Reviewer's report

Title: Influence of sunbed exposures on psychological parameters and neuroendocrine mediators

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Reviewer: Dr M Wintzen

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the compulsory revisions

Whether UV can affect mood through inducing changes in serum level of serotonin or melatonin is an interesting hypothesis, and has been investigated in a scientifically sound way as reported in this manuscript.

However, in its current form, I don't consider the manuscript suitable for publication, mainly because throughout the text the line of thought (the hypothesis) is difficult to follow. Phrasing is too lengthy and sometimes obscure, and quality of written English is insufficient. In several instances the structure of the text is poorly defined. Due to these shortcomings the reader is distracted from the central issue, namely the effect of UV on melatonin and its role on mood, and thus the message of the authors is lost in the melee. The manuscript would definitely benefit from more concise and transparent writing.

Additional remarks
1. The title is slightly misleading, because it suggests that -other than melatonin and its precursor- also other neuroendocrine mediators have been investigated, like work that has been published by Rogers et al (Acta Dermatovenereol 1980;61:350-352).
2. The questionnaires are "standardised" and "well-established", but more important is to address whether they have also been validated.
3. In the brief "methods" section on page 2, the frequency and duration of UV exposure is not mentioned.
4. "Material and Methods" section (p.5), Study protocol:
   UV dose and irradiation regimen is unclear;
   Why was skin color measured? Is there any correlation between skin color and serum levels of melatonin? Please explain.
5. "Material and Methods" section (p.6), UV sources and dosimetry
   The lamps used also emit a small fraction of UVB: if this fraction is considered negligible (as suggested in last 2 sentences of alinea 1 in Discussion), it would improve clarity to say so, and consequently use
"UVA" throughout the text when referring to experimental settings rather than randomly using either "UV" or "UVA".

Different doses were used for skin types II and III: was this dose chosen arbitrarily or defined as e.g. x times MED?

6. "Material and Methods" section (p.6), Serotonin levels
   Please explain why blood was collected after "overnight fast".

7. "Discussion"(p.9), 2nd alinea
   From "In comparison to t1,..." to "serotonin profiles are relatively constant", phrasing is particularly obscure and the meassage is unclear.
   In addition, stating that "different levels of significance...pathway" is far too speculative particularly considering the size of the SD.
   Last line: what are the plasma half-lives of serotonin and melatonin?
   First line of page 10: what is meant with "from clinical point.. questionable" or why is this questionable?

8. "Discussion"(p.10), 3nd alinea
   "Since serotonin... plasma level": how this information relevant to the question at hand?
   "UV exposed volunteers were more satisfied..": more satisfied than who?
   Aside from the benefits of a double blind study design, it could be considered that for future experiments a placebo or control with visible light could be used, as has been described by M.C.A.Polderman et al. in Ann Rheum Dis 2001; 60: 112-115).

9. "Conclusions"
   First sentence contains no new information; the essence is that the "positive changes" cannot be attributed to serotonin/melatonin (which was the aim of the study)!
   The conclusion needs to be more to the point in order to stress the new data obtained in this study.

10. Minor details: the manuscript contains quite a few typing errors; please be consistent in using either American or British English.

Competing interests:

None declared.