

## **Effect of Omegia® softgel on female mucous membrane and overall wellness**

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### **Abstract**

**Purpose:** The aim of this study was to evaluate the effects of Omegia® softgel on the overall wellness including hair, eyes, mouth, skin, nail, stomach, vagina, urinary, bowel, tiredness and energy of healthy female subjects. Also, we want to establish a lower effective dosage of Sea Buckthorn oil compared to other current studies.

**Study design and methods:** 42 females from Malaysia, Thailand and Hong Kong were invited to participate in this study. They were instructed to take 2 softgels of Omegia® every day for 3 months and were asked to fill-in a questionnaire before and after 1 month, 2 months and 3 months taking the Omegia® softgels to record their changes in mucus membrane and overall wellness. Average scores were compared in order to analyze the changes after 1 month, 2 month and 3 months.

**Results:** Significant improvements on hair, eyes, skin, nail and tiredness in female subjects. Improvement can be seen after 1 month intake of Omegia® softgel, the percentage change of the severity score are -20.16% ( $p \leq 0.05$ ) of hair, -30.74% ( $p \leq 0.0001$ ) of eyes, -22.30% ( $p \leq 0.001$ ) of skin, -37.74% ( $p \leq 0.01$ ) of nail and -31.82% ( $p \leq 0.001$ ) of tiredness respectively. Additional comments have been made on the wound healing and sleeping quality improvements.

**Conclusion:** Daily intake of Omegia® softgels significantly improves the hair, eyes, skin, nail and tiredness in female. It can also enhance wound healing and sleeping quality.

### **Introduction**

Comprising of both the sea buckthorn fruit and seed oil, Omegia® is a unique standardized formula containing a balanced ratio of all the unsaturated fatty acids, especially the rare Omega 7. Moreover, it also consists of many antioxidants, such as beta-carotene, vitamin E, and plant sterols, which are essential for human health.

The oils have beneficial effects on the mucous membranes on eyes, skin, digestive tract, urinary tract and intimate area etc. and the overall wellness.

Due to stress or hormonal changes related to peri-menopause, the skin and mucous membrane such as eye, gastric intestinal and vagina are prone to dryness and inflammation. Omegas are the essential building blocks of our skin, hair and nail

(Möller H., 2002). A lack of Omega can weaken our skin barrier, resulting in dry, loss of glow, irritated and sensitive skin. Sea Buckthorn oil was shown in a clinical study to improve skin hydration by 49%, skin elasticity by 26%, and reduce wrinkle by 9% in 3 months (Yang et al., 2008). Moreover, there is another study showing that oral intake of sea buckthorn oil enhances the essential fatty acid in our skin, improving eczema symptoms in atopic dermatitis patients (Yang, B., 1999). Apart from acting as a building block of skin, the rare and novel Omega 7 has been discovered to have the extra benefits on beauty including collagen synthesis (Song et al., 2018), anti-inflammation (Bernstein et al., 2014) and skin lightening (Yoon et al., 2010).

In this study, we investigated the effect of the consumption of Omegia® softgel on female which has complete Omegas and high omega 7 profiles on the overall wellness and mucous membrane health. Moreover, the dosage of Sea Buckthorn oil used in the above mentioned studies are usually more than 2 grams, we would like to establish a lower effective dosage (i.e. 1 gram) of Sea Buckthorn oil in this study.

## Material and methods

Omegia® softgel was provided and manufactured by Puredia using supercritical CO<sub>2</sub> extraction technology. Omegia® is a unique standardized formula containing a balanced ratio of all the unsaturated fatty acids: Omega-3-6-7-9. Table 1 shows the specification on the active ingredients in Omegia® softgel.

