Pattern and trend of dermatologic consultations at a University teaching hospital in Lagos, Nigeria

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Abstract

Background: The knowledge of the spectrum of skin diseases is typically the foundation for appropriate health planning, policy making, and the allocation of limited resources. The aim of this study therefore, was to determine the spectrum and pattern of dermatologic diseases at our center using the ICD -10 code and to determine the trend of diagnosis.
Methods: This retrospective study of 3354 patients who attended clinic for the first time between January 2017 and December 2022 was conducted at the outpatient skin clinic of the Lagos State University Teaching Hospital following ethical approval (LREC/10/06/1209). Diagnoses were coded using the ICD-10 code and data was analyzed using SPSS version 25.
Results: Among the three thousand, three -hundred and fifty-four patients attended to, 57.7% of them were female. Non-infectious diseases accounted for 84% of the diagnoses and infectious diseases for 16%. The commonest group of diseases were the eczemas (26.4%) followed equally by disorders of skin appendages and, tumors and malignant skin lesions (13.6%). Squamous cell carcinoma (12.5%) was commoner than basal cell carcinoma (7.5%). The ten (10) most common diseases diagnosed in the clinic are acne vulgaris (7.5%), seborrheic dermatitis (7.0%), atopic dermatitis (6.8%), vitiligo (2.9%), lichen planus (2.9%), and psoriasis (2.7%). Non-infectious diseases remained the most common diagnoses made.
Conclusion: There is an increasing and improving access to dermatological care. Non-infectious diseases remain the main reasons for clinic attendance. Acne vulgaris, seborrheic dermatitis, and atopic dermatitis make up the bulk of diseases diagnosed at the clinic.

Modèle et tendance des consultations dermatologiques dans un hôpital universitaire de Lagos, au Nigéria

Résumé
Contexte de étude: La connaissance du spectre des maladies cutanées constitue généralement la base d'une planification sanitaire appropriée, de l'élaboration de politiques et de l'allocation de ressources limitées. L'objectif de cette étude était donc de déterminer le spectre et le profil des maladies dermatologiques dans notre centre en utilisant le code CIM-10 et de déterminer la tendance du diagnostic.
Méthode de l'étude : Cette étude rétrospective de 3354 patients qui se sont rendus pour la première fois à la clinique entre janvier 2017 et décembre 2022 a été menée à la clinique dermatologique ambulatoire de l'hôpital universitaire de l'État de Lagos après approbation éthique (LREC/10/06/1209). Les diagnostics ont été codés à l'aide du code CIM-10 et les données ont été analysées à l'aide de SPSS version 25.
Résultats de l'étude : Français Parmi les trois mille trois cent cinquante-quatre patients pris en charge, 57,7 % étaient des femmes. Les maladies non infectieuses représentaient 84 % des diagnostics et les maladies infectieuses 16 %. Le groupe de maladies le plus courant était l'eczéma (26,4 %), suivi à égalité par les troubles des phanères et les tumeurs et lésions cutanées malignes (13,6 %). Le carcinome épidermoïde (12,5 %) était plus fréquent que le carcinome basocellulaire (7,5 %). Les dix (10) maladies les plus fréquemment diagnostiquées à la clinique sont l'acné vulgaire (7,5 %), la dermatite séborrhéique (7,0 %), la dermatite atopique (6,8 %), le vitiligo (2,9 %), le lichen plan (2,9 %) et le psoriasis (2,7 %). Les maladies non infectieuses restaient les diagnostics les plus fréquents.
Conclusion: L'accès aux soins dermatologiques est en augmentation et s'améliore. Les maladies non infectieuses restent les principales raisons de la consultation. L'acné vulgaire, la dermatite séborrhéique et la dermatite atopique constituent la majeure partie des maladies diagnostiquées à la clinique.
Mots-clés : Maladie de la peau, spectre, prévalence, épidémiologie, dermatologie

INTRODUCTION

Skin diseases present a burden to the world and are reported in 19% to 62% of the population (1-4). The knowledge of the spectrum of skin diseases is typically the foundation for appropriate health planning, policy making, and the allocation of limited resources. Studies on skin diseases from various parts of the world reveal that the prevalence and patterns of skin conditions vary (1-4). Additionally, these studies demonstrate a predominance of various diseases depending on the country in which the study was carried out: dermatitis in Saudi Arabia (1), superficial mycosis in Brazil (3), papulosquamous diseases, and eczemas in Africa (2,4), and atopic dermatitis in France (5). Gender-based differences in skin disease occur and females are predominantly affected (1,6,7). Men tend to have more cancers and acne (6-8) while women have more connective tissue diseases, alopecia, and photoaging (1,7,8).

