Republic of Yemen
Ministry of Higher Education and Scientific Research
21 SEPTEMBER UNIVERSITY
FACULTY OF MEDICINE

الجمهورية اليمنية
وزارة التعليم العالي والبحث العلمي
جامعة ٢١ سبتمبر للعلوم الطبية والتطبيقية

Prevalence of Dandruff among 21 September University Students &Assessment the Self-Esteem among Students Suffering from Dandruff.

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2022-2023

Acknowledgement

We dedicate our first and greatest appreciation to Allah for everything he provided us. Countless grace and an endless support that we can never appreciate him and thank him enough. Then we thank all very kind people who helped us and supported us during our research process.

To him, our Dr. Ali Farhan who gave us more than we expected. Who raised our research from the point where it was a planted seed to become the tree that can we see. We thank him for his great support, teaching and great patience.

To all the students who participated in our research process we thank them and appreciate their time, effort and cooperation throughout the process.

To everyone who helped us with their prayers and encouragements.

نسّقه:الخط: (افتراضي) Script noyniP، ٢٨ نقطة، غامق، دون مائل، بلا تسطير، لون الخط: لون مخصص(RGB(26;26;26))، خط اللغة العربية وغيرها: noyniP Script، ٢٨ نقطة

List of Contents

مسّق:بعد: 36.0 سم

مسّق:بعد: 36.0 سم

List of Tables

مسّق:بعد: 36.0 سم

List of Figures

مسّق:بعد: 36.0 سم

Abstract

Introduction:

Dandruff is a common scalp condition that affects people around the world, especially in the post-puberty years., but it can also affect all ages, genders, and ethnic groups. It's characterized by flaking and itching of the scalp and can be caused by a variety of factors including dry skin, certain sensitive hair products, mild irritation from frequent combing, or fungal infections. The occurrence of dandruff in medical students isn't well understood, but it's likely higher than the general population, perhaps due to stress and the long work hours associated with medical school. Dandruff may lead to other problems. Itching due to dandruff can cause embarrassment in social situations.

Methodology:

A cross sectional descriptive study was conducted in the 21 September university in November 2022. The study population consisted of all medical students enrolled in the following faculties: medicine, clinical pharmacy, laboratories, nursing, medical administration and health center, with a convenient sample of a total of 374 respondents. The study tool was a self-administered questionnaire which was prepared in Arabic Language. Data coded and analyzed using (SPSS) version 24. Then summarized and presented as tables and figures.

Results*:*

The prevalence of dandruff among respondents at 21 September University was 81%, while 19% weren't sufferers. The prevalence among females 88.5% which was higher than among males 76.5%. Affected medical students show that 73.3% were embarrassed by the condition, out of which 19.5% were markedly embarrassed and 53.8% were slightly embarrassed. Also, it was found that there is no relationship between residence and dandruff. There was no statistically significant association between dandruff, using shampoos and/or soaps and frequency of showering, and a poor association with seasonal variation.

Conclusion*:*

It can be concluded that the majority, more than two-thirds of the medical students are affected by dandruff, which is slightly higher among females, Dandruff doesn't cause psychological problems other than embarrassment, which doesn't lead to negative self-esteem among affected students. About two-thirds of students with dandruff experience embarrassment due to itching and flaking. There is no marked association between dandruff and residence, seasons, or using shampoos. The frequency of showers is indirectly proportional to the severity of dandruff.

Chapter 1 : Introduction

مسّق:بعد: 36.0 سم

CHAPTER 1: INTRODUCTION

1.1 Overview

Dandruff is the exfoliation of dead skin cells from the scalp.[1] The word shed (dandruff, dandriffe) is of Anglo-Saxon origin, a combination of ". tan", meaning "tetter" and "drof" meaning dirty.[2]

Dandruff is the mildest and most common form of seborrheic dermatitis of the scalp, also known as pityriasis sicca, in which the scalp appears as fine, white, diffuse scaling without underlying erythema. Dandruff may be asymptomatic or accompanied by slight itching.[3] Besides the discomfort, this disorder is also socially embarrassing and affects the self esteem of the patient.[4]

Seborrheic dermatitis is a chronic, relapsing, and usually slight form of dermatitis that occurs in infants and adults. The severity might also additionally range from minimal, asymptomatic scaliness of the scalp (dandruff) to greater vast involvement. Affected humans are generally healthy, regardless of the truth that seborrheic dermatitis has been associated with human immunodeficiency Virus (HIV) infection, Parkinson disorder and different neurologic disorders, and use of neuroleptic medications.[3]

Inflammation and extension of scaling outdoor the scalp exclude the diagnosis of dandruff from seborrheic dermatitis.[5] However, many reports propose a clear link between the two clinical entities, the mildest form of the clinical presentation of seborrheic dermatitis as dandruff in which the inflammation is minimal and remains subclinical. Seborrheic dermatitis affects seasonal changes, stress, and immuno-suppression.[6]

1.2 Epidemiology

Dandruff is a frequent scalp problem that affect about more than 50% of the population at the post-puberty of any sex and ethnicity. [2,7] Dandruff usually starts in early maturity and keeps into middle age. That doesn't mean older people don't get dandruff. For some, this problem can be lifelong. It affects men slightly more than women. [4,8] A study conducted in the United States showed that about 50 million human are beings affected by dandruff and nearly three hundred million dollars are spent on numerous anti-dandruff medications each year.[4] As is often the case, the severity of dandruff can vary depending on the seasons and get worse in winter.[9]

1.3 Etiology

- **Non Microbial reasons of dandruff:**

The non-microbial causes of dandruff are several including overexposure to the sun can lead to flaky scalp, dry skin ,mild irritation due to using shampoo too much, irritation due to frequent combing, use of certain cosmetics, allergy to hair products, non cleaning/scrubbing enough ,and others skin conditions as seborrheic dermatitis, psoriasis, eczema. The dry skin is the leading cause of flaking dandruff. [2,10]

- **Microbial reasons of dandruff :**

Malassezia species play a function in pathogenesis of this case alongside with stress, fatigue, climate extremes, oily nature of skin, use of Shampoos, immunosuppressed status (AIDS), and neurological disorders. Malassezia Restricta and Malassezia Globosa are usually considered to be the causative agents of dandruff. The species implicated vary relying on geographical place of the host. M. furfur, M. sympodialis, M. obtusa, and M. slooffiae are the other species that also caused this condition.[11]

In 1846, the role of lipophilic yeast Malassezia was widely believed to play a role in dandruff.[12] Eichstedt was the first to discover the presence of the fungus in pityriasis versicolor.[13] The scalp forms as a biome of various organisms such as Staphylococcus, Propionibacterium and Malassezia sp.[13,14] The density of these organisms varies from ten thousands to one hundred thousands organisms per square millimeter. During fouling, Malassezia levels increased 1.5 to 2 times normal levels. It has been argued that quantitative microbiological assessment of all species does not indicate a role for yeast; frequency, which may be proportional to the volume of scales it colonizes, or explain altered desquamation. Interestingly, a particular dating among Malassezia seems to be a way for treating dandruff. [14]

- **Oily skin and dandruff**:

Human scalp is very sensitive to androgen and has high sebum content. [12,15] Sebum forms an ideal nutrient in the biocenose and sebum, the formation of which begins at the onset of puberty. However, the rate of sebum excretion was found to be the same in dandruff-infected and uninfected subjects. Many subjects with oily scalps also did not have dandruff.[9] This clearly shows that lipids can help to some extent, but not the main reason. Many authors believe that host susceptibility factors play a major role in the development of dandruff. Skin surface lipids are known to affect the transient forms of M. orbitale and M. furfur. Dandruff is known

مسّق:بعد: 36.0 سم

to affect adolescents and middle-aged adults more than older adults.[12] In vitro results showed that cholesterol and cholesteryl esters induce hyphal formation in Malassezia. However, there did not appear to be much difference in the quantitative or qualitative differences in skin lipids between pityriasis-infected and non-infected individuals.

