

*Conference Program and
Abstract Book*

International Conference of Herbal Medicine

*Integration of Science, Technology and
Industry on Herbal Medicine for
Clinical Application*

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Author:
ICHM Organizing Committee

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Poster Presentation

No	Code	Presenter & Title
1	OP 01	Rahmat Santoso (<i>Padjajaran University</i>) Formulation Gel with Cinnamon Bark Extract (<i>Cinnamomum burmanni</i> Nees ex. Bl) as Antioxidant
2	OP 02	Oentarini Tjandra (<i>Tarumanegara University</i>) Comparative Study between the Effectiveness of Moisturizing Cream Containing Green Tea and Moisturizing Cream Containing Vitamin E in Geriatric Patient with Dry Skin
3	OP 03	Samsul Mustafa (<i>YARSI University</i>) The effect of soy extract on the expression of TERT pancreatic b-cells diabetes mellitus rat induced by alloxan
4	OP 04	Ida Susanti (<i>Indonesia University</i>) Chemopreventive effect of Beta Glucan From Oyster Mushroom (<i>Pleurotus ostreatus</i> , Jacq P. Kum) on carcinogenesis of breast cancer induced by 7, 12 Dimethylbenz[a]anthracene (DMBA)
5	OP 05	Himmi Marsiati (<i>YARSI University</i>) Viability of cultured HepG2 cells exposed to mangiferin and quercetin
6	OP 06	Nabilah Aulia Hasanuddin (<i>Syarif Hidayatullah University</i>) The Effects of <i>Jatropha curcas</i> Seed Extract to Protein Level of VEGF and Histological Feature of Central Vein in Liver Tissue
7	OP 07	Tiara Bayyina (<i>Syarif Hidayatullah University</i>) Effect of <i>Jatropha curcas</i> L Seed Extract in LDH Activity and Histological Feature in Liver
8	OP 08	Susi Kusumaningrum (<i>Agency for Assesment and Application of Technology (BPPT)</i>) Standardization of Labu Siam Fruit (<i>Sechium edule</i> Jacq.Swartz) as Component of Cholesterol-Lowering Herbal Medicine
9	OP 09	Linda Weni (<i>YARSI University</i>) Effect of Thymoquinone on Insulin Secretion in BRIN BD 11 Treated with Alloxan
10	OP 10	Eva Marlina (<i>Mulawarman University</i>) The Anticancer activities of <i>Macaranga hosei</i> leaves Against HeLa Cell

Comparative Study between the Effectiveness of Moisturizing Cream Containing Green Tea and Moisturizing Cream Containing Vitamin E in Geriatric Patient with Dry Skin

Oentarini Tjandra¹, Linda J Wijayadi¹, Marcella E Rumawas¹

¹Medical Faculty of Tarumanagara University

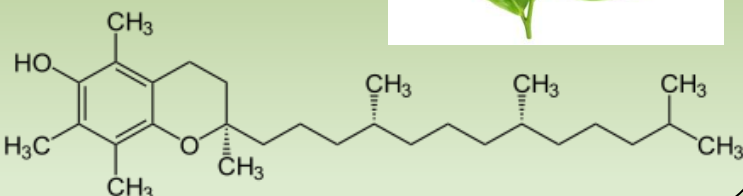
Background: Dry skin or xerosis is skin health problems that are often found in the elderly. Skin hydration reduced in elderly skin causing itching complaints/pruritus. Vitamin E is often used as an active ingredient in cosmetics as moisturizer for dry skin care. The green tea as an active herbal ingredient is often used as an antioxidant in moisturizing cream. This study aims to compare the effects and safety of moisturizers containing green tea with a moisturizer containing vitamin E against in elderly people with dry skin.

Method: Clinical trial was conducted on 86 people elderly people in Tresna Werda Social Institutions Budi Mulia 4, Jakarta. The evaluation of skin capacitance (Scap) using HL 611 korneometri skin analyzer measured at baseline, and evaluate every week until week 5 after therapy. The research subjects were green tea moisturizer and vitamin E with locations in both forearms.

Result: The result indicate that subject using moisturizer containing green tea shows greater relative changes in skin hydration than the change in the vitamin E group, especially in the first week. No objective and subjective side effects were found among the two treatment group.

Conclusion: The effectiveness of moisturizing cream containing green tea is better than moisturizing cream containing vitamin E.

