

The Convergence Study on Korean Consumers' Perception of Cosmeceuticals in the Aging Society

Kyu-Ok Shin¹, HyeJin Lee²

¹Professor, Dept. of Beauty & Cosmetic Science, ²Ph.D. Student, Dept. of Public Health, Graduate School, Eulji University

ABSTRACT

Background/Objectives: This study is aimed to investigate consumers' interests in cosmeceuticals and to examine usage and satisfaction in the aging society. Therefore, it provides effective marketing data to industries.

Method/Statistical Analysis: For this study, self-questionnaires were done for Korean consumers who are in age over 20. A total of 366 copies were collected for the final analysis, and the data were analyzed by SPSS ver. 21.0 statistical program, then data were verified at the significance level of $p < .05$.

Findings: The behavior of managing appearance healthier and younger than the actual age led to the growing in cosmeceuticals market. There are some previous studies done, but there is a lack of researches focusing on role of cosmeceuticals in the aging society. Korean consumers' knowledge about skin was relatively high with an average score of 79.0%. However, the result of analyzing perception of cosmeceuticals proved that the definition of cosmeceuticals was not widely known, and there was lack of promoting cosmeceuticals to general consumers: 23.2% used cosmeceuticals without being aware of them. The strength of cosmeceuticals was high reliability due to its professionalism, and the drawback was its high cost. So, for the development of cosmeceutical market, it is necessary to introduce a marketing method which can reduce its cost. Many Korean consumers used cosmeceuticals with moisturizing effect, and the overall satisfaction level was 3.59 out of 5.00. Especially, the satisfaction level was high with the use of cosmeceuticals of anti-wrinkle or moisturizing effects.

Improvements/Applications: This study will provide the effective marketing resource to beauty industries and propose a positive direction to expand cosmeceutical market in the aging society.

Keywords: *cosmeceuticals, aging society, anti-aging, perception, usage, satisfaction*

Introduction

In the aging society, more than 7% of the whole population is aged 65 or over, and in aged society, more than 14% is aged 65 or over¹). Korea had already entered into aged society in 2017, and there is an increase in numbers of countries shifting into aging society in worldwide. According to United Nations, the global population trends showed that the elderly population

over the age of 60 was 952 million in 2017, and this number is twice bigger compared to that of 1980 which was 382 million. At this growth rate, it is expected to become 2.1 billion in 2050, which is more than double to the number in 2017²). The lifespan of mankind has been steadily increasing, and the era of 'Homo hundred' with the universalization of 100-year-old longevity has come to the fore³). The average lifespan of Korean which was only 61.16 years in 1970 has been steeply rising up to 80.02 by 2016⁴), and in many countries such as Japan, France, Italy, the U.S. and etc. population of 85 years and over has increased rapidly⁵).

Corresponding Author:

HyeJin Lee

Ph.D. Student, Dept. of Public Health,
Graduate School, Eulji University

Email: hjlee2506@gmail.com

Also, 'Active Senior' who are elderly people seeking for challenges are the active consumers in the society. The life expectancy of the world's population is getting longer

and as a result, the demand of using functional cosmetics to fight against aging is becoming even significant. This is because improving aging skin is included as the qualification to 'good health'; hence the use of effective and safe cosmetics is becoming important⁶⁾.

Accordingly, the Korean government has set up a plan to develop the improving method of anti-aging industry in the plan of fostering aged-friendly industry in 2009. Also, the Korean government defined the anti-aging business to cosmetics, foods, pharmaceuticals, health services and etc. which prevent or treat aging and geriatric diseases⁷⁾. In this context, the growth of cosmeceuticals which are highly functional cosmetics which combines the concept of therapeutic treatment to general cosmetics is remarkable. General cosmetics are recognized as beauty products while cosmeceuticals are recognized as convergence products which embrace not only the function of beauty products but also that of pharmaceuticals by protecting skin⁸⁾.