1.4 Pathophysiology

Epidermal layer replaces itself continually, cells are pushed up where they finally die and flake off. These flakes of skin are very small to be seen. Sometime, there are many conditions make the cell turnover to be rapid, mainly in the scalp. It is believed that in the people with dandruff, skin cells could grow and mature and shed in two weeks, compared to people without dandruff around a month.[16]

In the physiological range of desquamation, around 487,000 cells/cm² are typically released after detergent treatment, while in dandruff and seborrheic dermatitis this number rises to 800,000 cells/cm².[17] However, dandruff itself is not flammable.

1.5 Clinical picture

The signs and symptoms of dandruff are mainly itching and scaling in the scalp area. Other symptoms of dandruff include greasy red patches on the skin and a tingling sensation on the skin.[3]

Light, white to yellow and dispersed flaking on the scalp and hair without erythema, absent to mild itching. Can spread to hairline, retro-auricular area and eyebrows.[1,7]

Dandruff shouldn't be defined solely on the basis of the clinical features, pathophysiology and/or its etiology. The definition must also address its impact on society. Aflaky scalp can look unhygienic and untidy. This can leave the sufferer feeling embarrassed. Dandruff affects the self-esteem and self-confidence.[18] Itching due to dandruff also causes a lot of discomfort in public places. Dandruff can lead to social and psychological problems higher than medical problems. The personal care industry conveniently offers their line of products targeted the psychological aspects of scales advertising and through various anti-dandruff products. Dandruff is often referred to as increased flaking of the scalp, which accounts for more active end of physiological exfoliation.[19]

مسبّق:بعد: 36.0 سم

1.6 Management

Dandruff is diagnosed easily by persons self-reported or by history and clinical examination. Dandruff times can be without troubles treated with specialized shampoos However, there is no true cure.[7]

Self-Care Guidance.[3]

Most cases of dandruff can be easily managed at home with over-the-counter measures. These include:

- using Shampoo frequently (daily) and prolong the lather.
- Stop using hair products.

Consider an over-the-counter anti-dandruff shampoo when your regular daily shampoo isn't doing enough. There are several types of shampoos (ketoconazole, selenium sulfide, zinc pyrithione 2%, salicylic acid, or tar), and one may work better than the other. Sometimes you work for a while and then it becomes less helpful; then it might help to switch to a different generation.

To remove thick deposits, apply warm mineral oil or olive oil and wash after a few hours with dish soap or tar shampoo. If it is unresponsive to self-help measures, seek medical help from dermatologist.

Corticosteroid cream or solution, ketoconazole cream or solution, topical sulfacetamide products are the drugs that can be used by medical prescriptions.

مسّق:بعد: 36.0 سم

Chapter 2 : Literature Review

مسّق:بعد: 36.0 سم

CHAPTER 2: LITERATURE REVIEW

2.1 Literature Review:

The survey was conducted in 2011 by the Counsol d'Analyse d'Enquête (CSA) Santé on a sample of 1,703 representative people of the French population aged ≥ 15 years recruited by the survey institute. Of the 1703 subjects, 16.6% reported excessive scaling of the scalp (20.7% males, and 12.8% females).The prevalence of dandruff decreases with age:(21.6% 15-24) years,(19.7% 25-34) years,(17.4% 35-49)years, 14.3% in the age group (50-64) and 11 years.7% of people over 65 years of age. Itching, tingling, tenderness, and pain were significantly more common in people reporting dandruff. Pruritus was reported that more than half of those with dandruff and in a third of those with tingling, and was described as mild with 60.4% of those with dandruff, moderate with 28.3% and severe with 11.3% with no significant differences between these patients and itchy patients without dandruff. Patients with scales had significantly more symptoms than patients without scales: 49.3% (vs.18.4%) reported one or two symptoms and 8.9% (vs. 3.2%) reported more than three symptoms.[20]

In a study conducted in 2019 at Rajarata University, Sri Lanka (RUSL) it examined the extent, etiology and related factors of dandruff in a group of medical students and the effect of anti-dandruff preparations in vitro. The population size was 190 participants from third-year medical students , and the results of dandruff prevalence were 64.2% in study group. Spots in 44 of 61 students (72.1%),and Malassezia sp. were isolated in only 49 out of 61 students (80.3%).[22]

In 2021, a study was conducted on 74 preclinical medical students at Atma Jaya Catholic University in Indonesia, and the results showed the following data: Out of the respondents, 85.1% had dandruff.The Respondents who washed less than five times a week, combed their hair more than seven times a week, used no hair care and styling products, were associated with a higher incidence of dandruff. Anti-dandruff shampoo and the number of towels changed were not significantly associated with dandruff. There was a significant association between hair care and dandruff in medical students. Dandruff is an underestimated hair and scalp problem that causes significant social concentration problems among medical students.[21]

مسّق:بعد: 36.0 سم

In a study conducted in United Arab Emirates in 2016 which examined the Prevalence and factors associated with self-reported dandruff among adults in Gulf Medical University, Ajman. The study included 717 sample size with (37.9% males and 62.1% females). And the results was as the following: out of the 717 participants in the study, 328 participant with(46%) had dandruff. The prevalence of self-reported dandruff was higher among participants aged 20 years or above . The prevalence was more among males than females. The proportion of self-reported dandruff cases was the highest among participants from Southeast Asia . About 55.7% who used shampoo less than four days/week reported to have dandruff . Nearly 56.8% who used mineral water to wash their hair had dandruff . Around 56.1% who combed their hair more than seven times/week reported to have dandruff . Results showed a significant link between the type of hair styling products used and dandruff. 68.2% of the participants who used hair oil also reported to suffer from dandruff . The occurrence of dandruff was higher among participants who were more frequently exposed to sun light . About 48.5% who who worked or studied outdoor had dandruff compared to the 45.5% of those who worked or studied indoor . A higher number of participants who reported to have dandruff lived in their home land. The proportion of dandruff cases was lower among participants who reported to cover their head when outside .[23]

A study conducted in 2020 at the University of Tikrit, Iraq, examined the epidemiology of dandruff and the effectiveness of treatment among medical students in Tikrit. The study included a total of 72 cases of medical students with dandruff and results showed that: Dandruff cases occurred in people aged 20 to 23 years, about 34.72%. Common cases of dandruff were women. More cases of dandruff had a family history. Most of them lived in the rural. An increase in cases was recorded during the winter season. Oily skin was dominant in cases. No association was found between the number of showers and the development of dandruff. Reaction to soaps and shampoos other than ketoconazole in most cases.[24]

In Yemen there were no previous study about this study topics, therefore we are studding this condition.

