

**Reply to: “Response to: ‘Use of complementary and alternative medicine by patients with psoriasis’”**



*To the Editor:* We thank Drs Nwabudike and Tatu for their interest in and comments about our survey regarding the use of complementary or alternative medicine (CAM) by patients with psoriasis.<sup>1</sup> We agree that it is important to understand whether patients use specific therapies as alternative medicine (AM) or in combination with conventional therapies as complementary medicine (CM).

In 2 separate questions, our survey asked participants, “Have you used any alternative treatments in the last 5 years?” and “Have you used any complementary treatments in the last 5 years?” The answer choices were *yes*, *no*, or *unsure*; therefore, possible use patterns were AM, CM, both AM and CM, neither AM or CM, or unsure. Regardless of reported CAM use, at the end of the survey, respondents were asked to list specific therapies they have tried for psoriasis, as described in Table II of the original study.<sup>1</sup> However, participants were not asked whether these therapies were used in alternative or

complementary manners. Although our survey was not designed to answer this question directly, we performed an additional analysis to gain insight into how the listed therapies were used. For each therapy listed, we quantified whether patients previously reported AM, CM, both AM and CM, neither AM or CM, or unsure use in the 2 questions previously described (Table I). Fig 1 represents this data as a heat map.

Overall, respondents who listed vitamins/supplements reported using CM more than AM (33.3% CM, 17.8% AM), whereas participants who listed dietary changes reported using AM more than CM (34.5% AM, 22.4% CM). Of those who listed herbal/botanical therapies or behavioral methods, more patients reported using both CM and AM than either type individually.

Given that we did not directly assess how each therapy was used, these data must be interpreted with caution, and future studies should examine this question directly. Furthermore, 12.6% of the therapies entered at the end of the survey were listed by participants who did not use CAM within the past 5 years. It is possible that the listed therapies were tried before this time or that participants did not fully

**Table I.** Free response answers for therapies used (Table II in original article<sup>1</sup>)\*

Therapy	Total, n	AM	CM	Both	Unsure	Neither
<b>Oral vitamins/supplements</b>						
Vitamin D	14	4	4	2	2	2
Omega 3/fish oil	6	—	6	—	—	—
Vitamin E	5	2	2	—	—	1
Vitamin B12	2	1	1	—	—	—
Vitamin C	2	—	—	—	—	2
Probiotics	2	1	—	—	—	1
Magnesium	2	—	—	—	1	1
Folic acid, bioflavonoids	1 each (2 total)	—	1	—	—	—
Thiamine, glutamine	1 each (2 total)	—	—	1	—	—
Chondroitin, glucosamine, methylsulfonylmethane, flaxseed, krill oil, type II collagen, ubiquinol	1 each (7 total)	—	—	—	1	—
Vitamin A	1	—	—	—	—	1
<b>Dietary changes</b>						
Gluten free	13	4	4	4	—	1
Low/no sugar	5	2	2	1	—	—
Low processed food	4	1	—	3	—	—
Dairy free	4	—	3	1	—	—
Low meat	3	2	—	1	—	—
Autoimmune protocol diet	3	1	—	2	—	—
Low/no carbs	3	1	—	1	—	1
No night shade	3	2	—	1	—	—
Food trigger avoidance	2	1	—	—	—	1
Elimination diet	2	2	—	—	—	—
Homemade/fresh food	2	1	—	1	—	—
Vegetarian, low salt, detox diet	1 each (3 total)	1	—	—	—	—
No eggs, increased fish, Pagano diet, anti-inflammatory diet	1 each (4 total)	—	1	—	—	—