Korean cosmetics market is the world's 10th largest and it occupies 2.9% of the global cosmetics market⁹⁾. However, there still are no legal definition and regulations of cosmeceuticals. Also in the United States, which used the concept of cosmeceutical for the first time in the early 1990s, the FDA did not legally define cosmeceuticals, and there is no meaning under the law as well. Instead, industries in the US use the term meaning cosmetics which has medicinal or drug like benefits focusing on its function. In Korean beauty industry, cosmeceuticals are vaguely recognized as products which were developed by either dermatologists or pharmaceutical companies, so the concept is different.

There are previous studies related to cosmeceuticals such as 'Comparative analysis of consumer behavior by gender' by Junaid et al.¹⁰⁾, 'Cosmeceutical market development'¹¹⁾, 'Perception and satisfaction of cosmeceuticals'¹²⁾, and 'Effect of product choice to marketing communication'¹³⁾. These previous studies are done in worldwide to study about various topics related to cosmeceuticals. However, there is a constant inadequacy in researches around the world due to the different concept of cosmeceuticals defined in each study to progress in-depth.

Therefore, in this study, it was aimed to investigate the consumers' interests in skin and cosmeceuticals and to examine usage and satisfaction of the convergence product, cosmeceuticals in this aging society so that to provide effective marketing resources to beauty industries.

Materials and Method

Materials: The general characteristics and subjective skin types of surveyors were investigated and their perception of cosmeceuticals was evaluated. Also, the consumers' usage and satisfaction of cosmeceuticals were analyzed. Further research about the correlation of perception and usage of cosmeceuticals was examined and, the satisfaction depending on main efficacy was analyzed.

Data Collecting Method: For this study, self-questionnaires were done for Korean consumers who are in age over 20. The surveys were conducted to 400 consumers from 2nd to 18th of May, 2018. A total of 366 copies were used for the final analysis.

Survey Tool: The survey was composed of 11 questionnaires about general characteristics, 14 questionnaires about knowledge of skin, 6 questionnaires about perception, 4 questionnaires about usage, and 4 questionnaires about satisfaction of cosmeceuticals based on previous studies^{14),15),16)}. The Likert 5 point interval scale was used for this study.

Statistical Analysis: For this study, the collected data were analyzed by SPSS ver. 21.0 statistical program. Also, data were verified at the significance level of $p < .05$. In order to investigate general characteristics of subjects, frequency analysis was conducted. The knowledge about skin of subjects were evaluated and to figure out differences between the knowledge and general characteristics or skin types, independent sample t-test and one way ANOVA were operated. The cognition of cosmeceuticals was examined and cross-sectional analysis was practiced to compare the results between the general characteristics of subjects and the subjective skin type. To determine the difference in the usage of cosmeceuticals depends on the consumers' awareness of cosmeceuticals, independent sample t-test and one way ANOVA were conducted. A descriptive statistical analysis was utilized to examine the satisfaction of using cosmeceuticals. Also, one way ANOVA was practiced for analyzation of satisfaction on each of the cosmeceuticals' main effect.

Results and Discussion

General Characteristics and skin considerations of Surveyors: General characteristics of surveyors were analyzed depending on the following factors: gender,

age, marriage status, educational level, occupation, and monthly income. The number of female surveyors was 314(85.8%). The participants' age in 20s was the highest in number. 257(70.2%) were unmarried. 189(51.6%) of surveyors attended or graduated undergraduate school. 155(42.3%) were students. 152(41.5%) had the monthly income under 1000 USD. In the meantime, 64(17.5%) of surveyors had a skin trouble of dryness, 61(16.7%) had that of wrinkles and elasticity, 57(15.6%) had that of spots, 55(15.0%) had that of big pores, 49(13.4%) had that of acnes, 37(10.1%) had that of excessive sebum, 31(8.5%) had that against sensitivity, and 12(3.3%) had no skin trouble.