Omega 3	≥ 13%
Omega 6	≥ 10%
Omega 7	≥ 30%
Omega 9	≥ 18%
Beta Carotene	≥ 100mg/100g
Vitamin E	≥ 450mg/100g

Table 1 Active ingredients in Omegia® softgel

## Study design

42 female subjects from Malaysia, Thailand and Hong Kong (details as below) were invited to participate in this study from June to August 2020. They were instructed to apply 2 softgels of Omegia® (each softgel contains 500mg sea buckthorn oil) every day for 3 months and were asked to fill-in a questionnaire (see appendix 1) before and 1 month, 2 months and 3 months after taking the Omegia® softgel to record their changes in mucus membrane and overall wellness. They need to score (0-4, 0 = not at all; 4 = extremely, the higher the score, the severer the problem) their situation on

different areas. Table 2 &3 shows the location and age distribution in this study.

Country	Female (n)
Malaysia	12
Thailand	24
Hong Kong	6
Total	42

Table 2. Location distribution

Age	Female(n)
20-29	22
30-39	13
40-49	6
50-59	0
Above 60	1

Table 3. Age distribution

### Statistical analyses

The questions in the questionnaire were categorized into different areas and their average scores were compared in order to analyse the changes after 1 month, 2 month and 3 months. The statistical significance of post-consumption (1 month to 3 months) changes from 0 month was evaluated by the two-tailed paired t-test. Table 4 shows the question categorization.

Questions	Category
1. Thinning hair	Hair
2. Hair loss, notice excess hair in comb, on shoulders, in sink and on pillow	
3. Eye fatigue	Eyes
4. Eye dryness, grittiness or scratchiness	
5. Eye soreness or irritation	
6. Blurry vision	
7. Dry mouth or difficult swallowing	Mouth
8. Dryness of skin (lack of moisturization & radiant)	Skin
9. Glowy and shiny skin	
10. Facial lines around the eyes	
11. Facial lines around lip area	
12. If not moisturized, the facial skin feels tight	
13. Dry patches on skin	
14. Dryness in lips or heel area	
15. Brittle or dry nails or nail problem	Nail
16. Burning sensation in the lower part of your chest, especially when lying down or bending forward	Stomach
17. Stomach pain, burning and/or aching over a period of 1-4 hours after meal	

18. Dryness of vagina (sensation of dryness or burning in the vagina, difficulty with sexual intercourse)	Vagina
19. Itchiness of vagina	
20. Vaginal discharge	
21. Bladder problems (difficulty in urinating, increased need to urinate, bladder incontinence)	Urinary
22. Pain during urination	
23. Regular bowel movement	Bowel
24. Get tired very quickly	Tiredness
25. Have enough energy for everyday life	Energy

Table 4. Questionnaire categorization

Averages for each data set were calculated using Excel (Microsoft Corporation, Redmond, WA, USA). Statistical significance was indicated by  $* = p \leq 0.05$ ,  $** = p \leq 0.01$ ,  $*** = p \leq 0.001$ , and a high level of significance was indicated by  $**** = p \leq 0.0001$ .