Skin disease patterns and prevalence have been reported in Nigeria, but the majority of these studies were carried out years ago, and it is unclear whether they are still relevant today (9-15). Also, when these studies were conducted, the number of dermatologists in the country was few, and access to dermatological care was poor. Additionally, only one of these studies used the ICD code in the classification of diseases (4). Furthermore, we do not know if the pattern of skin diseases has changed over the years. The studies did, however, reveal various types of skin disease; some were more of infections and infestations, while others were more of inflammatory diseases (9-15). Also, the prevalence of specific diseases appears to differ in these studies regardless of the region. While non-infectious cases were reported in Osogbo and Lagos (4,15), infections and infestations were reported more in Enugu, Port Harcourt, Ibadan, Calabar and Sokoto (9-14). These differences in study conclusions can be attributed to the differences in the geographical locations of the studies. The spectrum and prevalence of dermatologic consultations has not been studied our in center. It is not known what disease patterns or specific disease we need to plan for. Also, we do not know if there is any difference in disease pattern between male and female patients nor any difference based on age. The aim of this study therefore, was to determine the spectrum and pattern of dermatologic diseases at our center using the ICD -10 code and to compare skin diseases based on gender. In addition, we sought to know the ten commonest skin diseases in the clinic and the trend of skin disease pattern. Furthermore, we sort to know if there is a change in skin disease pattern in the country. There is a recent interest in dermatological presentations from different regions of the world because of the increased mobility of human beings. Findings from this study will highlight the dermatological diseases of interest from Nigerian patients and help the attending dermatologist know what to anticipate. Also, findings will help our skin clinic and hospital management be better positioned for effective and appropriate patient management.

MATERIALS AND METHODS

This retrospective study was conducted at the outpatient skin clinic of the Lagos State University Teaching Hospital. The clinic is typically attended by individuals aged 13 years and above. Referrals to the clinic come from the hospital's outpatient family medicine clinic, additional outpatient clinics, and hospitals in nearby states. Following ethical approval from the hospital's ethics review committee (LREC/10/06/1209), case records of 3354 patients who were attending the clinic for the first time between January 2017 and December 2022 were retrieved from the hospital registry and pertinent information was documented. The majority of diagnoses were made clinically, but when necessary, skin biopsies and nail scrapings for mycology were performed. Data from case records with missing data were not included in the analysis. Age, gender, and diagnosis were among the details recorded. Individuals who had multiple dermatological conditions were noted, but the study only used the first clinical diagnosis.

Data analysis

Data was exported from Excel to the IBM Statistical Package for Social Sciences, version 25. Skin diseases were broadly divided into infectious, non-infectious, and tumoural conditions using the ICD-10 code as closely as possible. Where this was not possible, the classification of diseases based on Rook's textbook of dermatology was incorporated (16). All skin diseases were categorized into eight major disease categories. The ninth category ("other disorders of the skin and subcutaneous tissue") was further classified into five subgroups. It was determined how frequently the group and each skin diagnosis occurred. The distribution of major skin disease categories by age and gender was done. The chi-squared test was used to ascertain the relationship between gender and age and the broad classification of

skin diseases (infectious, non-infectious, and tumors). The pattern of the skin disease's prevalence over time was displayed using a line graph. The ten most common diagnoses were noted. All statistical tests were considered significant if the p-value was less than 0.05.

RESULTS

Sociodemographic characteristics of the patients

A total of three thousand, three -hundred and fifty-four (3354) patients were attended to during the study period with 57.7% of them being female. The age range was 3-98 years and the mean age (SD) of the patients was 38.6 ± 17.5 years. Percentage and age distribution of the patients was 0.1% (2/3354) in the under-10-year age range, 12.6% (423/3354) in the 10-19-year age range, 24.6% (825/3354) in the 20-29-year age range, 20.7% (694/3353) in the 30-39-year age range, 15.75 (527/3354) in the 40-49-year age group, 11.7% (394/3354) in the 50-59-year age group, 8.5% (285/3354) in the 60 to 69-year age group and 6.1% (204/3354) in over 70-year age group.