According to "Trends to Watch in Anti-aging" done by Datamonitor in 2013, for consumers in the US, Canada, Mexico, Europe, Korea, Japan, and Australia, the skin consideration which the most number of people had was skin dryness, and that occupied 70% of the participated surveyors, and the second largest number of people which was 61% had wrinkles and appearance of fine wrinkles as their skin consideration¹⁷⁾. Hence, the result by Datamonitor showed the same result to this study.

Skin Knowledge: The overall average rate of getting correct answers for Korean consumers was 79.0%.

To evaluate skin knowledge, it was calculated as 1 point when the answer was correct and 0 when the answer was wrong. The higher the score was, it was assumed that the knowledge of consumer was high. The overall score for Korean consumers was 9.53 out of 12. Moreover, the knowledge about skin for the participants in 20s had higher score compared to the other ages, and those who were unmarried had relatively higher score compared to those who were married.

Awareness of Cosmeceuticals of Korean Consumers

Awareness of Cosmeceuticals: As a result of analyzing the recognition of cosmeceuticals, 92 people (25.1%) knew or heard about cosmeceuticals while 274 (74.9%) did not know well, so it was proved that the term, cosmeceuticals, is unfamiliar to Korean consumers.

Cognitive Path of Cosmeceuticals: As in Figure 1, 36(39.1%) of people learned the information about cosmeceuticals via the internet(SNS). Regarding the general characteristics of surveyors, especially those in aged 20s, 40s, and over 50 had more experience of receiving the information about cosmeceuticals through

the internet(SNS), and more than 30% of consumers in 30s also experienced the information of cosmeceuticals via the internet(SNS). Hence, it was shown that the main pathway of learning about cosmeceuticals was through the internet(SNS). According to KISA's Internet Statistics Report in 2017, entitled "Research of Internet Use", the rate of internet access of Korean households had approached to the saturation period, so until 2017, the rate of retention ratio had risen to 94.1%. Also, the Internet usage rate of elderly people aged 65 and over has increased over three times compared to 5 years ago, hence the gap between ages became smaller¹⁸⁾.

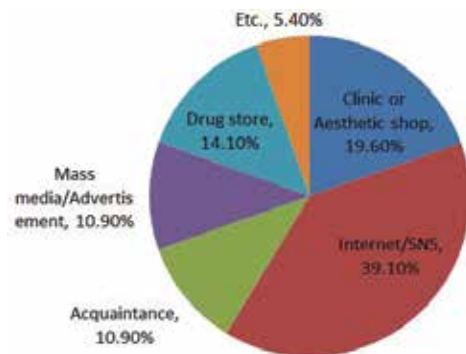


Figure 1: Cognitive path of Cosmeceuticals

Strengths and Drawbacks of Cosmeceuticals: Figure 2 showed the primary strength of cosmeceuticals was 'its high credit due to its professionalism', 137 (37.4%). Korean consumers preferred using cosmeceuticals because it seems to be professional and scientific since it is referred by dermatologists¹²⁾.

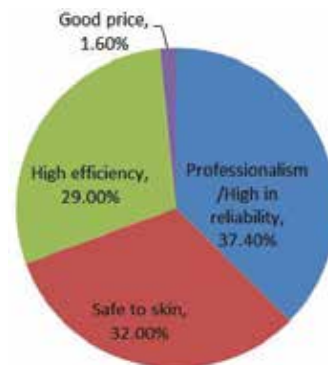


Figure 2: Strength of Cosmeceuticals

In the meantime, the results of analyzing the drawback of cosmeceuticals are as follow: the highest percentage of Korean consumers which is 228(62.3%) answered that the cost of cosmeceutical is high(Figure 3). According to Junaid et al., in the Indian market, as similar to the Korean market, the price of cosmeceuticals had a great influence on the consumers' purchasing

behavior¹⁹). In order for the active consumption of cosmeceuticals in the aging society, it is necessary to find a method to lower the price.