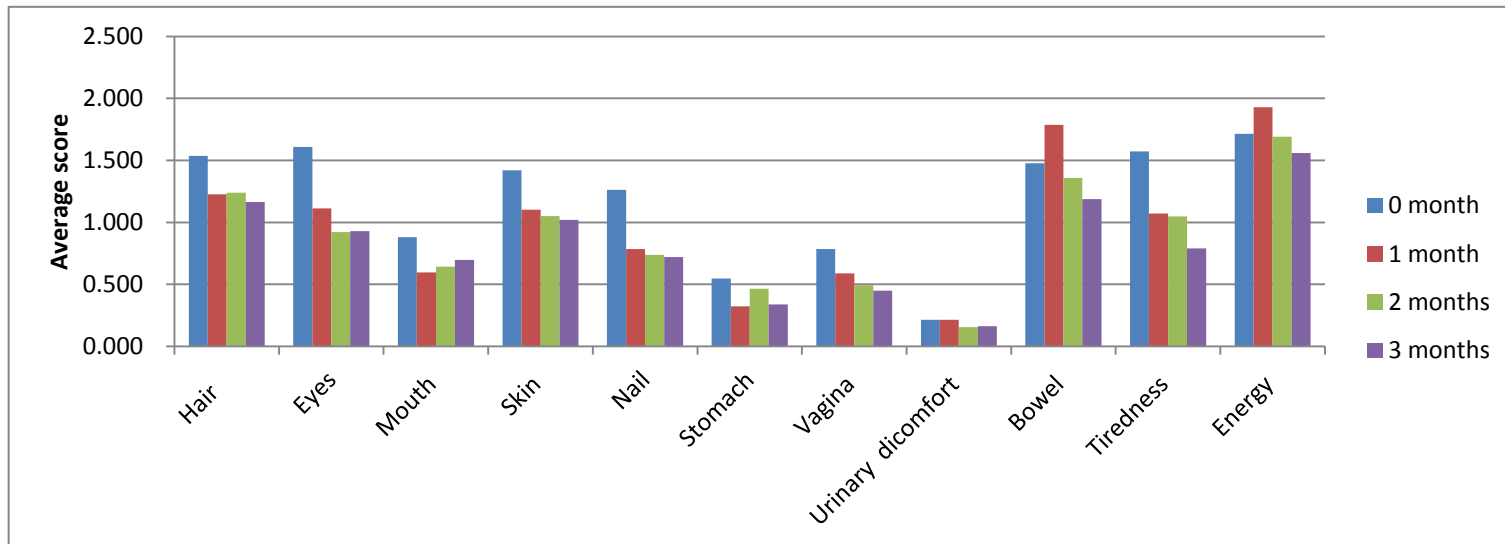
## Results

Table 6 and Graph 1 show the average score on different categories on 0month, 1 month, 2 month and 3 month. Table 7 shows the percentage change and the p value of different categories on 1 month, 2months and 3 months compared to previous month.

There is one subject from Thailand made an additional comment on the questionnaire that her wound mark started to be faded out after 1 month intake of Omegia® softgel, and the mark was totally faded out after 2 month intake. 5 subjects from Malaysia mentioned that their sleep qualities are much improved after 2 months intake of Omegia® softgel.

	Hair	Eye	Mouth	Skin	Nail	Stomach	Vagina	Urinary discomfort	Bowel	Tiredness	Energy
0 month	1.536	1.607	0.881	1.418	1.262	0.548	0.786	0.214	1.476	1.571	1.714
1 month	1.226	1.113	0.595	1.102	0.786	0.321	0.587	0.214	1.786	1.071	1.929
2 months	1.238	0.923	0.643	1.051	0.738	0.464	0.492	0.155	1.357	1.048	1.690
3 months	1.163	0.930	0.698	1.020	0.721	0.337	0.450	0.163	1.186	0.791	1.558

Table 6. Average score on different categories on 0month, 1 month, 2month and 3 month



Graph 1. Average score on different categories on 0month, 1 month, 2months and 3 months

	Hair	Eye	Mouth	Skin	Nail	Stomach	Vagina	Urinary	Bowel	Tiredness	Energy
1 month	-20.16%	-30.74%	-32.43%	-22.30%	-37.74%	-41.30%	-25.25%	0.00%	20.97%	-31.82%	12.50%
<b>p value</b>	<b>0.011*</b>	<b>0.000***</b>	<b>0.077</b>	<b>0.001***</b>	<b>0.005**</b>	<b>0.089</b>	<b>0.099</b>	<b>1</b>	<b>0.176</b>	<b>0.0002***</b>	<b>0.298</b>
2 months	0.97%	-17.11%	8.00%	-4.63%	-6.06%	44.44%	-16.22%	-27.78%	-24.00%	-2.22%	-12.35%
<b>p value</b>	<b>0.038*</b>	<b>0.000****</b>	<b>0.150</b>	<b>0.002**</b>	<b>0.005**</b>	<b>0.567</b>	<b>0.040*</b>	<b>0.655</b>	<b>0.580</b>	<b>0.002**</b>	<b>0.886</b>
3 months	-6.08%	0.83%	8.53%	-2.96%	-2.33%	-27.37%	-8.63%	5.19%	-12.61%	-24.52%	-7.83%
<b>p value</b>	<b>0.016*</b>	<b>0.000****</b>	<b>0.232</b>	<b>0.001*</b>	<b>0.003**</b>	<b>0.118</b>	<b>0.017</b>	<b>0.715</b>	<b>0.244</b>	<b>0.000****</b>	<b>0.253</b>

