



KNOWLEDGE, ATTITUDE AND PRACTICE ABOUT DANDRUFF AND SEBORRHEIC DERMATITIS AMONG MEDICAL STUDENTS

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ABSTRACT

Background: Seborrheic dermatitis is a common inflammatory skin disease clinically characterized by erythematous, scaly patches on sebaceous gland-rich sites. Seborrheic Dermatitis (SD) and Dandruff are continuous spectrum of same disease. Dandruff is restricted to scalp, involves itchy, flaking skin without visible inflammation. **Objectives:** This study aimed to assess knowledge, attitude and practice (KAP) about Dandruff and Seborrheic dermatitis among Medical students. **Materials and Methods:** This was a cross-sectional, descriptive study conducted among Medical students at a tertiary care centre, using a questionnaire, from May 2022 To August 2022. Scoring was done for each questionnaire and, levels of Knowledge, attitude and practice were classified into Poor, Inadequate and Good. **Results:** Questionnaire was completed and submitted by 400 medical students. Majority of the participants(84%) had experienced Dandruff. 82.5% participants felt that the conditions cause Embarrassment. Only 40% respondents believed that Dandruff and Seborrheic Dermatitis were continuous spectrum of same disease. Scratching(96.5%), Emotional Stress(49.5%), Winter(49.75%) and Western diet(51%) were believed to aggravate SD. 33.25% students were not aware of conditions' treatment. For treatment, 46.25% Individuals preferred Home Remedies, 33% visited doctor. Antifungal shampoos(68%), Topical keratolytics(11.5%) and Topical corticosteroids(10.75%) were preferred for Treatment. Good levels of Knowledge, Attitude and Practice was seen in only 24.5%, 39.25% and 34.25% participants respectively. **Conclusion:** Majority of the participants lacked good levels of Knowledge, Attitude and Practice, suggesting the need for implementation of additional education about very common conditions like Dandruff and Seborrheic Dermatitis in medical curriculum.

KEYWORDS : Dandruff, SD, KAP, Medical students.

INTRODUCTION:

Seborrheic dermatitis (SD) is a recurring dermatitis, characterized by erythematous patches with superficial scaling. It affects the scalp, face, central chest, and anogenital regions-the areas with a high density of sebaceous glands.^[1]

Dandruff and seborrheic dermatitis are two different aspects of same disease that affect the body's seborrheic regions.^[2] Regardless of one's region or ethnicity, seborrheic dermatitis is among the most prevalent dermatological disorders that the general public experiences.^[3]

Patients with this ailment complain of discomfort, experience itching and burning feelings, as well as some major cosmetic issues, which can cause psychosocial distress and worsen quality of life.^[4] Dandruff is a frequent issue, and programmes for education and the creation of guidelines for the constructive influence of the media on these health issues are required.^[5]

It is needed for Medical student to have good knowledge, attitude and practice about Seborrheic dermatitis and Dandruff, which are very common dermatological conditions. Not much studies have been done to assess knowledge, attitude and practice about Seborrheic dermatitis and Dandruff, especially among medical students in Indian subcontinent.

AIMS AND OBJECTIVES

- To assess knowledge, attitude and practice about Dandruff and Seborrheic dermatitis among Medical students.

MATERIALS AND METHODS

Methodology

- Source of data: The study group will comprise of Willing undergraduate medical students of KVG MCH, Sullia who will give consent to fill electronic survey.
- Sampling method: Universal Sampling.
- Study Area- KVG Medical College and Hospital, Sullia,

Dakshina Kannada.

- Study Design –Cross Sectional Study.
- Duration Of Study - May 2022 To August 2022.

Sample Size

- Sample size was calculated based on the formula $n = \frac{z^2(P)(1-P)}{d^2}$
- Z = statistic for level of confidence.
- P= Prevalence of the study event =50% (Considering Prevalence of knowledge About dandruff and seborrheic dermatitis among KVG MCH Medical Students)
- N= 100-P = 100-50 =50
- d = 5%
- $n = \frac{1.96^2(50)(50)}{5^2}$
- n = 384.16
- Sample size was approximated to 400.

Inclusion Criteria:

- Medical students of KVG MCH, sullia.
- Medical students willing to fill the Google form.

Exclusion Criteria:

- People who are not willing to give consent to participate in study.

Method Of Data Collection:

A google form questionnaire will be distributed through electronic media, for the willing participants, meeting inclusion and exclusion criteria, who give consent to fill electronic survey and, responses will be tabulated and analyzed.

