

**GEOGRAPHICAL ETHNICITY AND EXPOSURE OF SUNLIGHT HAVE SIGNIFICANT CONSIDERATION ON MORPHOLOGY AND COMPOSITION OF DERMIS AND EPIDERMIS**

**Introduction**

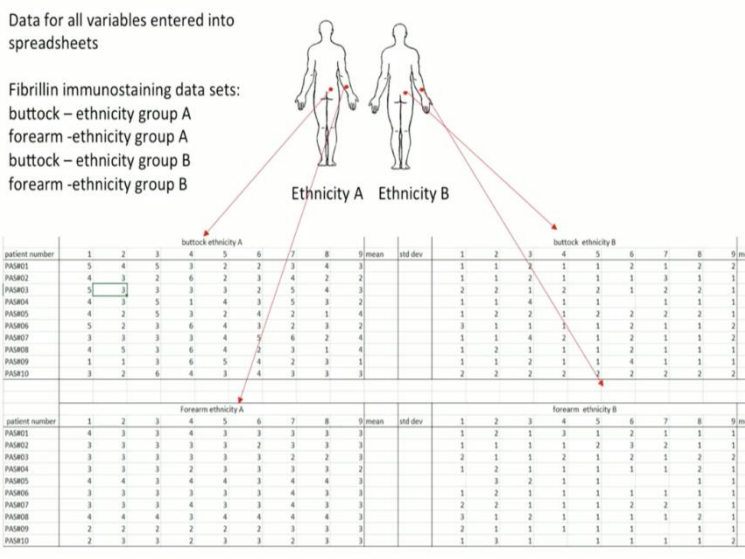
Immunohistochemical analysis was performed using antibodies raised against mature collagen and fibrillin. The overall intensity of collagen was reduced in the papillary dermis of white-skinned people compared to that in black-skinned populations. The

collagen was stained with picosirius red stain. However, the overall intensity of fibrillin was reduced in the black-skinned population's papillary dermis compared to that in white-skinned population. Here, the fibrillin was stained using fibrillin immunostaining.

**Hypothesis**

-Unexposed buttocks have more fibrillin and collagen concentration as compared to, in exposed forearms and hence lesser photodamage in buttocks in both black and white ethnicity.

-Unexposed buttocks and exposed forearms, both have more fibrillin in white-skinned people. However, there is more concentration of collagen in unexposed buttocks and exposed forearms in black-skinned people.

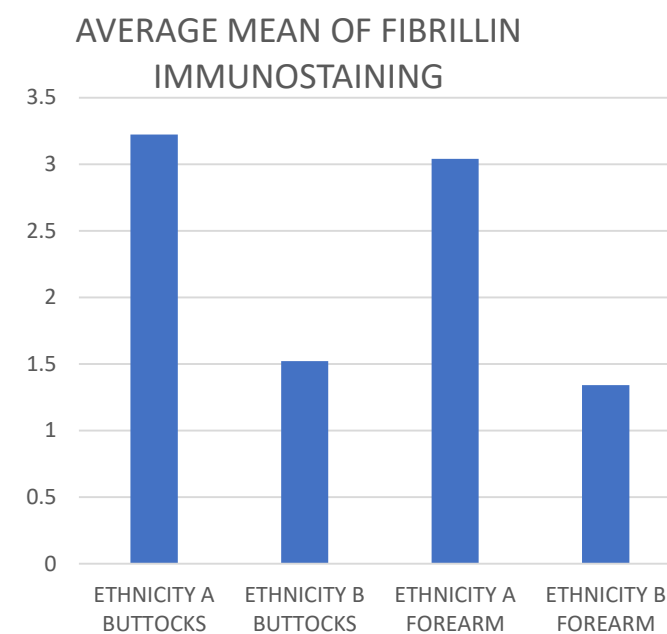


**Result for fibrillin**

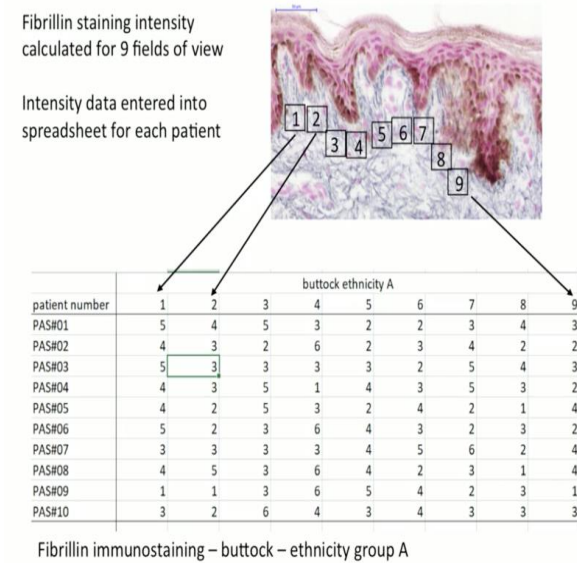
**FOR FIBRILLIN:**

Skin biopsies showed greater staining intensity for fibrillin in buttocks (unexposed region) of Ethnicity A as compared to ethnicity B.

Similarly, it showed greater staining intensity for fibrillin in the forearm (exposed region) of Ethnicity A compared to Ethnicity B. Moreover, the staining intensity of Buttocks (unexposed area) is more than that of Forearms (exposed part) in both the



ethnicities.