مسبّق:بعد: 36.0 سم

2.2 Objectives of the study:

2.2.1 General Objective:

2.2.1 The aim of the study is to assess the epidemiology of dandruff among medical students.

2.2.2 Specific Objectives:

2.2.1 Identify the prevalence of dandruff among 21st of September university students.

2.2.2 Identify the demographic factors (gender and residence) of the medical students who have dandruff.

2.2.3 Identify the relationship between dandruff and the frequency of showering, seasonal variation, and the use of shampoos and soap.

2.2.4 To assess the psychological impact and the negative self-esteem in students that affected by dandruff.

2.2.5 To provide a database for further studies in wide range.

مسّق:بعد: 36.0 سم

Chapter 3: Methodology

مسّق:بعد: 36.0 سم

CHAPTER 3: METHODOLOGY

3.1 Study design and setting:

A cross-sectional descriptive study was conducted in the 21st of September University for Medical and Applied Sciences on November 2022.

3.2 Study population:

All medical students in 21st of September University at the following faculties: Human medicine, Clinical pharmacy, Laboratory medicine, Nursing, Medical Administration, Health center, which has approximately 6000 medical students.

3.3 Sample size and sampling strategy:

The sample size will be estimated by Steven K. Thompson's equation formula :

n= N x p (1-p) / [[N-1x (d2÷z2)] p (1-p)]

by the following variables:

-n: sample size

-N: population size

-Z: Confidence level (95%)

-D: margin of error (5%)

-P: probability (50%)

Accordingly, the sample size was 361 as a minimum and (13) was added as a potential non-response; the study sample consisted of 374 respondents.

A convenient sample was considered in this study to include any cooperative medical students in the 21 September university.

3.4 Inclusion and exclusion criteria:

Inclusion criteria: students who are studying at the 21st of September University and agree to participate in the study of both genders, (male and female) students.

Exclusion criteria: any students who are not studying or enrolled in the 21st of September University or the students who had finished their studies in the university (graduates) and the Students who didn't complete their questionnaire.

مسّق:بعد: 36.0 سم

3.5 Study tools and data collection:

A self-administered questionnaire was prepared in Arabic Language. It was converted into a digital version using Google templates, and the questionnaire contains four sections. A copy of the questionnaire was supplemented in the appendix.

3.6 Validity and reliability of the study tool:

The questionnaire was reviewed by our supervisor, then by one dietician.

3.7 Pilot Study:

A pilot study was conducted on 5th-year medical students; it included 10 students.

3.8 Data processing and statistical analysis:

Data were collected, tabulated, and analyzed using SPSS version 24 software and Microsoft Excel. They were then compiled and presented in the form of tables, drawings, and charts that included frequencies, means, standard deviations, and percentages. A chi square test was applied to find associations between qualitative variables, and a t-test or ANOVA was used to find differences between quantitative variables. A significant level was taken at p value less than 0.05.

3.9 Ethical Considerations:

Approval was obtained from the ethical committee of the Faculty of Medicine. The purpose and benefits of the study were explained to participants; all data obtained was used merely for the purpose of the research and was treated confidentially; no indicative information was disseminated; and to preserve participant's anonymity, the questionnaire did not include names or signatures.

Chapter 4: Results

مسّق:بعد: 36.0 سم

4. Results:

As mentioned previously, the study involved the delivery of questionnaires to the 21st of September university students and was filled out by 374 medical students at the university. The data was analyzed using the SPSS program, and the results were written here and distributed according to gender, residence, frequency of showering, use of shampoo and soaps, psychological impact and negative self-esteem.

4.1 Results in details according to the variables.

Table (1):Demographic characters for respondents.

Variables		Number of respondents	Percentage %	Total
Sex	Males	234	62.6	374
	Females	140	37.4	
Age	18-24	289	77.3	374
	25-29	82	21.9	
	30-36	3	0.8	
Faculty	Human Medicine	248	66.3	374
	Clinical Pharmacy	42	11.2	
	Laboratory Medicine	24	6.4	
	Nursing	11	2.9	
	Medical administration	12	3.2	
	Medical centers	37	9.9	
Education level	1st level	10	2.7	374
	2nd level	91	24.3	
	3rd level	51	13.6	
	4th level	106	28.3	
	5th level	116	31	
Residence before university.	Rural	130	34.8	374
	Urban	244	65.2	

مسّق:بعد: 36.0 سم

The table (1) shows that most of the respondents were males, and they numbered 234 students, representing 62.6% of the entire sample, while the number of females participating in the study amounted to 140 students, representing 37.4% of the whole sample, which is supposed to be due to the fact that male students make up the majority of students at 21st of September university.

The table also reveals that the majority of the study ranges from 18 to 24 years, consisting of 289 students and forming 77.3% of the total sample because this age group is the most expected age at the university level. The last age group that ranges from 30 to 36 years, which included 3 samples, represents 0.8% of the entire sample as this age group is expected to have graduated from the university.

In the educational level variable, most of the precipitants were from the fifth year; their number was 116 representing 31% out of the whole sample because we are at this level and they are our study colleagues, while a small number represented 2.7% from the first year and the others were from other different levels.

In the college variable, 66.3% belong to the faculty of medicine and this is also because we study in this college. Other participants were from other colleges.

In the variable of residence before studying at the university, 65.2% of respondents lived in urban areas, while 34.8% lived in rural areas. This is probably because most medical students are from urban areas in Yemen.

مسّق:بعد: 36.0 سم

4.2. Results of the Prevalence of dandruff among the 21st of September university student.

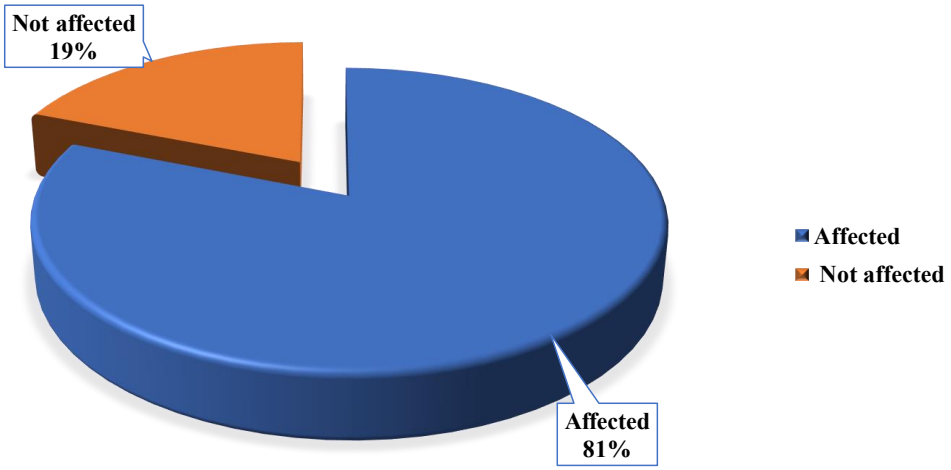

Figure (1) Prevalence of dandruff among medical students

Figure [1] reveals the prevalence of dandruff among medical students in the 21 September University, which represented (81%) more than two-thirds of students compared to only 19% of the students who weren't affected.

