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Skin Rejuvenation Profile in Dr. Soetomo General Hospital Surabaya

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ABSTRACT

Skin aging is a condition in which cell and tissue changes occur due to mechanism abnormalities and a decrease in function of a tissue which can be triggered by intrinsic or extrinsic factors. Intrinsic factor is an aging process which originates from the body of an individual itself while extrinsic factor is an aging process caused by factors from the outside, such as excessive exposure to the UV light, smoking, or poor nutrition. Skin rejuvenation therapy, hopefully, would be able to restore or even slow down the aging process itself. This research was a descriptive observational using retrospective approach based on patients' medical record in the Outpatient Clinic of Dermatology and Venereology Department in Dr. Soetomo General Hospital Surabaya in January to December 2017. This study obtained 203 samples (198 women/females and 5 men/males) with the most age group ranging from 45-<60 years old as many as 94 (46.31%) samples. The majority of the samples' occupation was civil servants as many as 62 (30.54%) patients. The majority of the samples was diagnoses with Glogau's Photoaging II as many as 79 (38.91%) patients. The majority of the history taking showed 183 (50.27%) with sunlight exposure and 136 (40.60%) of the samples showed hyperpigmentation during physical examination. Meanwhile, the majority of the samples, as many as 136 (16.98%) samples received SPF30 sunblock as the skin rejuvenation therapy.

Keywords: skin aging; skin rejuvenation; profile; retrospective; therapy

INTRODUCTION

Background

Skin rejuvenation therapy includes changing one's lifestyle, from the food one eats to exercising, hormone replacement therapy, antioxidant, and vitamin supplements, procedures which can measure not only the level of hormones and chemical matters in the blood but also all metabolic factors in the cells[(1)]. There are many kinds of skin rejuvenation therapies that are widely known by people such as photoprotection and systemic antioxydants, topical cream, chemical peeling, physical therapies such as laser and microdermabrasion, injection and dermal fillers, autologous platelet-rich plasma (PRP), botulinum toxin (BTX), and also hormone replacement therapy[(2)].

Looking at the large amount of interest in skin rejuvenation therapy in many people, by doing this research we are able to know the description of patients whom have done the skin rejuvenation therapy. This research can also be the bease data in Dr. Soetomo General Hospital Surabaya since a research about the profile of patients with skin rejuvenation therapy in January to December 2017 has not been done previously.

Purpose

The aim of this study is to determine the demographics and the clinical presentations of patients who underwent skin rejuvenation therapy in the Outpatient Clinic of Dermatology and Venereology Department in Dr. Soetomo General Hospital Surabaya in January to December 2017.

METHODS

This research was a descriptive observational research using retrospective approach based on secondary data which were the patients' medical records that had done the skin rejuvenation therapy in Outpatient Clinic of Dermatology and Venereology Department in Dr. Soetomo General Hospital Surabaya in January to December

2017. Data taken from the medical records include the basic data, clinical description, and the patients' medications. The sampling technique used was total sampling using the medical records which fulfill the inclusion and exclusion criteria. The reached population in this research was recent skin rejuvenation patients in Outpatient Clinic of Dermatology and Venereology Department in Dr. Soetomo General Hospital Surabaya in January to December 2017. Sample was chosen from those who fulfill the research criteria. During the 2017 period, 203 samples were found from the skin rejuvenation petients who fulfill the research criteria. Dependent variables were age, gender, occupation, diagnosis, anamnesis, and physical examination. Whereas the independent variable was the type of skin rejuvenation therapy.

During data processing, obtaining and recap-ing the necessary data were done based on the patients' medical record in Outpatient Clinic of Dermatology and Venereology Department in Dr. Soetomo General Hospital Surabaya in January to December 2017, particularly those who had the skin rejuvenation therapy.

RESULTS

Skin Rejuvenation Patients' Profile

Based on the result of this research, the amount of recent skin rejuvenation patients in Outpatient Clinic of Dermatology and Venereology Department in Dr. Soetomo General Hospital Surabaya in January to December 2017 is 234 patients. From those 234 patients, 203 patients fulfilled the research inclusion criteria. Based on the age distribution in recent skin rejuvenation patients in Outpatient Clinic of Dermatology and Venereology Department in Dr. Soetomo General Hospital Surabaya in January to December 2017, 94 patients (46.31%) are 45 - <60 years old and there is no patient (0%) aged 1 - <10 years old. Whereas from the distribution of gender, there are 198 (97.54%) female patients and 5 (2.46%) male patients. From the distribution of the patients' occupations, there are 62 patients (30.54%) who work as a civil servants and 4 patients (1.97%) work as entrepreneur. In the grouping of photoaging diagnosis based on Glagou criteria, most patients (38.91%) are found to be diagnosed with Photoaging Glogau II and 0 patient (0%) is diagnoses with Photoaging Glogau IV.

