



Skin Care Routine among Female Medical Students at Qassim University, Qassim, Saudi Arabia

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Abstract

Background: A gap exists when measuring skin routine care among females, generally in Saudi Arabia. Accordingly, measuring skincare routine practicing among female medical students will provide the community with the needed information that will help in enhancing skincare results and increase awareness of its importance.

Method: A cross-sectional study held at Qassim University. The data was collected through a self-administrated questionnaire. The data was entered and analyzed using Statistical Package for Social Science (SPSS) version 22.

Results: The total sample size reached 218 female medical students, of whom 99.1% were Saudi (216). Moreover, 55.5% have a combination skin type, while 16.1% have oily skin. The brand comes on the top of the factors determining the students' choices of skincare products while friend's recommendation came in second place.

There is an insignificant relationship between age and factors determining the students' decision to buy a skincare product and between skin type and factors. Forty four percent have reactions to some skin products, and there is an insignificant relationship between age and reactions to skin products and between skin type and reactions.

There is an insignificant relationship between age and skincare routines and between skin type and skincare routines. Unfortunately, 46.8% never consulted a dermatologist before choosing skin products.

Conclusion: The majority of skincare routines do not depend on medical consultancy. This indicates the need to increase the awareness of students to consult dermatologists, in order to avoid the high rate of reactions to some products.

Keywords: Skin Care Routine, Female, Qassim University, Saudi Arabia

Introduction

The largest organ in the body is skin, which consists of epidermis, dermis, and appendages like nails, hairs, and glands. Concerning static interaction with the surrounding environment, skin plays a vital role against pathogen, in which it provides protection and defense^[1]. Moreover, the healthy and active functioning skin barrier is a protector against dehydration, allergens, and irritants, penetration of various microorganisms, reactive oxygen species, and radiation.

In addition to the physical barrier, it is also an active immune organ^[2]. Hence, skincare is an essential factor in maintaining healthy functioning skin as it is the first defence line for the whole body^[3]. The skin appearance reflects our origin, age, lifestyle, and state of health how our skin looks crucial for the personal appearance, social acceptance, communication, and general well-being^[4].

The US National Library of Medicine defines skincare as the maintenance of the hygienic state of the skin under optimal

conditions of cleanliness and comfort. Having an effective skincare includes proper washing, bathing, cleansing, and the use of soaps, detergents, oils. The care of the skin is particularly important in various jobs, in exposure to sunlight, in neonates, etc^[4].

Skin is vulnerable to natural changes, including skin aging as part of a natural human. Skin aging is a complex biological process induced by a combination of endogenous or intrinsic factors such as genetics, cellular metabolism, hormone, and metabolic processes and exogenous or extrinsic factors like chronic light exposure, pollution, ionizing radiation, chemicals, toxins^[3].

Helena Rubinstein categorized skins in 1915 into four fundamental categories, including dry, oily, combination, and sensitive skins^[5]. Accordingly, each skin type needs to choose the right ingredient. It is significantly essential to increase knowledge and awareness of the benefits and optimal use of skin products^[6].

Saudi Arabia is a sunny country, with a hot and dry climate, and a large quantity of sunlight received throughout the year. Undoubtedly, sunlight has benefits for life-supporting and health promotion for all living organisms on the earth to provide light,

warmth, and energy; on the other hand, a real health risk has been documented in case of prolonged exposure to sunlight. Sunlight contains ultraviolet radiation (UVR) that is widely considered to be the most significant causal factor in Basal Cell Carcinoma (BCC), Squamous Cell Carcinoma (SCC) and Malignant Melanoma (MM) of the skin. The keystones of skin cancer control include effective primary prevention and early detection, as well as behavioural attitude such as regular sun protection, and during peak ultraviolet light hours' sun avoidance^[5].

A gap exists when measuring skin routine care among females, generally in Saudi Arabia. Accordingly, measuring skincare routine practicing among female medical students will provide the community with the needed information regarding their behaviour, the extent of their knowledge regarding healthy skin and skin problems they may face. This will help in enhancing skincare results and increase awareness of its importance.

