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Frequency of Skin Diseases in Dermatology Consultations: Descriptive Research

Dermatoloji Konsültasyonlarında Deri Hastalıklarının Sıklığı: Tanımlayıcı Araştırma

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ABSTRACT Objective: A limited set of common skin problems leads to a disproportionate percentage of consultations that, in addition to the economic burden and cost, will lead to a loss of physician time and confidence in the necessity and importance of counseling, but so far, written documentation. There is no information about the frequency of various skin diseases in hospitalized patients. Therefore, our goal is to investigate the frequency of skin diseases in dermatological consultations requested from other departments of teaching hospitals in Mashhad, Iran. **Material and Methods:** This cross-sectional was done over six months. We used basic information, including demographic information, cause of hospitalization and primary underlying disease, the reason for consultation, description of skin lesion, diagnosis of the requesting physician, the importance of counseling or the impact of counseling on the treatment process, the preclinical results and the final diagnosis by dermatologist and entered into the checklist. **Results:** There were 200 patients in this study. The most common skin diseases in the requested consultations were a drug reaction, psoriasis, vasculitis, and dermatitis. Most specialists seeking counseling were internal medicine, rheumatology, and neurology. The consulting physician's diagnosis was correct in 52 patients. According to the dermatologist, 40 consultations were very important, 129 consultations were important and 31 consultations were insignificant. **Conclusion:** Our study showed that dermatology consultation was effective in 84.5% of cases in the diagnosis and treatment of patients, and only in 26% of cases, the diagnosis of primary care specialists was correct.

Keywords: Dermatology; consultation; hospitalization

ÖZET Amaç: Yaygın deri hastalıklarının belirli bir kısmı, ekonomik yük ve maliyete ek olarak hekimin zaman kaybetmesine ve danışmanın gerekliliği ve öneminde güven kaybına yol açacak orantısız bir konsültasyon yüzdesine sebep olur. Hastanede yatan hastalarda çeşitli deri hastalıklarının sıklığı hakkında bir bilgi yoktur. Bu nedenle bizim amacımız, İran'ın Meşhed şehrindeki eğitim hastanelerinin diğer bölümlerinden talep edilen dermatolojik konsültasyonlarda deri hastalıklarının sıklığını araştırmaktır. **Gereç ve Yöntemler:** Bu kesitsel çalışma 6 ay sürmüştür. Demografik bilgiler dâhil temel bilgiler, hastaneye yatış nedeni ve altta yatan birincil hastalık, konsültasyon nedeni, deri lezyonunun tanımlanması, talep eden hekimin tanısı, danışmanlığın önemi veya danışmanlığın tedavi sürecine etkisi, klinik öncesi sonuçlar ve dermatolog tarafından konulan son tanı bilgilerini kullandık ve bilgileri kontrol listesine girdik. **Bulgular:** Bu çalışmada, 200 hasta yer almıştır. Talep edilen konsültasyonlardaki en yaygın deri hastalıkları; ilaç reaksiyonları, psöriyazis, vaskülit ve dermatit olmuştur. Danışmanlık en fazla iç hastalıkları, romatoloji ve nöroloji uzmanlarına verilmiştir. Konsültan hekimin tanısı 52 hastada doğru çıkmıştır. Dermatoloğa göre 40 konsültasyon çok önemli, 129 konsültasyon önemli ve 31 konsültasyon önemsizdi. **Sonuç:** Çalışmamız, dermatoloji konsültasyonunun, vakaların %84,5'inin tanı ve tedavisinde etkili olduğunu ve vakaların sadece %26'sında birinci basamak uzmanlarının tanısının doğru olduğunu göstermiştir.

Anahtar Kelimeler: Dermatoloji; konsültasyon; hastaneye yatış

Dermatologists play an important role in the diagnosis and management of hospitalized patients.[1] Skin problems are common in hospitalized patients. Approximately one-third of hospitalized patients show significant cutaneous findings, and more than 10% of them have skin problems that are directly re-

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lated to their hospitalization and indicate a systemic disease.[2] Dermatology counseling improves diagnosis accuracy; the diagnosis of counseling teams changes frequently (45-80% of patients) and often leads to changes in treatment.[3] It seems that with the correct diagnosis, the early start of appropriate treatment and early discharge will lead to cost savings.[4] Dermatologists often rely only on physical examination, which will save potential costs associated with laboratory tests and imaging.[3] Although dermatology is more of an outpatient and clinical field, it also plays an important role in the care of hospitalized patients. Some patients admitted with non-dermatologic problems, may already have a pre-existing skin condition, and others may develop a skin complication such as a drug reaction during hospitalization.[1] It has been shown that non-dermatologists who seek dermatological consultation often miss common dermatological dermatoses and therefore play a key role in the diagnosis and management of dermatological problems in large multidisciplinary dermatological hospitals.[2]