مسّق:بعد: 36.0 سم

4.3. Prevalence of dandruff according to the gender

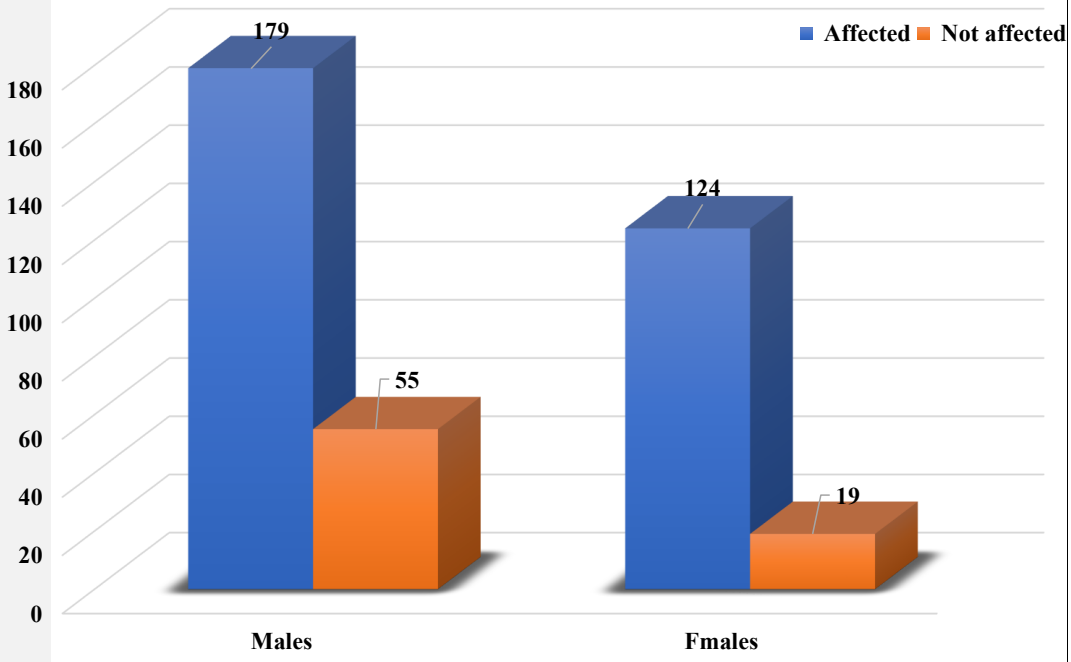

Figure (2) Distribution of the sample according to gender.

Figure (2) shows the prevalence of dandruff among medical students according to gender; the number of male students affected by dandruff was 179 out of 234 male students which represented 76.5%, and the number of female students affected by dandruff was 124 out of 140 females, which represented 88.5%, This means that the prevalence of dandruff was slightly higher in female than male students.

مسّق:بعد: 36.0 سم

4.4. Prevalence of dandruff among medical students according to Residential areas.

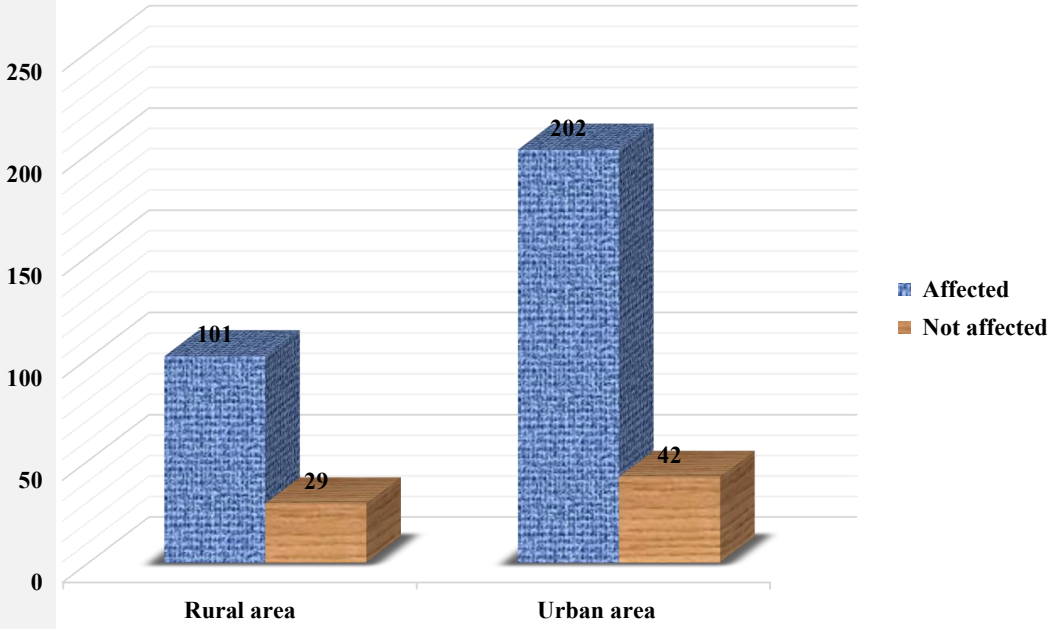

Figure (3) Distribution of the sample according to residential area.

The previous diagram shows the number of affected students by dandruff among those who livid in urban areas (202), which represented 82.7%, while number of affected students who lived in rural areas (101), which represented 77.6%. After testing these results on the chi-square test, we found that there is no relationship between dandruff and residential areas.

مسّق:بعد: 36.0 سم

4.5. Results of relationship between dandruff and sharing hairbrushes with family and/or colleagues in dorms in all medical student respondents.

Table (2). Relationship between dandruff and sharing hair brush with family and others in affected medical student respondents.

Variables	*Yes*	*%*	*No*	*%*
Are any one in your family or your colleagues in dorm suffer from dandruff ?	250	82.5%	53	17.5%
Do you share your hair brush with them?	189	59.4%	144	40.6%

The previous table shows that the number of affected students whose families and colleagues in dorms suffer from dandruff was 250, and 189 of the affected respondents share hairbrushes with their families and colleagues in dorms.

Table (3) Students who haven't dandruff and shares hair brush with them families or colleagues in dorms.

