryness, severity of pruritus, inflammation, insomnia, itching, urge to scratch, use of corticosteroids, safety in paediatric usage, rebuilding and recreating natural skin barriers to reduce TEWL as well as maintenance of long-term hydration.

The defective skin barrier in patients with AD allows water loss as well as incursion of the allergens. Skin moisturizers remain the mainstay of the treatment for AD and can be combined with other treatments.<sup>9</sup>

A randomized, double-blind, comparative trial conducted in 123 infants and children with moderate AD also demonstrated similar findings. The participants received either SBT complex or emollient base for a period of 6 months as an alternative or adjunctive therapy along with topical steroids or calcineurin inhibitor drugs. The primary efficacy outcome-SCORAD and patient Oriented-SCORAD (PO-SCORAD) scores significantly improved ( $p<0.05$ ) at 6 months in SBT complex subjects. Also, quality of life as well as dryness and intensity improved significantly ( $p<0.05$ ) in the subjects given SBT complex.<sup>8</sup> In another observational study conducted in 125 children (>6 months of age) with mild-to-moderate AD, similar results were demonstrated. At 8 weeks follow up, there was a significant improvement in SCORAD score ( $p<0.05$ ). A further prospective study including 1759 children (>3 months of age) with AD showed a significant

( $p<0.0001$ ) decrease in clinical signs as well as dryness and pruritus of AD at 21 days.<sup>9</sup>

Our study had some limitations. Firstly, although every effort was made to gather the responses from dermatologists all over India, the selection of participants was performed by convenience method of sampling. Secondly, the sample size was small. In view of these limitations, care needs to be taken while inferring the results of this survey.

## CONCLUSION

In conclusion, the survey demonstrated that according to dermatologists across India, AD is a common skin problem found in the population. Atoderm Intensive Baume was found to be efficacious in improving different parameters of AD such as skin dryness, severity of pruritus, inflammation, insomnia, itching, and urge to scratch as well as very-well tolerated. It also plays a vital role in restoration of damaged skin barrier caused by AD.

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