Statistical Analysis:

The data was entered in Microsoft Excel and was analyzed using software SPSS Version 25. Scoring was done and obtained data was expressed in the form of Frequency, Proportion and Graphs. Continuous variables were expressed as mean \pm standard deviation, and categorical variables as

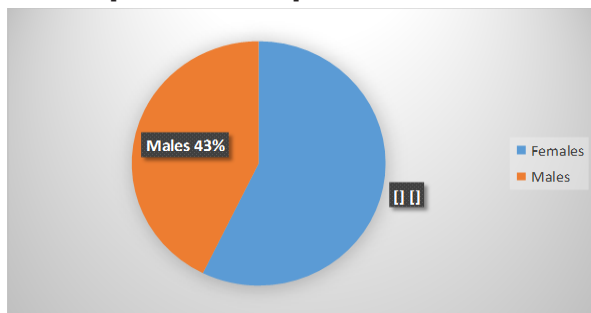
frequencies (%). Quantitative data were compared using the chi-square test. Pearson or Spearman simple correlation analyses were performed to determine associations between continuous parameters. A p-value of less than 0.05 was considered as statistically significant.

Overall levels of knowledge, attitude and practice about Seborrheic dermatitis and Dandruff of each participant were classified into Poor, Average and Good based on questionnaire scores obtained as below:

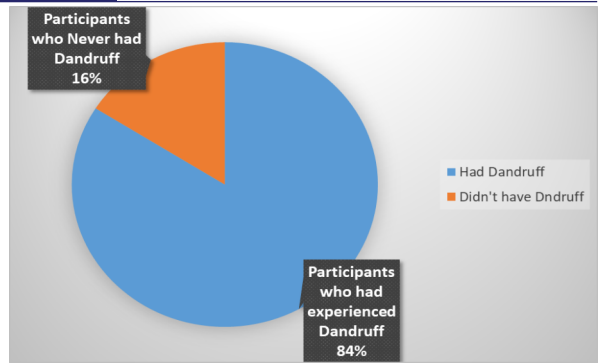
- Knowledge : 0-40% is Poor , 40-70% is Average and more than 70% is Good
- Attitude : 0-40% is Poor , 40-70% is Average and more than 70% is Good
- Practice : 0-40% is Poor , 40-70% is Average and more than 70% is Good

RESULTS

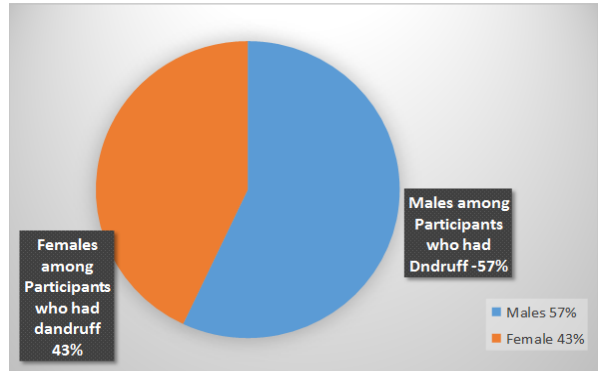
- A total of 400 medical students participated in the study, among which 57% were females and 43 % were males. Most of the participants (84%) had experienced Dandruff, among which males were more affected(57%) compared to females(43%) .
- Less than half of the students (42.5%) considered Dandruff as a Disease/Disorder. Around two-third (63.75%) of participants agreed that the conditions have Chronic recurrent course. Less than half of students(40%) agreed that Dandruff and Seborrheic Dermatitis were continuous spectrum of same disease.
- Most of the students(87.5%) agreed that Dandruff/ Seborrheic dermatitis adversely affect hair quality.
- Factors Predisposing for Dandruff/Seborrheic Dermatitis were considered to be Genetic predisposition (57%), Immunological abnormalities(49.5%), Excess Sebum production(55%) and Skin surface fungal colonization(56%).
- Factors believed to aggravate SD were Scratching(96.5%), Emotional Stress(49.5%) ,Winter(49.75%) and Western diet(51%).
- Conditions believed to be associated were Acne vulgaris(80.25%) Pityrosporum folliculitis(25.5%) and Pityriasis versicolor(11.5%) .
- Majority(82.5%) of the students said that Dandruff causes Embarrassment.
- More than three-fourth of students(77.5%) believed that Advertisements in Electronic and Print media can influence the Knowledge , attitude and practices regarding Dandruff/Seborrheic Dermatitis.
- Factors helping in controlling Dandruff/Seborrheic Dermatitis were scalp Shampooing 2-3 times/week (78%), avoiding regular hair oil application(24.75%) and Avoiding of excessive scraping while combing(80.5%)
- One-third of the students (33.25%) were not aware of the treatment for Dandruff/Seborrheic Dermatitis.
- For the treatment, 46.25% Individuals preferred Home Remedies and 33% preferred visiting doctor. Medications for treatment of Dandruff/Seborrheic Dermatitis were considered to be Antifungal shampoos(68%), Topical keratolytics(11.5%) and Topical corticosteroids(10.75%).