Variables	Yes	%	No	%
Are any one in your family or your colleagues in dorm suffer from dandruff ?	46	62%	25	38%
Do you share your hair brush with them?	36	50.7%	35	49.3%

Table (3) shows that the number of unaffected students whose families and colleagues in dorms suffer from dandruff was 42, and about half of the unaffected respondents share hairbrushes with their families and colleagues in dorms.

مسّق:بعد: 36.0 سم

4.6. Results of relationship between dandruff and frequency of showering in all medical students respondents.

Table (4) Frequency of showering in affected and unaffected students.

Frequency of showering	Do you have dandruff		Total
	Yes	No	
Regular once daily	58	36	94
Once every two days	42	14	56
Once every 3 days	105	12	117
Once weekly	83	9	92
Once every two weeks	11	0	11
Once every month	4	0	4
Total	**303**	**71**	**374**

Table (4) shows the relationship between the prevalence of dandruff and the frequency of showering, This table contains a number of values that represent the prevalence of dandruff and the number of times the shower is repeated

Table (5) Relationship between dandruff and frequency of showering.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.925	5	.712
Likelihood Ratio	3.085	5	.690
Linear-by-Linear Association	.287	1	.494
N of Valid Cases	**374**		

Table (5) shows that the Chi-Square test value is (2.925), and the p value is (0.712) which is more than 0.05, which means that there is no relationship between the prevalence of dandruff among 21st of September university students and the frequency of showering.

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4.7. Results of relationship between dandruff and seasonal changes in the respondents suffering from dandruff.

Figure (4) Seasonal changes and dandruff.

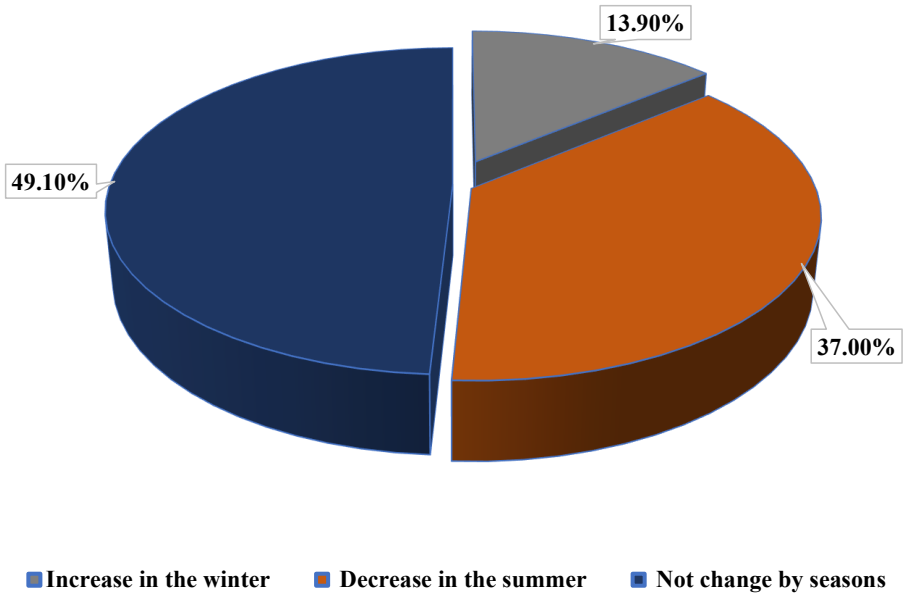

Figure (4) shows the relationship between dandruff and seasonal changes in affected respondents. 49.1% of their respondents have dandruff aren't affected by seasonal changes, 37% decrease in the summer and only a 13.9% increase in the winter.

Table (6) seasonal changes and dandruff relationship.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.504a	2	.777
Likelihood Ratio	.527	2	.768
Linear-by-Linear Association	.002	1	.962
N of Valid Cases	303		

Table (6) The chi-square test indicates that there is no statistically significant relationship between dandruff and seasonal changes.

مسّق:بعد: 36.0 سم

4.8 Results of the relationship between shampoo and soap use in affected and unaffected students with dandruff.

Table (7) Substances used in showering in affected medical students.

Type of substances used in showering	Affected students	
	Numbers of students	Percentage %
Water and shampoo	156	51.5
Different in all time	119	39.3
Water only	20	6.6
Water and soap	8	2.6

Table (7) reveals the numbers and percentages of affected medical students who used shampoo or other different types of substances in showering.

Table (8) Substances used in showering in unaffected medical students.

Type of substances used in showering	Unaffected students	
	Numbers of students	Percentage %
Water and shampoo	27	38
Different in all time	30	42.3
Water only	10	14.1
Water and soap	4	5.6

Table (7) reveals the numbers and percentages of unaffected medical students who used shampoo or other different types of substances in showering.

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Table (9) Relationship between dandruff and the use of shampoo and soap.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.276a	3	.735
Likelihood Ratio	1.255	3	.740
Linear-by-Linear Association	.179	1	.672
N of Valid Cases	303		

This Chi Square test resulted (1.276), and the p value was (0.735) which is more than (0.05). This means there is no relationship between dandruff and use of shampoo and soap.

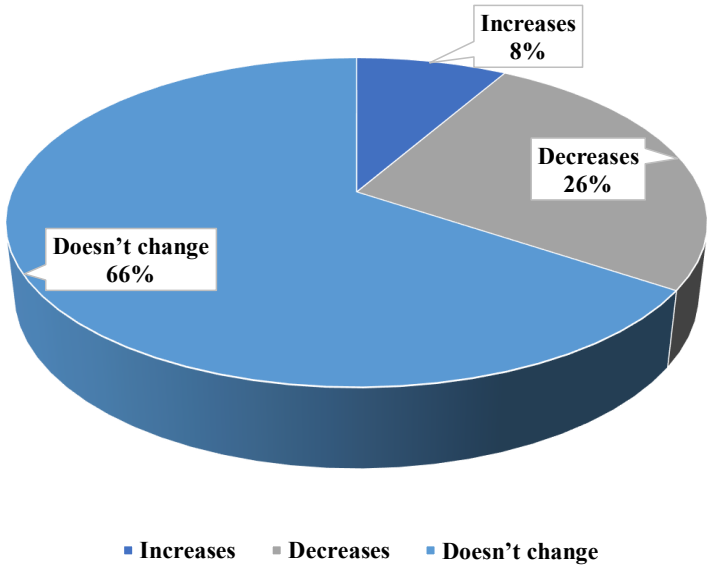

Figure (5) The effectiveness of using shampoo and soap and frequency of showering on affected students.

Figure (5) reveals the effectiveness of using shampoo and soaps and frequency of showering in the respondents that are suffering from dandruff which shows that 65.6% of respondents had dandruff decrease by using shampoo and soaps and frequency of showering, 26.1% of them have dandruff don't change with using shampoo and frequency of showering, and only 8.3% of them had dandruff increase with using shampoo and soaps and frequency of showering.

مسّق:بعد: 36.0 سم

4.9. Results of embarrassment, psychological impact and the negative self-esteem in the respondents affected with dandruff.