Therefore, dermatological consultations have effect on reducing morbidity and improving the quality of hospitalized patients. A limited set of common skin problems leads to a disproportionate percentage of counseling requests, which in addition to the economic burden and cost, will lead to a loss of physician time and confidence in the necessity and importance of counseling, but so far there is no evidence of frequency of skin diseases in hospitalized patients and specialized departments that request skin counseling. The aim of this cross-sectional study was to investigate the frequency of skin diseases in dermatological consultations requested from other departments of teaching hospitals in Mashhad.

MATERIAL AND METHODS

This cross-sectional study was performed over a period of 6 months on hospitalized patients. The sample size was done by whole number method in the considered time period. This research was approved in 2020 by the Mashhad University of Medical Sciences Ethics Committee in accordance with the Declaration of Helsinki (date: February 4, 2020; no: IR.MUMS.REC.1398.867) and in this study, information was reported collectively and patients' identities were not specified. Informed consent was obtained from each participant or his/her legal guardian.

During the study period, information about daily consultations that were sent to the dermatology department from different departments of teaching hospitals affiliated to Mashhad University of Medical Sciences was recorded. The checklist included: demographic information, cause of hospitalization and the past medical history, reason for consultation, description of the skin lesion, diagnosis of the requesting physician, and final diagnosis by a dermatologist. Also, in the checklist multiple-choice questions provided to evaluate the effect of dermatological consultation on the disease process based on the judgment of the consulting physician.

If the diagnosis of the patient was not possible with one session and a biopsy was required for the final diagnosis, the patient was given sheets to visit the dermatology clinic on a certain date and we followed these patients until the final diagnosis was determined.

Finally, 203 samples were included in the study, of which 3 samples were excluded due to incomplete file information. The data were collected and entered into SPSS software (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp).

RESULTS

In total, dermatological consultations of 200 patients were evaluated in this study, of which 143 were female (71.5%) and the others were male. The mean age of the patients was 43.6±21.72 years. The cause of hospitalization was dermatological in 45 (22.5%) cases and non-dermatological cases in 155 (77.5%) cases. One hundred thirty (65%) of the patients had past medical history of cutaneous diseases. Most specialists requesting counseling were internal medicine (25%), rheumatology (16.5%) and neurology (8.5%) (Figure 1).

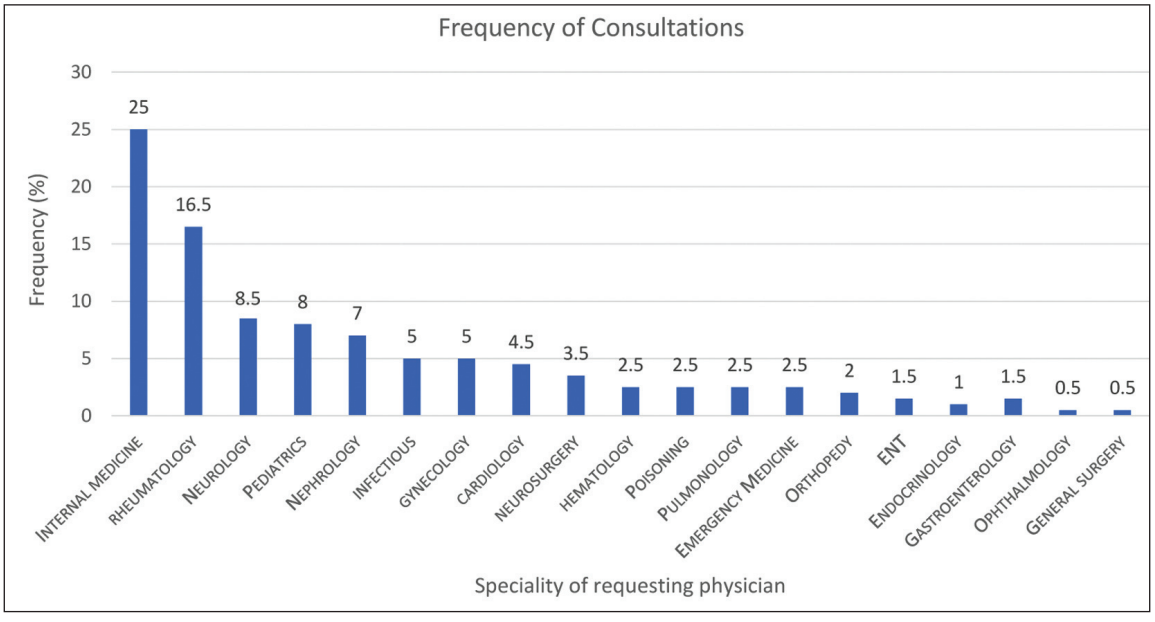


FIGURE 1: Frequency of requested consultations according to the specialty of the requesting physician.