Graph 1- Gender distribution of study population



Graph 2- Graphical representation of participants who had experienced dandruff and who had not experienced Dandruff.



Graph 3- Graphical representation of gender distribution among participants who had experienced Dandruff.

Table 1- Knowledge Based Questions

Questions	Response	Frequency	%
How are Seborrheic Dermatitis and dandruff related	Not related	20	5.0
	Both are same	39	9.75
	Continuous spectrum of same disease	160	40.0
	Don't Know	181	45.25
	Total	400	100.0
Do you think dandruff is a disease/disorder	Yes	169	42.25
	No	161	40.25
	Don't know	70	17.5
	Total	400	100.0
How do you think the course of Dandruff/Seborrheic Dermatitis is?	Acute Non-recurrent	19	4.75
	Acute recurrent	85	21.25
	Chronic non recurrent	32	8.0
	Chronic recurrent	255	63.75
	Don't know	9	2.25
Total	400	100.0	
Do you think dandruff is a disease/disorder	Yes	169	42.25
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	Chronic non recurrent	32	8.0
	Chronic recurrent	255	63.75
	Don't know	9	2.25
Total	400	100.0	
Prevalence of Dandruff/Seborrheic dermatitis is more in	Female	177	44.25
	Male	132	33.0
	Don't know	91	22.75
	Total	400	100.0
Can Dandruff/Seborrheic dermatitis adversely affect hair quality	Yes	351	87.75
	No	18	4.5
	Don't Know	31	7.75
	Total	400	100.0

Do you think Genetic factors influences Dandruff/Seborrheic dermatitis	Yes	228	57.0
	No	82	20.5
	Don't Know	90	22.5
	Total	400	100.0
Which of the following are predisposing factor for Dandruff/Seborrheic Dermatitis	Excess Sebum production	220	55
	Skin surface fungal colonization	225	56.25
	Individual susceptibility	47	11.75
	None of the above	11	2.75
Which of the following factors can aggravate Dandruff/Seborrheic dermatitis	Winter	199	49.75
	Scratching	386	96.5
	None of the above	19	4.75
Dandruff/Seborrheic dermatitis is more commonly seen in	Emotional stress	198	49.5
	HIV and AIDS	164	41
	None of the above	84	21.0
Which other dermatological diseases are commonly seen with dandruff/seborrheic Dermatitis	Acne vulgaris	321	80.5
	Pityrosporum folliculitis	102	25.5
	Pityriasis versicolor	46	11.5
	None of the above	79	19.75
Do you think diet has a role in severity of Dandruff/Seborrheic Dermatitis ?	Yes	263	65.75
	No	50	12.65
	Don't know	87	21.75
	Total	400	100.0
Do you think pathogenesis of dandruff/seborrheic dermatitis has an immune component?	Yes	199	49.75
	No	73	18.25
	Don't know	128	32.0
	Total	400	100.0
Do you think Dry scalp and Dandruff/Seborrheic Dermatitis are different?	Yes	229	57.25
	No	72	18.0
	Don't know	99	24.75
	Total	400	100.0