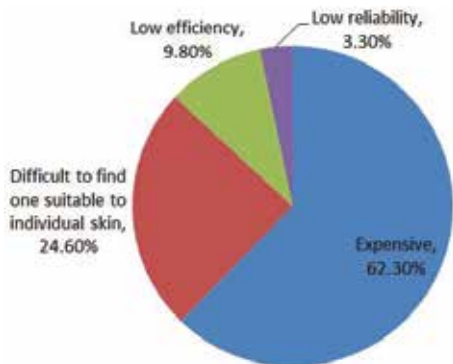


Figure 3: Drawback of Cosmeceuticals

Usage of Cosmeceuticals for Korean Consumers: 154(23.2%) had no experience of using it, 127(34.7%) had experience of using it, and 85(23.2%) had experience of using it although they did not recognize what they were using was called ‘cosmeceuticals’. There was the significant difference between genders for this questionnaire; Korean male consumers generally did not have an experience of using cosmeceuticals whereas Korean female consumers either had no experience of using it or had a past or current experience of using it($p < .001$). In Park and Kwon’s study, 49.85% of Korean consumers had an experience of using cosmeceuticals and among this, 78.02% of female consumers and 21.98% of male consumers had the experience of using it, hence showed the similar result to this study¹²). However, according to Junaid et al., there also were significant differences in the purchase of cosmeceuticals between male and female consumers in India; 47.36% of men and 45.28% of women responded that cosmeceuticals are important to them, so generally, more men than women had a positive view toward using cosmeceuticals, hence showed quite different result to this study¹⁰).

Korean Consumers’ Preference and Satisfaction of Cosmeceuticals

Main Effect of Cosmeceuticals for Users: To 212 Korean consumers who had an experience of using cosmeceuticals, a questionnaire was done to figure out differences in analysis results between factors of general characteristics and subjective skin types.

According to the analysis done for the main efficacy of cosmeceuticals, the highest rate of Korean consumers which was 83(39.2%) were using cosmeceuticals with

moisturizing effect, and 56(26.4%) was using it for anti-acne effect, and 28(13.2%) was using it for treating skin sensitivity.

Depending on ages, Korean consumers’ preferred main efficacy of cosmeceuticals was different. Those in 20s generally used cosmeceuticals with anti-acne effect while those in 30s preferred using it with moisturizing effect. Many of surveyors in over 40 used cosmeceuticals with highly related to anti-aging effect, such as moisturizing and anti-wrinkle.

Moreover, as shown in Figure 4, many married consumers used cosmeceuticals with moisturizing or anti-wrinkle effect, whereas unmarried consumers usually used it with moisturizing or anti-acne effect($p < .001$). Depending on subjective skin types as in Figure 5, oily skin type preferred using cosmeceuticals with anti-acne effect, while other skin types such as dry skin, normal skin, complex skin, and sensitive skin used products with moisturizing effect($p < .001$).

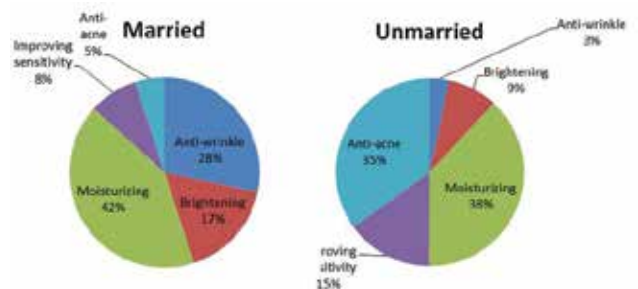


Figure 4: Main effect of cosmeceuticals in use depending of marriage status



Figure 5: Main effect of cosmeceuticals in use depending on subjective skin type

Satisfaction of Cosmeceuticals: The result of analyzing satisfaction of using cosmeceuticals against 212 who had experience of usage, the overall satisfaction score was average 3.59 out of 5.00.

Depending on the efficiency, capacity, texture, price, and purchasing process, and the overall efficiency of cosmeceuticals, the difference in users’ satisfaction showed a significant difference as in Figure 6($p < .05$).

Particularly, when users have experience of using cosmeceuticals with main effect of anti-wrinkle or moisturizing, average level of satisfaction on each factor was high with the score of higher than 3.70 out of 5.00.