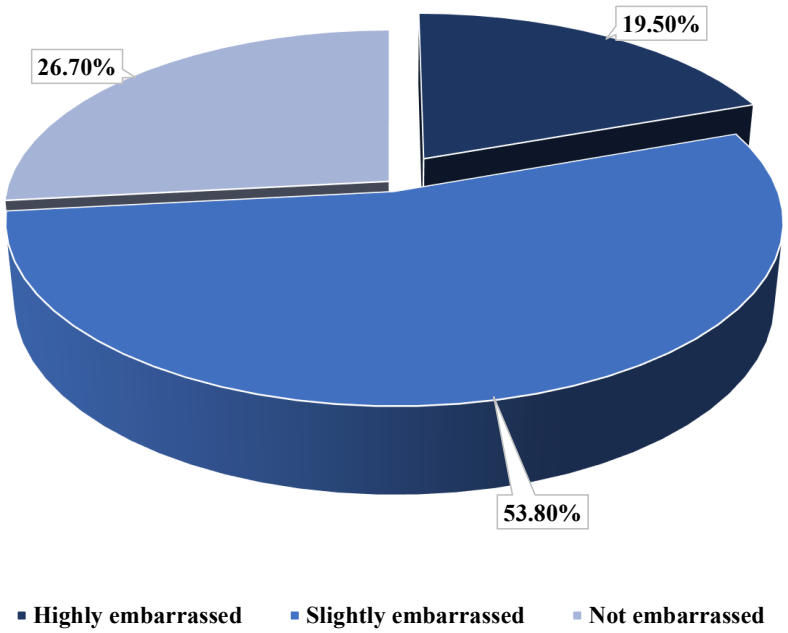

Figure (6) Embarrassment caused by dandruff.

Figure (6) reveals the percentages of embarrassment (19.5% highly embarrassing and 53.8% slightly embarrassing) experienced by medical students due to itching and scaling caused by dandruff**.**

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N	Question	Mean	Standard Deviation	Verified Dell
1	Does dandruff in your head make you embarrassed ?	1.93	.677	A little
2	Does dandruff in your head reduce your self-confidence?	1.30	.544	No
3	Does dandruff in your head makes you avoiding social situations?	1.25	.478	No
4	Are you in a state of stress, anxiety or pressure most of your time?	2.23	.685	A little
5	Are you satisfied with your appearance? [inverted]	1.48	.658	No
6	Do you get annoyed with others when they give you treatment advice?	1.20	.477	No
	Total	1.56	.378	No

Table (10) Psychological impact and negative self-esteem with means and standard deviations.

Table (10) shows the overall mean of the research sample's responses to these questions was approved to a small degree, with a total mean of (1.56), and a total standardized deviation of (0.378), with an appreciated verbally answered "no.

Different degrees of responses of individuals are divided into two levels, with average means ranging between (1.20 - 2.23), and standardized deviations ranging between (0. 477 - 0.786), all of which are greater than (0.05). This means that there is no psychological impact or negative self-esteem resulting from dandruff conditions.

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Chapter 5: Discussion

مسّق:بعد: 36.0 سم

CHAPTER 5:DISCUSSION

As mentioned earlier, the study involved the delivery of questionnaires to the 21st of September university students; they were filled out by 374 students of the university. The retuned data was analyzed using the SPSS program; it was discussed here and distributed according to gender, residence, frequency of showering, use of shampoo and soap, psychological impact, and negative self-esteem.

Our study revealed that the prevalence of dandruff among medical students at 21st September University is 81% (303 of the students), which is a significant percentage. More than half of medical students suffer from dandruff, while 19% (71 of the students) don't. This result is consistent with most international studies by Piérard-Franchimont C., Xhauflaire-Uhoda E., and Piérard GE. Revisiting dandruff. Which provided that dandruff affected more than half of the population at post-pubertal age and is also approximately similar to the study that was conducted on 74 pre-clinical medical students at Atma Jaya Catholic University in Indonesia in 2021, which provided a prevalence of 85.1% in medical students.

Regarding gender, the prevalence of dandruff was slightly higher in females than in males, with 53.6% in females and 47.4% in males (males: females) ($p<0.004$) And for more data on the numbers of affected and unaffected males and females, see figure (2) for the results. This result is consistent with the study done by Mayada K. Mohammed, Tikrit Medical College, Tikrit University, Iraq, in 2020.

In relation to dandruff among the respondents, family members, colleagues in dorms, and the act of sharing hairbrushes with them, we revealed that about 82.5% of the respondents who were suffering from dandruff, had families and colleagues suffering with dandruff and about 59.4% of them shared hairbrushes with others, this is a high percentage, but also with 62% of the respondents who were not suffering with dandruff had families and colleagues in dorms suffering with dandruff and also about 50.7% out of them shared hairbrushes with their families and colleagues in dorms this revealed that there is no significant relationship between the occurrence of dandruff and the interaction with affected Family members, colleagues in dorms and the act of sharing hairbrushes but , we need more data to confirm that.

As for place of residence, the prevalence of dandruff was approximately equal in both rural and urban areas ($p = 0.232$), which indicated that there was no relation between dandruff occurrence and place of residence. This result did not agree with the study that was conducted by Mayada K. Mohammed, Tikrit Medical College, Tikrit University, in Iraq in 2020, which stated that the prevalence of dandruff in rural areas was higher than in urban areas. The reason

مسبّق:بعد: 36.0 سم

for disagreement was that students living in urban areas formed the majority of our study population.

According to the data collected, we found that two-thirds of the respondents who suffered from dandruff showered once every three days, and the other third showered once weekly. On the other hand, 50% of the respondents who didn't suffer from dandruff showered daily, and the other 50% showered once every 3 days, with a small number of them once weekly. The results were then tested by chi square ($p = 0.712$), and it was revealed that there was no association between the occurrence of dandruff and the frequency of showering.

The study also revealed that 49.2% of the respondents had no relation between dandruff occurrence and seasonal change ($p = 0.777$). So that the relationship between dandruff occurrence and seasonal variation is poorly linked. And this did not agree with the study conducted by Mayada K. Mohammed,Tikrit Medical College, Tikrit University, Iraq, in 2020, which stated that dandruff occurs mostly during the winter (84.7%). This variation may be explained by the lack of significant variation in the weather in our country.

Regarding using shampoo and soap, we found out that the number of responses to these substances was 65.7% decreased severity of dandruff, which is higher than non-responders (26.1%), but about 8.1% increased severity of dandruff ($p = 0.735$). This may be due to the type of shampoo and soap or a variation in response between different people, but there is no relationship between dandruff and using the shampoos or soaps. This also agrees with the Mayada K. Mohammed study. Tikrit University

The collected data shows that 73.3% of students with dandruff suffer from embarrassment due to itching and flaking dandruff that appears over their clothes. This is a large percentage; about 19.5% of them are highly embarrassing, and the other 53.8% are slightly embarrassing.