This study is trying to answer the question, do female medical students at Qassim University have skincare routinely. The study aims to answer this question in order to assess the attitudes and behaviours of female medical students regarding facial skincare routine, determine the factors influencing buying decisions to choose facial skincare products, and finally, to identify the commonly used skin products.

Materials and Methods

The study is conducted under the hypothesis that female medical students practice skincare routine. The study is a cross-sectional study that was carried out in the Qassim University, which includes:

1. Unaizah College of Medicine
2. Melada College of Medicine

The targeted population of this study is all female medical students at Qassim University aged 19 and over.

The number of students necessary to answer the survey was calculated to be at least 210 using a sample size technique whereas confidence interval 95%, margin of error 5%. The sample size was calculated based on the number of female medical students at Qassim University (458 students in 2018).

The data was collected using a validated self-administrated questionnaire. The questionnaire consists of 13 questions divided into two parts, the first part covers the personal information (age, medical year, nationality, skin type), while the second part is about skincare routine.

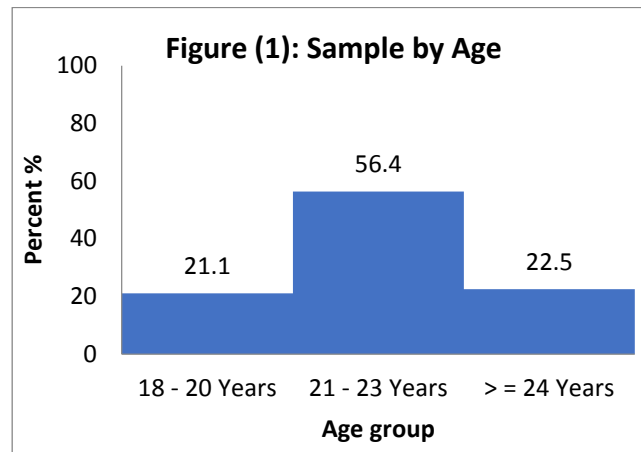
A descriptive analysis of continuous data is performed. The data is entered and analyzed using Statistical Package for Social Science (SPSS) version 22.

Results

The total sample size reached 218 female medical students, of whom 99.1% were Saudi (216), while only 0.9% (2) were non-Saudi. Besides, 21.1% of them were between 18-20 years old, while the majority (56.4%) were between 21-23 years old, and 22.5% were over 24 years old.

Table 1: Sample by Nationality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Saudi	216	99.1	99.1	99.1
	Non-Saudi	2	.9	.9	100.0
	Total	218	100.0	100.0	



Concerning the skin type of the sampled students, the responses showed that the majority representing 55.5% have combination skin type, while 16.1% have oily skin, 9.6% have dry skin, and 9.2% have healthy skin. Also, 9.6% do not know their skin type.

Table 2: Sample by Skin Type

Skin type	Frequency	Percent
Oily skin	35	16.1
Dry skin	21	9.6
Combination	121	55.5
Normal Skin	20	9.2
I do not know	21	9.6
Total	218	100

The sampled female students were asked about the skin products that they use at least once a week, and they were allowed to choose more than one product. Accordingly, the summation of the responses exceeds 100%. The results show that antiperspirants are mostly used by students between 18-20 years old, with 50% of them using this product. Moreover, students with oily skin (48.6%) mainly use the same product.

On the other hand, sunscreen is mostly used by students between 21-23 years old with a percentage of (42.3%) and students with combination skin with 44.6%. In the case of body powder, it is commonly used among female students whose ages are between 18-20 (28.3%) compared to other age categories, while it is mostly used between students with oily skin.

In general, body lotions and moisturizers are the most used skin products; however, it is more prevailed among students who are 21-23 years old (88.6%) and students with healthy skin (90%). Concerning gels, 20.3% of the students who are 21-32 years old are using it at least once a week, and 28.6% of the oily skinned students use it once a week at least.