Keywords: Vitamin E, green tea, skin hydration, elderly



Oentarini Tjandra¹, Linda J Wijayadi ², Marcella E Rumawas ³

¹ Pharmacology Department School of Medicine Tarumanagara University
² Dermatovenereology Department School of Medicine Tarumanagara University
³ Public Health Department School of Medicine Tarumanagara University

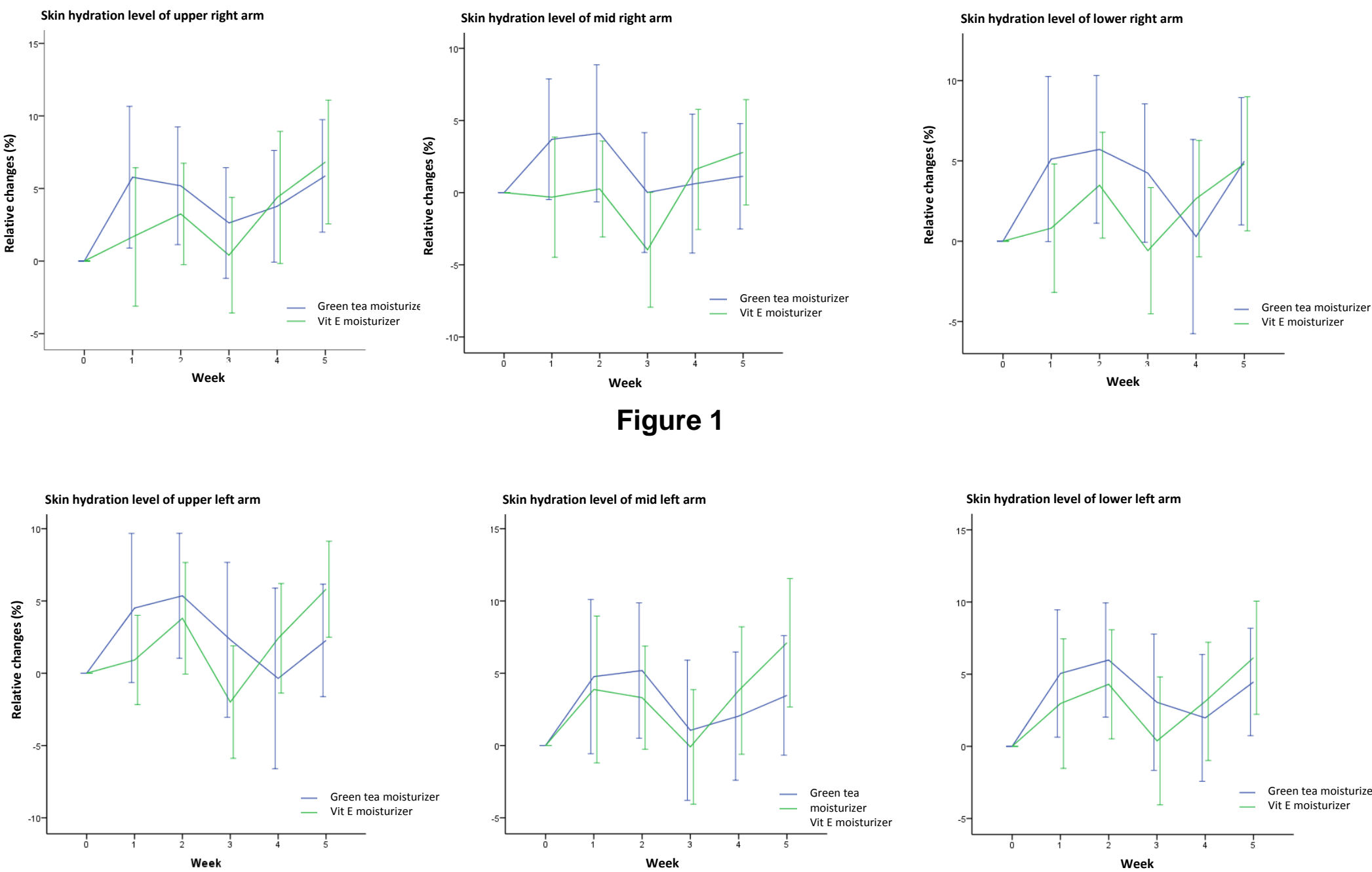
Dry skin or xerosis is skin health problems that are often found in the elderly. In older people, itchiness is one major symptom due to decreased skin hydration. This condition may increase some numbers of skin-related disease. Older individuals are in higher risk for decreased skin hydration as they have thinner stratum corneum and less number of hair follicles than the younger ones. Vitamin E is often used as an active ingredient in cosmetics moisturizer for dry skin care. Herbal green tea, which has an antioxidant effect, has been recently used as an active ingredient in moisturizing cream. However, the moisturizer effect of green tea for skin rehydration has not been well studied. This study examined the potential effect of green tea extract as a new active component in maintaining a healthy skin.