Table 2- Attitude Based Questions

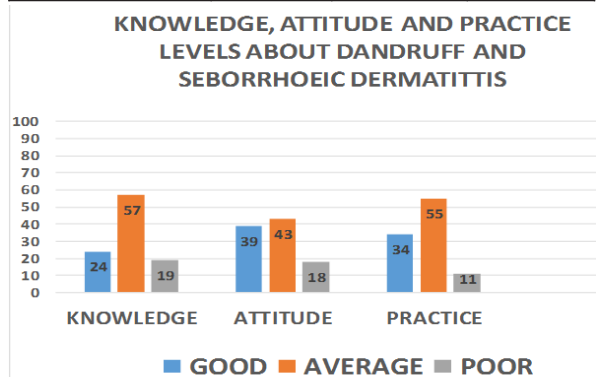
Questions	Response	Frequency	%
What percentage of adult population worldwide, you think is affected by Dandruff ?	Around 10%	9	2.25
	Around 25%	13	3.25
	Around 50%	162	40.5
	Around 75%	163	40.75
	Around 90%	53	13.25
	Total	400	100.0
Does Dandruff/Seborrheic Dermatitis cause Embarrassment?	Yes	330	82.5
	No	35	8.75
	Don't Know	35	8.75
	Total	400	100.0
Did Advertisements in Electronic media /Wall hoardings/ Print media have influenced/ can influence regarding your attitude and practices regarding Dandruff/Seborrheic Dermatitis ?	Yes	309	77.25
	No	39	9.75
	Don't Know	52	13.0
	Total	166	100.0
How do you think western diet affects Dandruff /Seborrheic Dermatitis?	Increases	204	51.0
	Decreases	27	6.75
	No effective	30	7.5
	Don't know	139	34.75
	Total	400	100.0

Table 3- Practice Based Questions

Questions	Response	Frequency (n=400)	%
Do you think good hygiene is important in controlling persistent Dandruff/Seborrheic Dermatitis?	Yes	340	85.0
	No	15	3.75
	Don't Know	45	11.25
What do you think about combing practice in Dandruff/Seborrheic Dermatitis?	Aggressive scraping with comb is harmful	322	80.5
	Aggressive scraping with comb is helpful	58	14.5
	Don't Know	20	5.0
	Total	400	100.0
Which of the following would be your first preference for Dandruff/Seborrheic Dermatitis?	Home remedies Over the counter	185	46.25
	Home remedies Visiting doctor	52	13.0
	Home remedies Don't Know	132	33.0
	Home remedies Total	31	7.75
	Home remedies Total	400	100.0
Are you aware of the treatment of Dandruff /Seborrheic Dermatitis?	Yes	267	76.75%
	No	133	33.25%
	Total	400	100.0
	Total	400	100.0
Which of the following medications do you think are useful in treating SD?	Antifungals shampoo's	272	68.0
	Topical keratolytics	46	11.5
	Topical corticosteroids	43	10.75
	None of the above	60	15
	Total	400	100.0
How often do you think should shampooing of scalp should be done?	0-1 time	54	13.5
	2-3 time	312	78.0
	Everyday	19	4.75
	Not available	20	5.0
	Total	400	100.0
Do you think regular hair oil application helps in preventing Dandruff/Seborrheic Dermatitis?	Yes	218	54.5
	No	99	24.75
	Don't know	83	20.75
	Total	400	100.0

Table 4- Knowledge Attitude And Practice Levels About Dandruff And Seborrheic Dermatitis Among Medical Students

	Good(%)	Average(%)	Poor(%)
Knowledge(n=400)	98(24.5)	227(56.75)	75(18.75)
Attitude(n=400)	157(39.25)	173(43.25)	70(17.5)
Practice(n=400)	137(34.25)	221(55.25)	42(10.5)



Graph 4 - Knowledge Attitude and Practice levels about dandruff and SD among Medical students.

DISCUSSION:

Seborrheic dermatitis (SD) is a common inflammatory disorder affecting so-called seborrheic (sebum-rich) parts of

the body, mainly the face, scalp, and upper trunk. Pityriasis sicca or pityriasis simplex capitis, also known as "dandruff," is the least severe and least inflammatory form of seborrheic dermatitis that only affects the scalp.^[3]

Seborrheic Dermatitis and dandruff are of a continuous spectrum of the same disease that affects the seborrheic areas of the body. As they share many characteristics and react to comparable therapies, they are regarded as having the same fundamental ailment and just differ in location and severity. Only the scalp is affected by dandruff, which causes itchy, flaky skin without any obvious inflammation. SD can affect additional seborrheic areas, including the scalp, and is characterized by itchy, peeling, or scaling skin, inflammation, pruritus and can also have noticeable erythema.^[2]

Between 1 to 5 percent of the adult population overall is reported to have SD.^[6] In comparison to SD, dandruff is far more prevalent and affects over 50% of all adults globally.^[2]