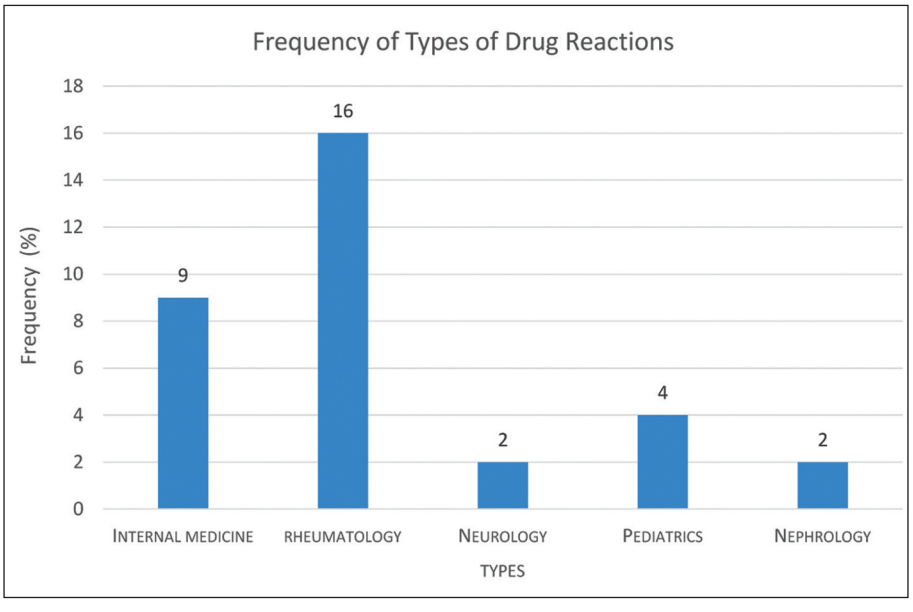


FIGURE 2: Frequency distribution of different types of drug reactions.

The most common skin diseases in the requested consultations were drug reaction (20.5%), psoriasis (7%), vasculitis and dermatitis (each 6%).

Frequency distribution of different types of drug reactions were related to exanthematos (68.29%), drug reaction with eosinophilia and systemic symptoms (DRESS) (9.75%), and Steven-Johnson syndrome (SJS)/toxic epidermal necrolysis (TEN), Symmetric drug-related intertriginous and flexural exanthema (SDRIFE), Fixed drug eruption (FDE) (each 7.31%) (Figure 2).