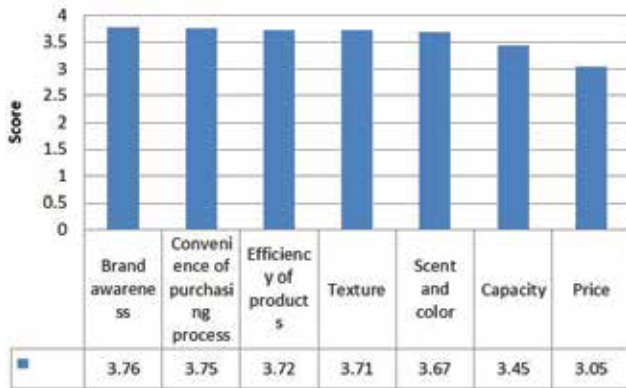


Figure 6: Satisfaction of cosmeceuticals

Difference in the Results of Usage Due to Consumers’ Awareness: Based on the results of the research on awareness of cosmeceuticals, for this questionnaire, the definition, representative brand names, and products list of cosmeceuticals were given, then the second analysis were conducted to investigate the correlation between the awareness and usage of cosmeceuticals.

As a result explained in table 1, among Korean consumers who were aware of cosmeceuticals, 67.4% had an experience of using it, 17.4% had no experience of using it, and 15.2% actually had the experience of using it although they did not recognize cosmeceuticals at the beginning. Among those who were unaware of cosmeceuticals, 23.7% had an experience of using it, 50.4% had no experience of using it, but after learned about cosmeceuticals, the extra 25.9% answered that they actually had an experience of using.

Table 1: Difference in usage of cosmeceuticals due to consumers’ awareness

Division		Usage of cosmeceuticals			χ^2 (p)
		Used or using cosmeceuticals	Used cosmeceuticals but did not recognize	Did not use cosmeceuticals	
Awareness	Aware	62(67.4)	14(15.2)	16(17.4)	59.040*** (.000)
	Unaware	65(23.7)	71(25.9)	138(50.4)	
Total		127(34.7)	85(23.2)	154(42.1)	

***p<.001

Difference in Skin Knowledge Due to Awareness and Usage of Cosmeceuticals: As a result shown in table 2, those who had experience of using cosmeceuticals had high scores on skin knowledge compared to those who did not have experience of using and who did not recognize it although had an experience on usage.

Table 2. Difference in skin knowledge due to awareness and usage of cosmeceuticals

Division		Mean (M)	Standard Deviation (SD)	F-value	p
Awareness	Aware	9.55	1.667	0.170	0.865
	Unaware	9.52	1.555		
Usage	Have an experience of using	9.98 ^c	1.431	10.551***	0.000
	Have an experience of using but did not recognize	9.56 ^b	1.467		
	Have no experience	9.14 ^a	1.665		
Total		9.53	1.582		

***p<.001 Duncan : a<b<c

Conclusion

The increase in the elderly population of the whole world led to higher interests in ‘well-aging’, hence the trend shows the growing in interests of managing their appearance even healthier and younger compared to their

actual age. This behavior led to the growing in the market of cosmeceuticals, highly functional cosmetics. Therefore, this study was aimed to examine the perception, usage, and satisfaction of cosmeceuticals and tried to provide data on the cosmeceutical market which is becoming more significant in this era of the aging society.

First of all, Korean consumers' knowledge about skin was relatively high with an average score of 79.0%. On the other hand, the result of analyzing perception of cosmeceuticals proved that the definition of cosmeceuticals was not widely known, and there was lack of promoting cosmeceuticals to general consumers: 57.9% of consumers had an experience about usage, but the extra 23.2% answered that they used cosmeceuticals without being aware of them.

Meanwhile, consumers who have already know about cosmeceuticals usually received information via the internet(SNS). The strength of cosmeceuticals was high reliability due to its professionalism, and the drawback was its high cost. So, for the development of cosmeceutical market, it is necessary to introduce a marketing method which can reduce its cost.