A triphasic peak of seborrheic dermatitis occurs during infancy, puberty, and the fourth to sixth decade of life. In contrast, dandruff begins at adolescence, peaks in the 20th year of life, and then gradually decreases through the fifth decade.^[3]

Dandruff appears throughout puberty, peaks in severity and occurrence at around age 20, and then declines in frequency as people mature.^[2] In all age ranges, men are afflicted more commonly than women (3.0% vs. 2.6%).^[2]

The pathogenesis of SD and dandruff is influenced by a number of intrinsic and environmental factors, including sebum secretions, skin surface fungus colonisation, individual vulnerability, disruption of innate immunity and interactions between these factors.^[2,3]

The commensal fungus, *Malassezia* causes SD only in people with certain genetic predispositions.

Malassezia is very important in the etiopathogenesis of dandruff, just as it is in SD.^[3]

Malassezia concentrations rise by 1.5 to 2 times the typical level during dandruff.^[7] Seborrheic dermatitis has an immunological component to its pathophysiology.^[8] The patient's immune system's response to P. ovale-derived antigens determines how seborrheic dermatitis will develop.^[9] SD is made worse by low humidity and freezing weather, particularly in the winter and early spring. Seasonal factors, mental stress or lack of sleep, cosmetic goods, sweat and wet humidity, sun exposure, meals, and infection were observed to increase seborrheic dermatitis.^[10]

The prevalence of SD is also higher in depressive illnesses.^[2] Patients with Parkinson's disease or HIV/AIDS are particularly susceptible to seborrheic dermatitis.^[11] Acne vulgaris is frequently associated with seborrheic dermatitis. Patients with seborrheic dermatitis frequently develop conditions linked to *Malassezia* spp., such as pityriasis versicolor and pityrosporum folliculitis.^[8] Greater adherence to a "Western" dietary pattern in females was associated with higher seborrheic dermatitis.^[12] The severity of dandruff is exacerbated by non-microbial factors that irritate the scalp, such as frequent washing, excessive scalp rubbing, and certain hair products.^[3]

Although maintaining excellent cleanliness is crucial for preventing recurrent seborrheic dermatitis.^[8]

A survey of 800 male soldiers was conducted. When asked if they had dandruff, 521 soldiers (65.1%) responded affirmatively, while 279 (34.9%) disagreed. 433 respondents

(83.1%) thought that dandruff was a disease. The most prevalent symptoms were hair loss (n=392, 75.2%) and scalp itching (n=380, 72.9%), and dandruff embarrassed 330 (63.3%) of the respondents. Bad water (n=93, 17.8%), winter (n=40, 07.6%) and lack of sleep (n=30, 05.7%) were believed to be the most common causes of dandruff. The majority of people (n=487; 93.4%) used various hair oils and common household treatments to cure their dandruff. 50 (09.6%) and 114 (21.9%) individuals, respectively, contacted traditional healers and doctors for their dandruff. Advertisements in electronic or print media and wall hoardings etc. influenced 213 (40.9%) respondents to use various anti-dandruff shampoos, hair tonics and oils.^[5]

For Scalp and beard Seborrheic dermatitis, Topical keratolytic or mineral/olive oil can be used as for the removal of scale and crust.^[4]

"Treatment Formulary Includes:

- i. Topical Creams, Ointments, and Lotions :2% salicylic acid + 2% sulfur in sorbolene cream or emulsifying ointment, 2% ketoconazole cream, 1% clotrimazole + 1% hydrocortisone cream, 10% sulfacetamide + 5% sulfur lotion, Betamethasone dipropionate 0.05% lotion, 0.03% and 0.1% tacrolimus ointment
- ii. Shampoos:1% zinc pyrithione, 1% to .5% selenium sulfide, 2% ketoconazole, 1% ciclopirox, 5% coal tar + 2% salicylic acid, 0.1% and 0.03% tacrolimus. Ketoconazole 2% shampoo or ciclopirox 1% shampoo may be effective as monotherapy in patients with mild-to-moderate scalp SD when used twice weekly over at least four weeks duration.
- iii. Oral Medication: Itraconazole, Fluconazole, Terbinafine^{“(13)}

CONCLUSION

- This survey highlights the weakness in the knowledge, attitude, and practice towards the very common dermatological conditions i.e. Dandruff and Seborrheic Dermatitis among medical students, who can be the most proficient healthcare providers to manage these conditions.
- This suggests a need for implementation of additional education programs in medical curriculum.

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Ethical Committee Approval- Approved

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