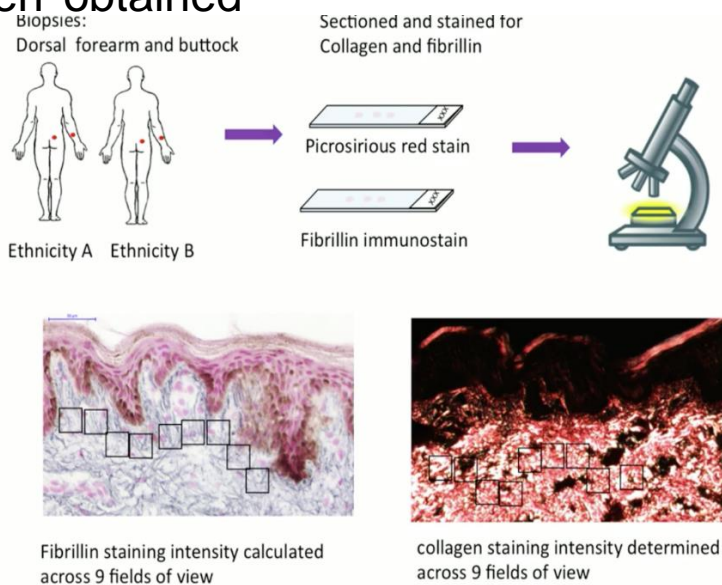
**Aims and objectives**

The aim is to show:

1. the comparison between buttocks and forearm per patient concerning collagen and fibrillin.
2. Comparisons between forearm skin between the black and white-skinned population concerning collagen and fibrillin.
3. The comparison between buttocks skin between the black and white-skinned population about collagen and fibrillin.

**Methodology**

Skin biopsies have been obtained from ten white and ten black-skinned patients from their buttocks (photo protected region) and their forearms (photo exposed regions). As mentioned, each group has ten patients; therefore, two skin biopsies per each patient from two anatomical sites have been obtained



Each biopsy was then sectioned and stained for fibrillin and collagen by fibrillin immunostaining and picosirius red stain. Their staining intensity was further calculated across nine fields of views.

The darker the staining, the more of collagen or fibrillin at the particular site. Similarly, the lighter the staining, the less of collagen or fibrillin at the particular site.

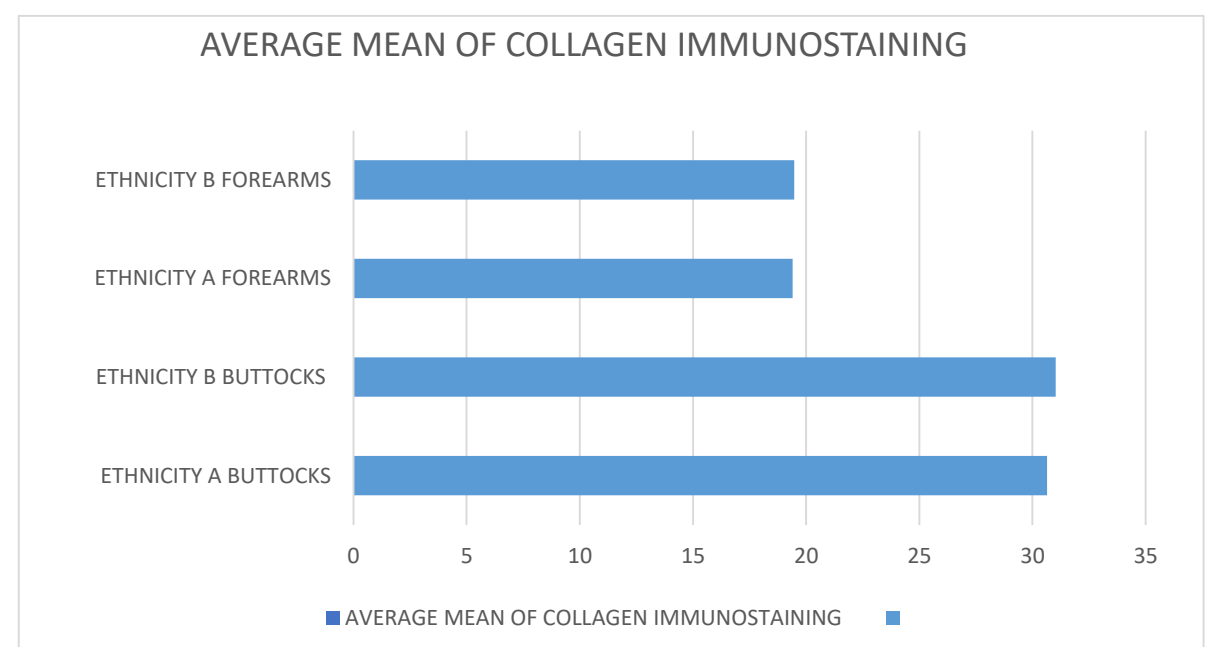
Also, the higher the concentration of collagen and fibrillin, the lesser the photodamage. Similarly, the lesser the concentration of collagen and fibrillin, the more is the photodamage. Each field of view was numerically graded for fibrillin and collagen. The higher the number, the more concentrated the stain and therefore, the more collagen and fibrillin, the less the photodamage.

**Result for collagen**

**FOR COLLAGEN:**

Skin biopsies showed greater staining intensity for collagen in buttocks (unexposed region) of Ethnicity B than ethnicity B. Similarly, it showed greater staining intensity for collagen in forearms (exposed area) of Ethnicity B than Ethnicity A.

Moreover, Buttocks' staining intensity is more in Buttocks compared to forearms in both the ethnicities.



**Conclusion**

The results indicate that collagen and fibrillin concentration differs in both exposed and unexposed anatomical regions in both black and white ethnicities.

The result matches our study, indicating more fibrillin concentration in white ethnicity in their buttocks (unexposed region) than in their forearms (exposed part) as compared to that in black ethnicity. However, there is more concentration of collagen

**REFERENCE:**

<https://pubmed.ncbi.nlm.nih.gov/28132410/>

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