As a result of researching the satisfaction level of cosmeceuticals' users, many Korean consumers used cosmeceuticals with moisturizing effect, and the overall satisfaction level was 3.59 out of 5.00. Especially, the satisfaction level was high with the use of cosmeceuticals of anti-wrinkle or moisturizing effects.

This study was done against some of Korean consumers, so there is a limitation in not reflecting the opinions of all Korean consumers. However, it is expected to have growing in cosmeceutical market, which is becoming more significant in the aging society, if continuous researches on development in technology and marketing methods are done and a definition and regulations which commonly using in worldwide are set up.

Ethical Clearance: Not required

Source of Funding: Nil

Conflict of Interest: Nil

REFERENCES

1. Tahara Y. "Cardiopulmonary Resuscitation in a Super-aging Society : is There an Age Limit for Cardiopulmonary Resuscitation?", *Circulation Journal*, (2016).
2. United Nations, Population Divison : World Population Aging 2017 – highlights, Department of Economic and Social Affairs, (2017).
3. Shin KO, Park HS, "Antiaging Cosmeceuticals in Korean and Open Innovation in the Era of 4th Industrial Revolution: from Research to Business", *Sustainability*, (2019).
4. The World Bank. Life expectancy at birth, total (years). (2016).
5. Census Bureau, An Aging Nation: the Older Population in the United States. U.S. Department of Commerce, (2014).
6. Ramos-e-Silva M, Celem LR, Ramos-e-Silva S. &Fucci-da-Costa AP. "Anti-aging Cosmetics: Facts and Controversies", Elsevier Inc, (2013).
7. Korea Health Industry Development Institute, State of Anti-aging Industry for the Development of Global Leading Industries : Research of Investigation, Analyzation, and Developing Method. (2014).
8. Brandt FS, Cazzaniga A. & Hann M. "Cosmeceuticals: Current Trend and Market Analysis", Elsevier Inc, (2011).
9. International Trade Administration, United States of America, Asia Personal Care & Cosmetics Market Guide. Department of Commerce, (2016).
10. Junaid AB, Nasreen R. & Siddiqui MJ. "A Comparative Analysis of Male and Female Consumer Behaviour Factors for their Cosmeceutical Products Types", *Journal of Accounting & Marketing*, (2015).
11. Ko WS, Jang EJ & Choi YJ. "A Basic Research on Cosmeceutical Market Development in South Korea", *Global Business Administration Review*, (2018).
12. Park SH, Kwon HJ, "Customers' Convergent Recognition and Satisfaction about Cosmeceuticals", *Journal of Digital Convergence*, (2017).
13. Kang YN. "The effects of cosmeceutical product choice by hospital workers on their consumption values", *Journal of Beauty Art Management*, (2017).
14. 28. Lee IH, Jin RH, "Study of Considerations which Women in their 30s and 40s Choose between Professional Cosmetics of Skin Care Parlors and Ordinary Cosmetics and of Satisfaction with Cosmetics depending on their Life Style", *Journal of Beauty Art Management*, (2010).

15. Lee JR, Choi TB, “A study on the Demand and Satisfaction for Function Cosmetics by Consumer Age Group”, Seoul: Konkuk University, (2016).
16. Lee HK. “The Effects of Perceptions and Purchase Behavior Regarding Cosmeceutical and Medical Products on Satisfaction”, Seoul: Konkuk University, (2017).
17. Datamonitor, Trends to Watch in Anti-aging. Bangkok: In-cosmetics Asia, (2013).
18. Ministry of Science and ICT, 2017 Research of Internet Usage. NajuJeonranamdo: Korea Internet & Security Agency, (2018).
19. Junaid AB, Nasreen R., Ravichandran N. & Ahmed F. “Indian Cosmeceutical Market: a Study of Consumer Preferences and Consumption Patterns”, *J ClinExpDermatol Res*, (2014).