Table 3: Relationship between products used at least once per week and Age& skin Type

		products use at least once /week						
		Antiperspirant	Sunscreen	Body powder	Body lotions or moisturizer	Gels	None of the above	Other
Age	18 - 20	50.00%	30.40%	28.30%	80.40%	19.60%	10.90%	13.00%

	21 - 23	40.70%	42.30%	16.30%	88.60%	20.30%	4.10%	7.30%
	> = 24	46.90%	34.70%	10.20%	77.60%	10.20%	8.20%	2.00%
Skin Type	Oily	48.60%	42.90%	28.60%	77.10%	28.60%	8.60%	2.90%
	Dry	28.60%	33.30%	23.80%	76.20%	19.00%	9.50%	0.00%
	Combination	47.90%	44.60%	15.70%	87.60%	15.70%	5.00%	9.90%
	Normal	35.00%	10.00%	10.00%	90.00%	20.00%	5.00%	5.00%
	Do not know	38.10%	23.80%	9.50%	81.00%	9.50%	9.50%	9.50%

Concerning the factors determining the students' choices of skincare products, the brand comes on the top of the factors with 31.7%. Friend's recommendation came in second place with 23.4% selected it as the determining factor, while 22.9% selected convenience, 9.6% choose price, 7.3% selected availability, and 5% said quality.



Price as a determining factor of buying a skincare product has the highest percentage (11.4%) among students who are 21-23 years old and the lowest among those who are 18-20 (4.3%). Also, it has the highest percentage (22.9%) among students with oily skin and the lowest among those who have dry skin (4.8%).

Brand as a determining factor of buying a skincare product has the highest percentage (34.7%) among students who are over

24 years old and the lowest among those who are 18-20 (21.7%). Besides, it has the highest percentage (42.9%) among students with dry skin and the lowest among those who do not know their skin type (19%).

Availability as a determining factor of buying a skincare product has the highest percentage (10.9%) among students who are 18-20 years old and the lowest among those who are over 24 years (4.1%). Also, it has the highest percentage (19%) among students with dry skin and the lowest among those who have oily skin (5.7%).

Friends Recommendations as a determining factor of buying a skincare product has the highest percentage (30.4%) among students who are 18-20 years old and the lowest among those who are 21-23 (20.3%). Also, it has the highest percentage (33.3%) among students who do not know their skin type and the lowest among those who have dry skin (19%).

Convenience as a determining factor of buying a skincare product has the highest percentage (23.9%) among students who are 18-20 years old and the lowest among those who are over 24 years (20.4%). Also, it has the highest percentage (26.4%) among students with combination skin and the lowest among those who have dry skin (14.3%).

Quality as a determining factor of buying a skincare product has the highest percentage (8.7%) among students who are 18-20 years old and the lowest among those who are 21-23 (3.3%). Also, it has the highest percentage (7.4%) among students with combination skin and the lowest among those who have dry and who do not know their skin type (0%) each.

There is an insignificant relationship between Age and factors determining the students' decision to buy a skincare product (P-value 0.105). Also, there is an insignificant relationship between Skin Type and factors determining the students' decision to buy a skincare product (P-value 0.549).

Table 4: Relationship between Factors and Age& Skin Type

		When choosing skin products which the factors matter to you?							
		Price	Brand	Availability	Friend's recommendation	Convenience	Packaging	Quality	Other
Age	18 - 20	4.30%	21.70%	10.90%	30.40%	23.90%	0%	8.70%	0%
	21 - 23	11.40%	34.10%	7.30%	20.30%	23.60%	0%	3.30%	0%
	> = 24	10.20%	34.70%	4.10%	24.50%	20.40%	0%	6.10%	0%
P-value		0.105							
Skin Type	Oily	22.90%	25.70%	5.70%	22.90%	20.00%	0%	2.90%	0%
	Dry	4.80%	42.90%	19.00%	19.00%	14.30%	0%	0.00%	0%
	Combination	5.00%	33.90%	4.10%	23.10%	26.40%	0%	7.40%	0%
	Normal	10.00%	30.00%	15.00%	20.00%	20.00%	0%	5.00%	0%
	Do not know	19.00%	19.00%	9.50%	33.30%	19.00%	0%	0.00%	0%
P-value		0.549							

The results show that 44% of the sample have reactions to some skin products, and these reactions are more prevalent among female students who are over 24 years old (55.1%) compared to

other categories. Moreover, they are more prevalent in the case of students with combination skin type with 50.4%. Also, it appears that there is an insignificant relationship between age and reactions

to skin products (p-value 0.071) and between skin type and reactions (p-value 0.092).