Table 7. Percentage change on different categories on 1 month, 2months and 3 months compared to previous month

(\* =  $p \leq 0.05$ , \*\* =  $p \leq 0.01$ , \*\*\* =  $p \leq 0.001$ , \*\*\*\* =  $p \leq 0.0001$ )

## Discussion

There is significant improvement on hair, eyes, skin, nail and tiredness in female subjects. Improvement can already be seen after first month intake of Omegia® softgel, the percentage change of the score are -20.16% ( $p \leq 0.05$ ), -30.74% ( $p \leq 0.0001$ ), -22.30% ( $p \leq 0.001$ ), -37.74% ( $p \leq 0.01$ ) and -31.82% ( $p \leq 0.001$ ) respectively. There are 5 female subjects specifically mentioned about the sleep quality improvement after 2 month intake of Omegia® softgel, which should also be considered as one of the health benefits of Omegia® oil.

The significant improvement on hair, eyes, skin, nail and tiredness observed in female subjects confirms the mucous membrane regeneration ability of Omegia® oil. It is mainly due to the Omegas, especially the omega 7's healing ability on skin and mucous membrane.

The results also show a lower effective dosage (i.e. 1g) of Omegia® that achieve the same health benefits as compared to other studies using Sea Buckthorn oil.

## Conclusion

Daily intake of 1gram Omegia® softgels for 1 month significantly improve the hair, eyes, skin, nail and tiredness in female. It can also enhance wound healing and sleeping quality after 2 months intake of the softgels.

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## Appendix 1 – Questionnaire

### Women's Health Questionnaire

#### Personal information

Name :

Country:

Email Address:

Phone Number:

Please select your age group.

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20-29       30-39       40-49       50-59       60 or above

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Month after taking the test product.

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0 month       1 month       2 months       3 months

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How would you describe your current menstrual status?

- Premenopause (before menopause; having regular periods)
- Perimenopause/menopause transition (changes in periods, but have not gone 12 months in a row without a period)
- Postmenopause (after menopause)

What type of skin do you have?

- Dry
- Normal to dry
- Normal
- Normal to oily
- Oily

Which of the following symptoms apply to you at this time? Please, mark the appropriate box for each symptom. For symptoms that do not apply, please mark "Not at all".

	Not at all	A little	Moderately	Quite a bit	Extremely
Score	0	1	2	3	4
1. Thinning hair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Hair loss, notice excess hair in comb, on shoulders, in sink and on pillow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Eye fatigue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Eye dryness, grittiness or scratchiness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Eye soreness or irritation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Blurry vision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Dry mouth or difficult swallowing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Dryness of skin (lack of moisturization & radiant)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Glow and shiny skin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Facial lines around the eyes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Facial lines around lip area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. If not moisturized, the facial skin feels tight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Dry patches on skin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Dryness in lips or heel area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Brittle or dry nails or nail problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Burning sensation in the lower part of your chest, especially when lying down or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

bending forward

17. Stomach pain, burning and/or aching over a period of 1-4 hours after meal

18. Dryness of vagina (sensation of dryness or burning in the vagina, difficulty with sexual intercourse)

19. Itchiness of vagina

20. Vaginal discharge

21. Bladder problems (difficulty in urinating, increased need to urinate, bladder incontinence)

22. Pain during urination

23. Regular bowel movement

24. Get tired very quickly

25. Have enough energy for everyday life

26. Have you notice any changes after taking the supplement?

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or assigns. Do not forward this survey without the permission of Puredia, and please contribute to its effectiveness by responding only once.

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