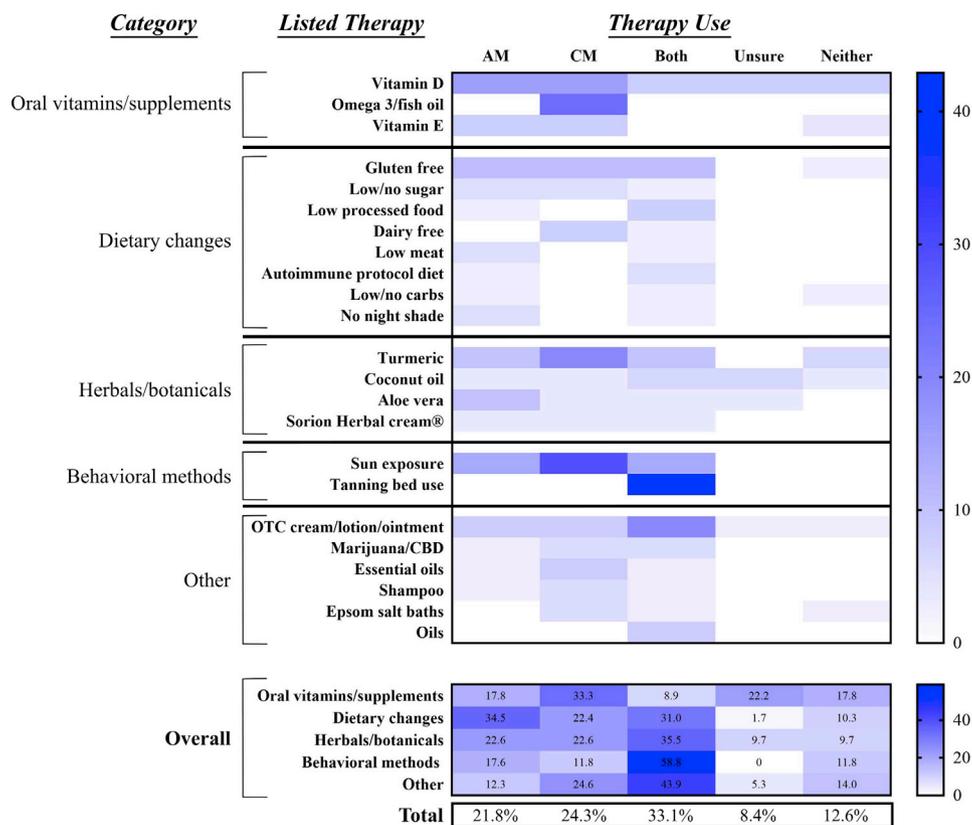
Continued

Table I. Cont'd

Therapy	Total, n	AM	CM	Both	Unsure	Neither
No artificial preservatives, Whole 30 diet, oatmeal	1 each (3 total)	—	—	1	—	—
Blueberries and sour cherries	1	—	—	—	1	—
High protein, turkey, whisky-soaked raisins	1 each (3 total)	—	—	—	—	1
Herbals/botanicals						
Turmeric	14	3	6	3	—	2
Coconut oil	7	1	1	2	2	1
Aloe vera	6	3	1	1	1	—
Sorion herbal cream	3	1	1	1	—	—
Tea tree oil	2	—	1	1	—	—
Olive oil	2	1	—	1	—	—
Noni juice	2	—	—	1	—	1
Curcumin	2	—	1	1	—	—
Herbal tincture	2	1	1	—	—	—
Chinese herbal medicine	2	1	—	1	—	—
Herbal cream, bitter melon juice, cilantro	1 each (3 total)	1	—	—	—	—
Argan oil, gotu kola	1 each (2 total)	—	1	—	—	—
Hemp oil, black seed oil, garlic pills, kava, ashwagandha, herbal tar shampoo, witch hazel, germanium oil, DermaOil, castor oil	1 each (10 total)	—	—	1	—	—
Arnica, thistle, <i>Nigella sativa</i>	1 each (3 total)	—	—	—	1	—
Ginger, BioPerine	1 each (2 total)	—	—	—	—	1
Behavior methods						
Sun exposure	4	1	2	1	—	—
Tanning bed use	3	—	—	3	—	—
Massage	2	1	—	—	—	1
Chiropractor	2	—	—	2	—	—
Stress reduction	1	1	—	—	—	—
Reiki self-care, aromatherapy, cryotherapy, infrared sauna	1 each (4 total)	—	—	1	—	—
Myofascial release	1	—	—	—	—	1
Other						
OTC cream/lotion/ointment	15	3	3	7	1	1
Marijuana/CBD	5	1	2	2	—	—
Essential oils	5	1	3	1	—	—
Shampoo	4	1	2	1	—	—
Epsom salt baths	4	—	2	1	—	1
Oils	3	—	—	3	—	—
Magnesium salt bath	2	—	—	—	1	—
Vitamin D cream	2	—	1	1	—	—
Ayurveda	2	—	—	2	—	—
Banana peel rubs	2	—	—	2	—	—
Mineral oil	2	—	—	1	—	1
MetaDerm	1	1	—	—	—	—
Homemade balm with oils and vitamins	1	—	1	—	—	—
African black soap, natural hair mask, glycerin, homeopathy	1 each (4 total)	—	—	1	—	—
Tiger Balm	1	—	—	—	1	—
Red light therapy, Skin Cap Spray, drinking sea water, apple cider vinegar	1 each (4 total)	—	—	—	—	1

AM, Alternative medicine; CAM, complementary or alternative medicine; CBD, cannabidiol; CM, complementary medicine; OTC, over the counter.

\*Number of responses (n) are stratified by CAM use reported by participants previously in the survey (AM, CM, both therapies, unsure of use, or neither use). *Unsure* includes respondents who answered "unsure" to using AM, CM, or both AM and CM in the last 5 years. *Neither* includes respondents who answered "no" to using both AM and CM within the last 5 years. Individual therapies grouped together were listed once each. The following definitions were provided in the survey: *Complementary treatments* means in addition to traditional allopathic treatments like prescription strength topicals, oral pills, injectables, and light therapy. *Alternative treatments* means in place of traditional allopathic treatments.



**Fig 1.** Heat maps of therapies listed in Table I showing percentages of responses (vertical bar on right). The top heat map (listed therapies separated by category) includes only therapies listed 3 or more times; percentages were calculated by using the total number of therapies listed 3 or times from each category (oral vitamins/supplements, n = 25; dietary changes, n = 38; herbals/botanicals, n = 30; behavioral methods, n = 7; other, n = 36). The bottom heat map (by category) represents all therapies listed for each category; percentages were calculated by using the total number of therapies from each category (oral vitamins/supplements, n = 45; dietary changes, n = 58; herbals/botanicals, n = 62; behavioral methods, n = 17; other, n = 57). Below the heat map (inside the box, under the column labeled “Therapy Use”) are the total percentages of CAM types based on all of the responses (N = 239). The heat map was generated with GraphPad Prism 7 (GraphPad Software, San Diego, CA). AM, Alternative medicine; CAM, complementary or alternative medicine; CBD, cannabidiol; CM, complementary medicine; OTC, over the counter.

understand the questions; recall bias may also be a contributing factor.

Despite these limitations, we hope that these data help clarify how the therapies listed by patients with psoriasis are being used. It is critical to understand how patients are using these treatments, alone or only in combination with traditional medicine, to guide future research and, ultimately, patient counseling. For example, based on a systematic review, Ford et al<sup>2</sup> strongly recommended a hypocaloric diet for weight reduction in overweight/obese patients with psoriasis but only in combination with conventional therapies. However, our analysis showed that almost 35% of those using dietary changes were doing so in an AM manner, highlighting one of likely many potential educational gaps to address with

these patients. Both physician- and patient-facing educational initiatives are sorely needed to ensure meaningful use of both complementary and alternative therapies.

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