On the other hand, 60.1% have a current skincare routine. The skincare routines are more prevalent among female students who are 21-23 years old (61.8%) compared to other categories. Moreover, they are more prevalent in the case of students with combination skin type with 65.3%. Also, it appears that there is an insignificant relationship between age and skincare routines (p-value 0.834) and between skin type and skincare routines (p-value 0.42).

45.4% reported they use sunblock before exposure to sun; this habit is more prevalent among female students who are over 24

years old (46.9%) compared to other categories. Moreover, it is more prevalent in the case of students with combination skin type with 51.2%. Also, it appears that there is an insignificant relationship between using sunblock and age (p-value 0.818) or skin type (p-value 0.261).

Only 15.1% had a previous sunburn. The sunburns are more prevalent among female students who are 21-23 years old (15.4%) compared to other categories. Moreover, they are more prevalent in the case of students with oily skin type with 17.1%. Also, it appears that there is an insignificant relationship between sunburns and age (p-value 0.982) or skin type (p-value 0.858).

Table 5: relationship between Reactions to skin products, having a skincare routine, using sunblock and sunburns and Age & Skin Type

		Reactions to some skin products	Currently have a skincare routine	Use sunblock before exposure to sun	Had a sunburn before
Age	18 – 20	50.00%	58.70%	41.30%	15.20%
	21 – 23	37.40%	61.80%	46.30%	15.40%
	> = 24	55.10%	57.10%	46.90%	14.30%
P-value		0.071	0.834	0.818	0.982
Skin Type	Oily	45.70%	48.60%	45.70%	17.10%
	Dry	33.30%	57.10%	33.30%	9.50%
	Combination	50.40%	65.30%	51.20%	16.50%
	Normal	20.00%	60.00%	30.00%	15.00%
	Do not know	38.10%	52.40%	38.10%	9.50%
P-value		0.092	0.42	0.261	0.858
Total		44%	60.1%	45.4%	15.1%

When the sampled students were asked about the times of wearing makeup, 1.8% reports they wear it daily, while 11.9% reported 3-4 times per week, 24.8% reported once per week, and 61.9% reported rarely. There is an insignificant relationship between the frequency of wearing makeup and age or skin type (p-value 0.516) (p-value 0.637), respectively.

It appears that 30.3% use skin-lightening products. Moreover, there is a significant relationship between age and using skin-lightening

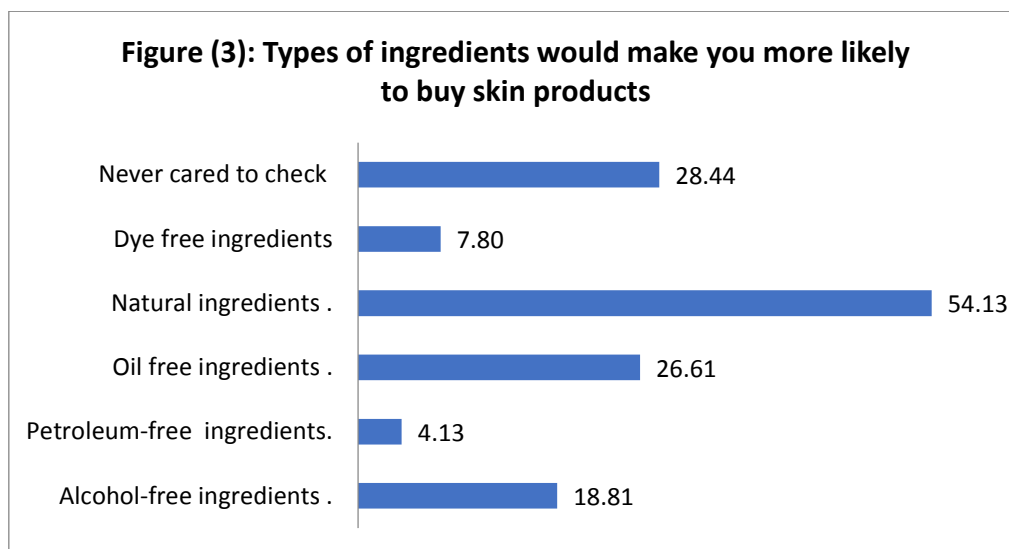
products (p-value 0.001) and insignificant relationship with skin type (p-value 0.38).