The study also reveals in table (10) that there was no statistically significant association between Dandruff and psychological impact or negative self-esteem in the affected students other than embarrassment ($p = 0.378$), as in table (10).

About treatment, we found a small number (64 students), 21.1% of students affected by dandruff used previous treatment for dandruff. Half of them only continued with drugs regularly, and 25% of the students who used treatment continued for 3 months. Although the effectiveness of treatment was shown in these patients who received regular treatment, almost all of them suffered from relapsing. Only 3 respondents said that dandruff didn't relapse, which

مسّق:بعد: 36.0 سم

may be due to continuous use of treatment or a recovery period. This confirms the theory that dandruff can be treated, but not cured.

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Chapter 6: Conclusions

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CHAPTER 6:CONCLUSIONS

6.1 In Conclusions

- The prevalence of dandruff among medical students in the 21-September University For Medical and Applied Sciences is 81% higher than two-thirds.
- This prevalence is slightly higher among females than males.
- There is no relationship between dandruff and residence in Yemen.
- There is no statistically significant relationship between dandruff and seasonal changes in Yemen.
- There is no significant relationship between dandruff and the number of showers, other than a decrease in intensity with an increase in the number of showers.
- About 73.3% of students with dandruff experience embarrassment due to the itching and flaking of dandruff.
- Dandruff does not cause psychological effects or problems other than embarrassment, and it doesn't lead to the negative self-esteem among affected students.
- Dandruff can be treated, but not cured.

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6.2 Recommendations

We recommend that:

- Further studies should be conducted to find out what exactly causes dandruff, potential trigger factors for dandruff and how these may be minimized in addition to treatment.
- Conducting experimental studies to evaluate the effectiveness of treatment for dandruff
- For the medical student, we advise them to avoid stress, and for anyone who complains of dandruff, reduce or limit the use of hair oils or creams and don't share hair brushes with others.
- For all, adherence to optimal personal hygiene, especially taking a shower once a day or at least once every two days.
- For affected people, the optimal usage of the well-known dandruff treatment is to use it regularly, change the treatment in case of non-response, and continue treatment for a long period of time as a daily routine to avoid relapse.
- People who used over-the-counter treatments and did not respond to them should consult a dermatologist to get the appropriate treatment.

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مسبّق:بعد: 36.0 سم

APPENDIX

مسّق:بعد: 36.0 سم

استبيان حول قشرة الرأس

لطفا منكم/ي برجى قراءة الفقرات الآتية والإجابة عليها بصدق وموضوعية دون تحيز بوضع علامة صح في المربع او الفراغات المحددة :

☆القسم الأول: البيانات الشخصية.

■الجنس ؟

○ ذكر ○ أنثى

■العمر ؟ .....

■الكلية ؟

○الطب البشري. ○الصيدلة. ○ المختبرات. ○ التمريض. ○الإدارة الطبية. ○المركز الطبي.

■المستوى الدراسي؟

○المستوى الأول. ○المستوى الثاني. ○المستوى الثالث. ○المستوى الرابع. ○المستوى الخامس.

■ السكن قبل المرحلة الجامعية ؟

○الريف. ○المدينة.

■ هل تعاني من قشرة الرأس ؟

○ نعم ○لا

☆القسم الثاني والأخير لمن أجاب بلا 《غير المصابين》 .

■هل يعاني أحد من أقاربك أو زملائك في السكن من القشرة ؟

○نعم ○لا

■هل تشارك أقربائك و زملائك نفس مشط الشعر؟

○نعم ○لا

■كم عدد المرات التي تغسل رأسك فيها

○مرة واحدة يوميا بانتظام

○مرة واحدة في كل يومين

○مرة واحدة في كل ثلاثة ايام

○مرة واحدة في كل اسبوع

○مرة واحدة في كل اسبوعين

○مرة واحدة في الشهر

مسّق:بعد: 36.0 سم

■ **بماذا تغسل شعر رأسك ؟**

○بالماء والشامبو

○بالماء فقط

○يختلف في كل مرة

○بالماء والصابون .

إرسال الرد .

☆القسم الثاني لمن أجاب بنعم 《المصابين بقشرة الرأس》 .

■ **متى بدأت تعاني من قشره الرأس؟**

○المرحلة الأساسية. ○المرحلة الإعدادية .

○المرحلة الثانوية. ○المرحلة الجامعية .

○لا أعلم الوقت بالتحديد

■ **ما نوع القشرة التي تعاني منها؟**

○قشور بيضاء صغيرة مصاحبة لحكة في الرأس.

○قشور بيضاء صغيرة غيرة مصاحبة لحكة في فروة الرأس .

○بقع فيها قشور فضية كبيرة ملتصقة بالجلد تحدث نزيفا بسيطا في حالة إزالتها.

■**هل القشرة لديك يصاحبها بثور أو التهابات في فروة الرأس؟**

○نعم ○لا

■**هل قشرة الرأس لديك مصاحبة لقشور أخرى في مكان آخر من الجسم؟**

○في الوجه والرقبة. ○في الظهر. ○في الصدر

○في الأطراف. ○في مكان آخر. ○لا يوجد

■**هل يعاني أحد من أقاربك أو زملائك في السكن من القشرة؟**

○نعم ○لا

■**هل تشارك أقربائك و زملائك نفس مشط الشعر؟**

○نعم ○لا

■**كم عدد المرات التي تغسل رأسك فيها ؟**

○مرة واحدة يوميا بانتظام

مسّق:بعد: 36.0 سم

○مرة واحدة في كل يومين

○مرة واحدة في كل ثلاثة ايام

○مرة واحدة في كل اسبوع

○مرة واحدة في كل اسبوعين

○مرة واحدة في الشهر

■ **بماذا تغسل شعر رأسك ؟**

○بالماء والشامبو. ○بالماء فقط

○يختلف في كل مرة. ○بالماء والصابون .

■**هل تتغير كثافة القشرة بتغير الجو والبيئة ؟**

○تزداد في الجو الحار صيفا .

○تزداد في الجو بارد شتاء . ○لا تتأثر بتغير المناخ.

■**هل تتأثر كثافة القشرة باستخدامك للشامبو والصابون او عدد مرات الاغتسال؟**

○تقل شيئا ما ○تزداد

○لا تتأثر ○تقل بتكرار الاغتسال

■**هل تستخدم زيوت أو دهانات للشعر؟**

○زيت. ○كريم. ○جل. ○لا شيء.

■**إذا كنت تستخدم شامبو معين لغسل فروة الراس يرجى كتابته وكتابة فوائده إن وجدت**

..... (غير ضروري).

■**هل استشرت طبيبا من أجل علاج القشرة؟**

○طبيب جلدية. ○طبيب عام ○ممرض شعبي ○آخر ○لا توجد استشارة

■**هل استخدمت علاج للقشرة؟**

○نعم ○لا

☆القسم الثالث الخاص لمن استخدم العلاج فقط.