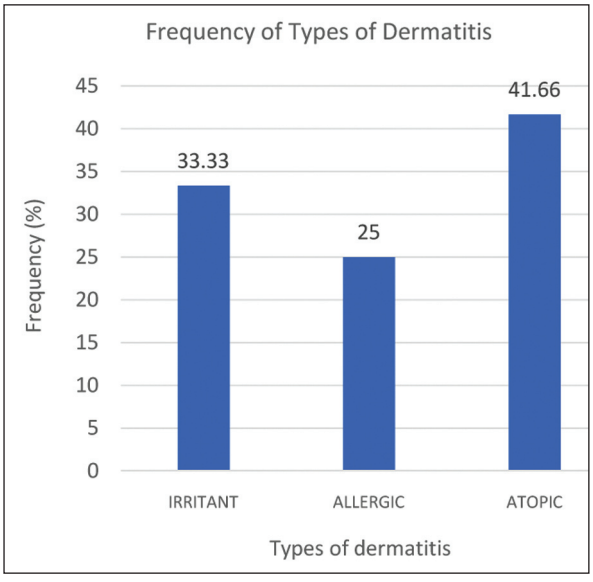
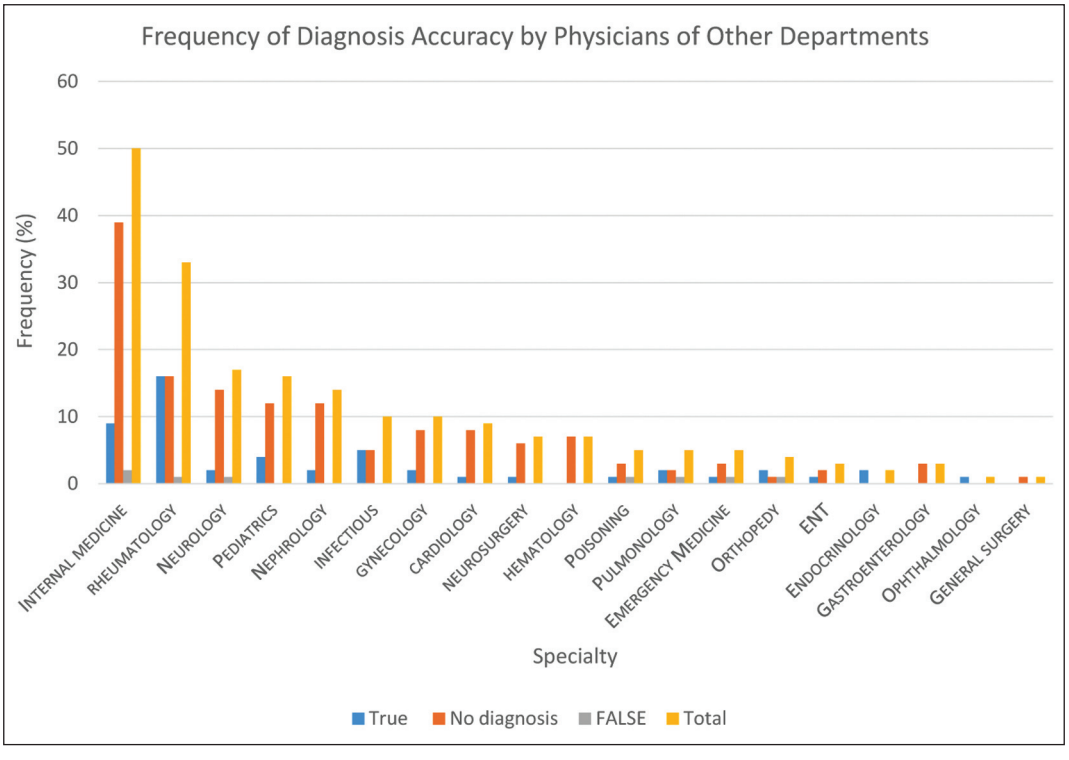


FIGURE 3: Frequency distribution of different types of dermatitis.

Also, the frequency distribution of different types of dermatitis is as follows: irritant contact dermatitis (33.33%), allergic contact dermatitis (25%) and atopic dermatitis (41.66%) (Figure 3).

Out of a total of 200 consultations performed, 144 (72%) cases of the lesion were described by the physician requesting the consultation. In terms of the quality of the description of the lesions by the requesting specialists, 81 (40.5%) cases had appropriate description, in 63 (31.5%) cases the description was inappropriate and in other cases (28%) the lesion was not described. A total of 119 consultations (59.5%) did not have a lesional description or the lesion description was not appropriate. In 80 (40%) cases skin lesions developed before hospitalization and could be followed up on an outpatient basis, while in 81 (40.5%) cases lesions developed during hospitalization and in 39 (19.5%) cases skin problems was the main reason of hospitalization.

The diagnosis made by the physician requesting consultation was correct in 52 (26%) patients and skin lesion was not correctly diagnosed in 7 patients (3.5%). Also, the frequency of accuracy of diagnosis by specialty of physicians requesting counseling is shown in Figure 4.



FUGURE 4: Frequency of diagnosis accuracy by physician requesting counseling.
ENT: Ear, nose and throat.

The most common methods of dermatologist diagnosis were: clinical diagnosis (50.5%), biopsy (34.5%), smear and culture (9.5%), biopsy and smear (5%) and Direct Immuno-fluorescence (DIF) (0.5%).

In the dermatologist's opinion, 40 consultation (20%) was very important, 129 consultation (64.5%) was important and 31 consultation (15.5%) was insignificant. Also, not requesting consultation had a negative effect on the treatment process in 51 (25.5%) cases and did not have a negative effect on 31 (15.5%) cases and in 117 (58.5%) cases had a somewhat negative effect on the treatment process.