Only 11.5% of the sampled female medical students always consult a dermatologist before choosing skin products, while unfortunately, 46.8% of the sample never consulted a dermatologist before choosing skin products. The results show that there is no significant relationship between consulting a dermatologist before choosing skin products and age or skin type.

		Times of wear makeup				Use skin lightening products	Ever consulted a dermatologist before choosing skin products	
		Daily	3 - 4 times / week	Once per week	Rarely		Yes, always	Only a few times
Age	18 - 20	2.2%	17.4%	30.40%	50%	17.4%	8.7%	39.1%
	21 - 23	2.4%	11.4%	23.60%	62.6%	26.8%	13.8%	42.3%
	> = 24	0%	8.2%	22.40%	69.4%	51%	8.2%	42.9%
P-value		0.516				0.001	0.732	
Skin Type	Oily	0%	11.4%	28.60%	60%	25.7%	14.3%	42.9%
	Dry	4.8%	9.5%	28.60%	57.1%	33.3%	9.5%	61.9%
	Combination	1%	14.9%	24.80%	59.5%	34.7%	13.2%	43%
	Normal	5%	10%	15.00%	70%	15%	5%	25%
	Do not know	4.8%	0%	23.80%	71.4%	23.8%	4.8%	28.6%
Total		1.8%	11.9%	24.8%	61.9%	30.3%	11.5%	41.7%
P-value		0.637				0.381	0.134	

When the sampled individuals were asked about the types of ingredients that would make them more likely to buy skin products, 54.1% reported natural ingredients, while 28.4% reported they

never cared to check the ingredients, 26.6% reported oil-free ingredients and 18.8% reported Alcohol-free ingredients.



Discussion

In this study, the total sample size reached 218 female medical students. Concerning the factors determining the students' choices of skincare products, the brand comes on the top of the factors with 31.7%. Friend's recommendation came in second place with 23.4% selected it as the determining factor, while 22.9% selected convenience. Consistently with our study, a study conducted in Jeddah in 2016 showed that factors that were distinguished as being critical evaluative criteria in buying products were greatly affected mainly by brand of product (68.7%) followed by their friend's recommendations (51.3%).^[6] Our study further showed that there is an insignificant relationship between factors determining the students' decision to buy a skincare product and age (P-value 0.105) and skin type (P-value 0.549). Another study that was conducted over 14 Asian cities in 2011 showed that in Hong Kong and Taipei females are looking for both low price and high quality and functionality, while in Seoul, in addition to good essential quality and brand reputation; environmental friendliness ranks near the top. However, in the other three Chinese cities, reasonable price and brand image are important^[7].

In our study, 44% have reactions to some skin products, which is relatively higher than the percentage in the previously mentioned study in Jeddah, as the percentage reached 38.7%^[6].

60.1% have a current skincare routine; this is relatively very high compared to other studies where the percentage reached 76.7%^[6],

In Malaysia, a study was conducted in 2015 of Preliminary Study on the Skin Lightening Practice and Health Symptoms among Female Students; the results showed that almost half of the female students are currently using skin lightening products^[8], which relatively high when compared to the results of our study (30.3%).

Unfortunately, 46.8% of the sample never consulted a dermatologist before choosing skin products, which is relatively higher than the percentages in other studies^[6].

Conclusions

It appears that the majority have a skincare routine; however, these routines do not depend mainly on medical consultancy. This indicates the need to increase the awareness of students to consult dermatologists before choosing skin products, in order to avoid the high rate of reactions to some skin products.

Ethics approval and consent to participate

The manuscript was approved by Qassim regional research ethics committee with the number, 1440-1842094.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

Funding Statement

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Authors' contributions

Asmaa Alshmmari, Ola Alotaibi and Meead ALkhyari worked on manuscript and questionnaire design. Amjad Himaid and Atheer Altobieb worked on data collection. Bayan Alsoraya and Maha alkhodair performed statistical analysis. Moteb Alotaibi did the final writing of the manuscript.

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