■**ما نوع العلاج الذي استخدمته؟**

○شامبو. ○زيوت. ○أعشاب. ○مرهم. ○شيء آخر

■**هل أخذت العلاج بشكل منتظم؟**

○نعم. ○لا

مسّق:بعد: 36.0 سم

■**كم المدة التي استمريت بأخذ العلاج فيها ؟**

○أقل من شهر ○شهر ○شهرين ○ثلاثة أشهر ○أكثر من ثلاثة أشهر

■**كيف كانت الاستجابة لاستخدامك علاج القشرة ؟**

○اختفت القشرة شئيا قليلا. ○اختفت شئيا كثيرا. ○اختفت نهائيا. ○لم ألاحظ أي فرق

■**هل عاود ظهور القشرة بعد فترة التحسن وخلال كم حدثت الانتكاسة ؟**

○بعد شهر واحد. ○ بعد شهرين. ○ بعد ثلاثة أشهر. ○بعد ستة أشهر

○ بعد سنة. ○لم تعاود.

☆القسم الرابع الأخير الخاص بالعامل النفسي لمن يعاني من قشرة الرأس.

■**هل وجود القشرة في رأسك يسبب لك الإحراج ؟**

○ كثيرا. ○قليلا. ○لا.

■**هل وجود القشرة في رأسك يقلل من ثقتك بنفسك ؟**

○كثيرا. ○قليلا. ○لا

■**هل تتضايق من الآخرين عند تقديمهم لك النصائح العلاجية ؟**

○كثيرا. ○قليلا. ○لا

■**هل وجود القشرة في رأسك يجعلك تتجنب المواقف الاجتماعية؟**

○كثيرا. ○قليلا. ○لا

■**هل أنت راض عن مظهرك؟**

○كثيرا. ○قليلا. ○لا

■**هل أنت في حالة توتر وقلق ومضغوط معظم أوقاتك وأيامك ؟**

○كثيرا. ○قليلا. ○لا

إرسال الرد.

مسّق:بعد: 36.0 سم

الملخص بالعربي

المقدمة: قشرة الرأس هي حالة شائعة في فروة الرأس تصيب الأشخاص في جميع أنحاء العالم في الغالب في مرحلة ما بعد البلوغ ولكن يمكن أن تؤثر أيضًا على أي عمر وجنس وعرق. تتميز بقشور وحكة في فروة الرأس ، ويمكن أن تكون ناتجة عن مجموعة متنوعة من العوامل ، بما في ذلك جفاف الجلد ، والحساسية لبعض منتجات الشعر ، والتهيج الخفيف بسبب استخدام الشامبو بكثرة أو التمشيط المتكرر والالتهابات الفطرية، لم يتم دراسة انتشار قشرة الرأس لدى طلاب الطب بشكل جيد ، ولكن من المحتمل أن يكون أعلى مما هو عليه في عموم السكان ربما بسبب الإجهاد وساعات العمل الطويلة المرتبطة بكلية الطب، يمكن أن تؤثر قشرة الرأس أيضًا على احترام الذات والثقة بالنفس، كما تسبب الحكة الناتجة عن قشرة الرأس إحراجًا كبيرًا لمن يعانون منها في المواقف الاجتماعية، قد تسبب قشرة الرأس مشاكل نفسية أكثر من المشاكل الطبية، تهدف دراستنا إلى تقييم مدى انتشار قشرة الرأس بين طلاب جامعة ٢١ سبتمبر وتقييم احترام الذات السلبي بين الطلاب الذين يعانون من قشرة الرأس.

المنهجية: أجريت دراسة وصفية مقطعية في جامعة ٢١ سبتمبر للعلوم الطبية والتطبيقية في نوفمبر ٢٠٢٢، كان مجتمع الدراسة هو جميع الطلاب المسجلين في الكليات التالية (الطب والصيدلة السريرية والمختبرات والتمريض والإدارة الطبية والمركز الطبي) مع عينة متاحة لكل من يتعاون معنا لتعبئة الإستبيان الإلكتروني عبر الرابط المعمم في مجموعات الطلاب الخاصة بالجامعة لكل كلية وكل الدفع ، كان حجم العينة ٣٧٤ مستجيبًا وباستثناء الخريجين. كانت أداة الدراسة عبارة عن استبيان ذاتي تم إعداده باللغة العربية،، تم تحويله إلى نسخة رقمية باستخدام قوالب **Google**، تمت مراجعة الاستبيان من قبل مشرفنا وتم ادخال البيانات وجدولتها وتحليلها باستخدام برنامج الحزم الإحصائية للعلوم الاجتماعية **(SSPS)**إصدار ٢٤،وكذلك برنامج ميكروسوفت اكسل تم تلخيصها وتقديمها على شكل جداول وأشكال بيانية

النتائج: توصلت الدراسة إلى أن معدل انتشار قشرة الرأس بين طلاب الطب في جامعة ٢١ سبتمبر بنسبة ٨١ ٪ ويمثل جزء كبير أكثر من ثلثي عينة الدراسة بينما ١٩ ٪ غير مصابين. كان معدل الانتشار بين الإناث ٥٣,١٪ وهو أعلى بقليل منه بين الذكور. تظهر المشكلات النفسية لدى طلاب الطب المصابين أن ٨٣,٣٪ كانوا محرجين من هذه الحالة ، ١٩,٥٪ منهم محرجون بشكل كبير و ٥٣,٨٪ محرجون قليلاً. وجد أن هناك علاقة محتملة بين قشرة الرأس ومشاركة فرشاة الشعر بين الطلاب وزملاء السكن أوأفراد الأسرة. كما تبين عدم وجود علاقة بين مكان الاقامة والقشرة. وجدنا أيضًا أنه لا توجد علاقة ذات دلالة إحصائية بين حدوث قشرة الرأس واستخدام الشامبو أو الصابون وتكرار الاستحمام ، وارتباط ضعيف مع التغيرات الموسمية.

الخلاصة: يمكن الاستنتاج أن الغالبية ، أكثر من ثلثي طلاب الطب مصابون بقشرة الرأس ، وهذه النسبة أعلى بقليل بين الإناث ، ولا تسبب قشرة الرأس آثارًا نفسية أو مشاكل غير الإحراج ولا تؤدي إلى احترام الذات السلبي بين الطلاب المصابين ، ولكن يعاني حوالي ثلثي الطلاب الذين يعانون من قشرة الرأس من الإحراج بسبب الحكة والقشور المتناثرة على الشعر والملابس ،لا يوجد ارتباط واضح لقشرة الرأس مع مكان السكن أو المواسم أو استخدام الشامبو. تكرار عدد مرات الاستحمام تتناسب بشكل عكسي مع شدة قشرة الرأس.

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الجمهورية اليمنية
وزارة التعليم العالي والبحث العلمي
جامعة ٢١ سبتمبر للعلوم الطبية والتطبيقية

انتشار قشرة الرأس بين طلاب الطب بجامعة ٢١ سبتمبر وتقييم التأثير النفسي بين الطلاب الذين يعانون من قشرة الرأس

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٢٠٢٢-٢٠٢٣