Table 1. Distribution of age group of skin rejuvenation patients

Age (year)	Frequency	Percentage
1 - <10	0	0
10 - <20	8	3.94
20 - <45	93	45.81
45 - <60	94	46.31
60 - <75	8	3.94
Total	203	100

Table 2. Distribution of gender of skin rejuvenation patients

Gender	Frequency	Percentage
Male	5	2.46
Female	198	97.54
Total	203	100

Table 3. Distribution of occupation of skin rejuvenation patients

Occupation	Frequency	Percentage
Civil servants	62	30.54
Private employee	32	15.76
Entrepreneur	4	1.97
Students	25	12.31
Housewife	49	24.14
etc	31	15.28
Total	203	100

Table 4. Distribution of diagnosis of skin rejuvenation patients

Diagnosis	Frequency	Percentage
Photoaging Glogau I	68	33.50
Photoaging Glogau II	79	38.91
Photoaging Glogau III	56	27.59
Photoaging Glogau IV	0	0
Total	203	100

Clinical Appearance of Skin Rejuvenation Patients

Several clinical descriptions are found in skin rejuvenation patients during history taking. From 203 patients, there are a total of 364 clinical descriptions data found during anamnesis. 183 data (50.27%) is found to have gotten sunlight exposure while the least data found is skin pustules (0.27%). The results of the clinical picture of skin rejuvenation patients are grouped into several types of therapy. 784 therapeutic data obtained in 203 patients. The most type of therapy is photoprotection in the form of 136 SPF sunblock totaling 136 data (17.35%). Whereas 2 data (0.26%) were obtained for each type of topical cream type AHA 10% and toner.

Table 5. Distribution of anamnesis of skin rejuvenation patients

Anamnesis	Frequency	Percentage
Sun exposure	183	50.27
Dull skin	115	31.59
Coffee consumption	16	4.40
Smoking	5	1.37
Nodules	1	0.27
Scar	7	1.92
Etc	37	10.16
Total	364	100

Note : 1 patient can have >1 history taking

Table 6. Distribution of physical examination of skin rejuvenation patients

Physical examination	Frequency	Percentage
Hyperpigmentation	136	40.60
Wrinkle	122	36.41
Freckle	4	1.19
Loss of elasticity	0	0
Keratosis	62	18.51
Scar acne	8	2.39
Teleangiectasis	1	0.30
Milia	2	0.60
Total	335	100

Note : 1 patient can have >1 physical appearance

Table 7. Distribution of skin rejuvenation therapy patients

Therapy	Frequency	Percentage
Photoprotection		
• Sunblock SPF 30	136	17.35
• Sunblock SPF 50	61	7.78
Topical Cream		
• Tretinoin 0.025%	114	14.54
• Tretinoin 0.05%	79	10.08
• Gluconolactone	9	1.15
• TDH	3	0.38
• Nutricream	15	1.91
• AHA 8%	113	14.41
• AHA 10%	2	0.26
Antioxydant		
• Vitamin C	23	2.93
Physical Therapy		
• Microneedling	61	7.78
• AMSC	44	5.61
etc		
• Cleansing	119	15.18
• Toner	2	0.26
• Face Powder	3	0.38
Total	784	100

Note : 1 patient can have >1 therapy

DISCUSSION

World Health Organization divide age group into several categories, such as 1 to less than 10 years are children, 10 to less than 20 years are teenagers, ages 20 to less than 45 years are young adults, ages 45 to less than 60 years are old adults, and 60 to less than 75 years are old age[3].

In this study, majority age distribution of new skin rejuvenation patients at Outpatient Clinic of Dermatology and Venereology Department Dr. Soetomo General Hospital Surabaya period January - December 2017 was 45 to less than 60 years as many as 94 (46.31%) patients, while the least age distribution was 0 (0%) patients. Werschler's research showed outpatient patients who sought minimally invasive cosmetic dermatology procedures had an average age of 47.8 years[4]. This is in accordance with demographic data on skin rejuvenation patients in the Outpatient Clinic of Dermatology and Venerology Department Dr. Soetomo General Hospital in the period of January - December 2017 which most patients were in 45 to less than 60 years of 94 (46.31%) patients.

In Neill's study, women did skin rejuvenation treatments every trimester starting at the age of 25 years[1]. Lynch explained that women have more significant anxiety than men in dealing with aging process. A 18-39 years subject, consisted of 516 men and 633 women experienced anxiety[5]

One of the problems of concern in society, especially women, is skin aging which is based on the fact that the skin is the outermost part of the human body and is most often exposed to external factors. Besides the skin is also the first visible body part of the individual so that the aging of the skin will reduce self-confidence and will affect the quality of life of an individual[6].