To compare the effects of the use of moisturizers containing green tea as compared to vitamin E for skin hydration among older people living in Tresna Werda Budimulia 4 Social Institution, Jakarta

This quasy-experimental was conducted among 86 older individuals living in Tresna Werda Budi Mulia 4 Social Institution Jakarta. Skin capacitance (Scap) was evaluated by using HL 611 corneometer skin analyzer, measured prior to and every week during the use of green tea or vitamin E skin moisturizer for 5 weeks, applied in both forearms. Data were analyzed based on intention-to-treat principle to compare the level of skin hydration before and after the use of moisturizers. Generalized Estimating Equation (GEE) statistical test was performed to analyze the repeated measure data. Significant results were determined at the level of $P < 0.05$.

	Moisturizer + Green tea (n = 43)	Moisturizer + Vitamin E (n = 43)	P [†]
Age – years‡	70.9 (68.1 – 73.9)	70.0 (67.1 – 72.9)	0.63
Female – %§	67.4 (53.2 – 81.7)	69.8 (55.5 – 84.0)	0.82
Showering (min. twice daily) – %	95.3 (88.2 - 100)	93.0 (85.9 [*] - 100)	0.65
Routine application:			
- Moisturizer – %	2.3 (0 – 8.7)	7.0 (0.6 – 13.4)	0.31
- Sunscreen – %	0	0	-
- Eucalyptus oil– %	14.0 (3.3 – 24.6)	14.0 (3.3 – 24.6)	0.99
- Balm – %	4.7 (0 – 11.1)	4.7 (0 – 11.1)	0.99
- Powder – %	2.3 (0 – 9.4)	9.3 (2.2 – 16.4)	0.17
Skin disorder(s) – %	20.9 (7.6 – 34.2)	30.2 (16.9 – 43.5)	0.33
Body hydration level– glass/h	4.5 (3.8 – 5.1)	4.3 (3.6 – 4.9)	0.68
% - right arm skin hydration			
- Proximal	39.4 (38.1 – 40.7)	39.6 (38.2 – 40.7)	0.88
- Medial	37.9 (36.6 – 39.3)	38.2 (36.9 – 39.6)	0.75
- Distal	37.9 (36.6 – 39.3)	37.8 (36.4 – 39.2)	0.85
% - left arm skin hydration			
- Proximal	40.0 (38.7 – 41.4)	39.3 (37.9 – 40.6)	0.42
- Medial	38.2 (36.8 – 39.6)	38.1 (36.7 – 39.5)	0.91
- Distal	38.0 (36.5 – 39.5)	38.2 (36.7 – 39.7)	0.84

*Data were shown as mean, with 95% confidence interval
† p value was analyzed using an analysis of variance (numerical data) or logistic regression analysis (categorical data)
Data analysis consists of 86 participants.



In our study, all the participants whom receiving green tea moisturizer showed better skin hydration level changes compared to participants whom receiving vitamin E moisturizer, especially in the earlier weeks (week 1 to 3) on all locations. The result however is not statistically significant ($p > 0.05$) as shown in Figure1 and Figure 2. Duration of the moisturizer application showed significant effect upon skin hydration level in both groups, especially in proximal right arm (p value = 0.002), distal right arm (p value = 0.006), proximal left arm (p value = 0.01), and middle left arm (p value = 0.03). Skin hydration level changes in both groups in all location showed a parallel pattern indicated no significant interaction between the type of moisturizer and the duration of using ($p > 0.05$). This study implied that the improvement of skin hydration in the green tea group was more prominent within the first three weeks as compared to the vitamin E group.

Green tea leaves contains polyphenol substances around 30 – 35%. Polyphenol in green tea may inhibit the activity of collagenase and increase biosynthesis process of collagen in fibroblast to further protect the skin from free radicals. Moisturizers protect the skin by occluding the transepidermal water loss process by creating a soft layer in the stratum corneum. Other mechanism is by increasing water absorption into stratum corneum, and as an emollient, acts by filling the gap between desquamating keratinocytes to create a softer skin. Also, moisturizers acts as protein rejuvenator to improve the water storage of epidermis.

This quasy-experimental study showed that both green tea extract and vitamin E as an active component in the moisturizer may act as an antioxidant and anti photoaging products to reduce skin dryness caused by UV exposure.

Improved skin hydration were found among older participants using green tea and vitamin E moisturizers during the 5-week intervention, which this effect was more prominent in the green tea group especially during the first 3-week intervention.

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This is to certify that

dr. Marcella E. Rumawas, MS., PhD

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