DISCUSSION

As mentioned, the most common diagnoses in the present study were drug reactions, psoriasis, vasculitis and dermatitis. In a prospective study in 2010, data on 313 dermatological consultations were collected and evaluated over a period of 4 months. In terms of final diagnosis by a dermatologist, the most common diagnostic groups included the following groups: infectious diseases 25% (fungal infections 13%, bacterial 7% and viral 5%) eczema 15% and drug reactions 14%.[5]

Another study by Vinay et al. in 2021 examined 1,717 skin consultation in patients admitted to hospital. The most common diagnoses of skin diseases were infectious diseases, inflammatory diseases, drug reactions and autoimmune diseases.[6]

Similarly, a study was conducted in 2021 by Joseph et al. to examine skin consultations. In this study, 306 consultations during one year were evaluated. The most common diagnoses by a dermatologist were dermatitis, drug reaction, infection, and autoimmune disease.[7]

In another study by Daye in 2019 in Türkiye, the most common diagnosis in consultations were eczema (28.2%), viral diseases (13.2%), parasitic diseases (8.4%) and fungal diseases (5.4%) in pediatric patients.[8] Although our patients were adults unlike this study, the results were almost similar.

The prevalence of drug reactions in our study seems to be higher than other studies in this field. Hospitalization also leads to the administration of several medications, especially antibiotics, analgesics, antiepileptics, and neuroleptics, which are frequent causes of drug reactions, including DRESS and SJS/TEN.

The diagnosis of the physician requesting the consultation was correct for 52 (26%) patients. This rate is high compared to another US study in which the diagnostic accuracy is reported to be only 23.9% and slightly lower compared to an Indian study (39%).[4] However, this is very low compared to the 48% diagnostic accuracy in a study by Falanga et al.[9]

This discrepancy may have occurred because Falanga et al. conducted a prospective study in which physicians were more careful in diagnosing skin disorders because they knew their knowledge was being evaluated.

This rate of misdiagnosis in the early stages of treatment may lead to inadequate treatment of patients, long-term hospitalization, and unacceptably high mortality rates. Given that inpatient counseling changed management in approximately one-third of patients seeking dermatological services, an ideal operating model should include a dedicated dermatology unit for inpatient counseling, at least in secondary and tertiary care.

It has been shown that internal medicine specialists send the most skin consultations, which also confirms our findings.[9] This is probably due to the fact that many medical disorders are associated with cutaneous manifestations that may be used as important clues to diagnose the main diseases. A study in South Africa reported similar findings, highlighting the importance of accurate skin diagnosis in better patient management.[10]

One of the strengths of this study is that it is multi-centered. Although several hospitals were surveyed, some departments, such as psychiatry, ophthalmology and special pediatric, were not present among these hospitals, which may lead to underestimation of dermatological patients in our study. One limitation of our study is that only the consultations of patients who were consulted at the bedside in the relevant department were included in the study and outpatient consultations of hospitalized

patients were excluded. Another limitation of the study was its coincidence with the coronavirus disease-2019 pandemic, which caused a decrease in the sample size.

CONCLUSION

The most common diagnoses in dermatology consultations are drug reactions, vasculitis, and dermatitis. Internal medicine, rheumatology and neurology specialists are the most requested skin consultants. Our study showed that dermatology consultation in 84% of cases was effective in the process of diagnosis and treatment of patients and only 26% of the diagnosis of primary specialists was correct. The results of this study strengthen the value of dermatology in the diagnosis and management of hospitalized patients. It is clear that each hospital team has specific expectations of dermatologists due to the different consultation times when admitting patients. Dermatologists who visit inpatients need specialized skills that make them valuable individuals for the hospital system and an essential source of clinical knowledge for primary care teams and the emergency department. Ensuring the permanent presence of a dermatologist in the hospitals improves the quality of health care provided to patients, minimizes unnecessary medical laboratory examinations, reduces inadequate treatment and the overall cost of health care.

SUGGESTIONS

1. Carrying out a comprehensive and multicenter study with a larger sample size, considering the patients of specialized hospitals such as ophthalmology, psychiatry and pediatrics.

2. Holding meetings of dermatologists with specialists in various fields to eliminate educational deficiencies related to the correct diagnosis of common dermatoses.

3. Revision the hours of dermatology clinical training for medical interns.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Yalda Nahidi;* ***Design:*** *Yalda Nahidi;* ***Control/Supervision:*** *Yalda Nahidi;* ***Data Collection and/or Processing:*** *Shatila Torabi;* ***Analysis and/or Interpretation:*** *Lida Jarahi;* ***Literature Review:*** *Seddigheh Hossein-Nejad;* ***Writing the Article:*** *Seddigheh Hossein-Nejad, Faezeh Zakeri-Nasab;* ***Critical Review:*** *Yalda Nahidi;* ***References and Fundings:*** *Masoomeh Hosseini-Nejad;* ***Materials:*** *Faezeh Zakeri-Nasab.*

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