Gender affects the morphological processes on the skin, according to research from Makrantonaki, androgens and its decreasing level influence dermis and hair regulation. It was explained that male sex has a thicker dermis layer than women. While women have a thicker subcutaneous layer than men. In addition, sebaceous tissue in men tends to be significantly greater than women. So that in men, dermis layer contains more collagen and causes slower aging[7].

In the study of McConatha also mentioned that participants were asked to fill out a questionnaire regarding the comparison of fear and anxiety about aging. Significant results were obtained between men who tend to fear in aging. in contrast with women tend to pay attention to physical appearance[8].

In accordance with the distribution of gender in new patients skin rejuvenation Dr. Soetomo Surabaya in the period January - December 2017, 203 patients met inclusion criteria and 198 (97.54%) subject were female. The ratio of male to female patients is 0.025: 1.

Outdoor job affects the skin's aging process if the majority of activities are carried out and exposed to direct sunlight. Office workers more often work indoors compared to work as workshop workers and farmers, so workers who are of[6].

Work distribution of new patients' skin rejuvenation at Dr. Soetomo General Hospital Surabaya in the period January - December 2017 was dominated by 62 (30.54%) civil worker, followed by 49 (24.14%) housewives. Other occupations are classified as private categories by 32 (15.76%) patients, other categories such as midwives, teachers, nutritionists, pharmacists, etc. 31 (15.28%) patients, 25 students (12.31) %) patients, and entrepreneurs as many as 4 (1.97%) patients.

Majority of subject's occupation is indoor activities, but due to lack of protective factors, these patients experience several complaints of skin aging. These results do not reflect work performed indoors or outdoors, so no diagnostic support data can be made.

The most diagnoses was Photoaging Glogau II 79 (38.91%) patients, while there was no diagnosis of Photoaging Glogau IV in the samples taken. These results are consistent with those described in the study of Pratiwi et al. (2018) of the 12 subjects, 6 (50%) subjects with Glogau II scale and 6 (50%) subjects with Glogau III scale. The Glogau Scale is an analytical system to classify the severity of skin aging, especially wrinkles[9]. The majority of the subjects had sun exposure. Most of the subjects in this study had never been treated before and never used photoprotection in form of a sunscreen.

From the history results, 115 patients with dull skin complaints, 116 patients with a history of coffee consumption, 5 patients with smoking history, 1 patient with a history of facial nodules, 7 patients with acne scars / scars, and 37 patients with other complaints such as history use of KB. In the data written that 1 patient can have more than 1 complaint.

Pratiwi mentioned that intrinsic skin aging is accelerated with the most dominant extrinsic factor namely sun exposure. It was found that sun exposure over 5 hours a day can increase the risk of wrinkles up to 4.8 times compared to those exposed to only 1 to 2 hours a day[9]. Alcohol consumption and smoking are also risk factors for skin aging explained in the Damayanti study[10]. There were significant relationship between the number packs of cigarettes with the severity of wrinkles and changes in pigmentation of the skin from the results of histopathological examination mentioned the thickening and fragmentation of elastic fibers. This has histopathological results on skin aging due to UV radiation and even these changes occur in the reticular layer of the dermis. Smokers also find dry skin and atrophy due to decreased hydration of the stratum corneum and

accelerated estradiol hydroxylation so that estrogen levels in the skin decrease[10]. The signs of skin aging are explained by the study of Trojahn's include milia, freckles, hyperpigmentation, wrinkles, fine lines, and sagging facial tissue[11].

Physical examination showerd majority had hyperpigmentation (136 subjects) followed by 122 subject with wrinkles. There were no patients with a loose tissue examination. In the data it is written that 1 patient can have more than 1 physical examination.

In Sator's study, therapy for patients with complaints of skin aging consists of photoprotection namely sunscreen, topical creams such as hydrocortisone and tretinoin, chemical peels such as Alpha Hydorxyl Acid, botulinum toxin, physical therapy, dermal fillers, hormonal therapy, and autologous Platelet-Rich Plasma[12].

Pratiwi said that sun exposure is the most common extrinsic factor that causes photoaging. We need protection from UV rays. Sunblock can be used to prevent and minimize damage due to exposure to UV radiation. From the results of research data on skin rejuvenation patients Dr. Soetomo Surabaya period January - December 2017 most therapy given to patients is an SPF 30 sunblock to 136 patients. Whereas with the least therapy is a 10% AHA topical cream and toner for 2 patients[9].

CONCLUSION

This study obtained distribution of the patients undergoing skin rejuvenation in the Outpatient Clinic of Dermatology and Venereology Department Dr. Soetomo General Hospital Surabaya period January – December 2017 with the most age group ranging 45 - <60 years old, gender group was women, occupation group was civil servants, and diagnosis was Photoaging Glagou II. The clinical appearance based on the historu taking sunlight exposure and hyperpigmentation on physical examination, and the majority of the skin rejuvenation therapy was photoprotection sunblock SPF 30.

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