Spectrum of skin diseases

Non-infectious diseases accounted for 84% of the diagnoses and infectious diseases for 16%. The commonest group of diseases were the eczemas (26.4%) followed equally by disorders of skin appendages and, tumors and malignant skin lesions (13.6%), fungal infections (7.9%). The others were papulosquamous diseases, viral infections, pigmentary disorders, urticaria and angioedema, autoimmune connective tissue diseases, parasitic infections, adverse cutaneous drug reactions, scaling and cornified disorders, bacterial infections and bullous dermatoses were 1% each. The least diagnosed diseases were lipomas and lymphomas. Figure 1

Non-infectious diseases.

Of the non-infectious diseases, acne vulgaris (7.51%) followed by seborrhoeic dermatitis (6.98%) accounted for the most frequent reason for clinic attendance and autoimmune bullous diseases were the least diagnosed group of diseases. Table 1 In the group of eczemas, seborrheic dermatitis (26.5%) followed by atopic dermatitis (25.8%) were the most frequent diseases. In addition, the Erythemas and urticaria group had urticarias (80.4%) as the main presentation. Also, lichen planus and psoriasis had an almost equal presentation in the papulosquamous group. Bullous dermatoses, the least diagnosed group of diseases had bullous pemphigoid as the main disease (4.8%). The frequency of the other bullous diseases as shown in table 1. Disorders of skin appendages which was the largest group of diseases had acne vulgaris (55.1%) as the most frequent disease followed by hair loss of diverse types. Hidradenitis suppurativa which was infrequent in the clinic (0.69%) was also infrequent in the group (5.0%). Other disorders of the skin included post inflammatory hyperpigmentation, vitiligo as subsets of pigmentary disorders. Discoid lupus erythematosus accounted for 52% of the autoimmune connective tissue diseases, fixed drug eruption for 69.4% of the adverse reaction to drug and generalized pruritus for 27% of the diseases classed as others. Details of the frequencies of other non-infectious diseases are as recorded in table 1.

Infectious diseases

Fungal diseases (7.9%) accounted for most of the infectious diseases. This was followed by viral diseases (5.5%), parasitic diseases (1.6%) and bacterial diseases (1.0%). Tinea ungium (21.8%) and pityriasis versicolor (21.4%) were the main fungal infections. Details of the other fungal diseases are recorded in table 1. Viral warts with a frequency of 78.3% was the commonest viral disease followed by herpes zoster (9.2%). The frequencies of other viral diseases are as recorded in table 1. Bacterial diseases were infrequent in the clinic as shown in table 1. Scabies was the most diagnosed parasitic skin infection (72.7%).

Neoplastic diseases

Table 2 shows the details of the tumours observed. Mesenchymal tumours (5.8%) followed by epidermal tumours (3.6%) were the frequently diagnosed tumours. Lipomas were rarely diagnosed. Of the epidermal tumours, dermatosis papulosa nigra (27.5%) was the commonest diagnosis. Squamous cell carcinoma (12.5%) was commoner than basal cell carcinoma (7.5%). Neurofibromatosis (92.7%) was the main neural tumour. Cysts (49.1%) and syringomas (40.0%) had an almost equal representation in the adnexal tumour subset. With the mesenchymal tumours, keloid had a frequency of 93.9%. Cutaneous T-cell Lymphoma and lipoma were rare.

When we looked at the ten (10) commonest diseases diagnosed in the clinic, acne vulgaris (7.5%) was the commonest disease. This

was followed by seborrheic dermatitis (7.0%) and atopic dermatitis (6.8%). The others were keloid, viral wart, urticaria, hand and foot dermatitis. Vitiligo, lichen planus, psoriasis although, being part of the ten commonest diseases diagnosed in the clinic are relatively uncommon diseases.

Table 3 shows the gender-based differences in the different diagnoses. Except for viral infections, parasitic infections and cutaneous lymphomas, females were frequently diagnosed more with these diseases. details of the other diseases are as shown in table 3.

The trend of diseases showed that non-infectious diseases remain the most frequent reason for clinic attendance. However, there was a reduction in the frequency of non-infectious diseases in 2020 and a gradual increase to the normal levels by 2022. Infectious skin diseases which had enjoyed a nadir between 2018 and 2019 were observed to increase in 2020 and remained at the increased levels till 2022 when the frequency returned to a low normal. Tumours on the other hand, increased in 2018 and remained at that level till 2020 when a reduction in frequency started with the lowest incidence in 2021. In 2022, tumour frequency increased. Figure 2

We compared the 10 most frequent diseases in this study with that in seven previous studies from the region. This study had a high prevalence of non-infectious diseases and the least prevalence of infectious diseases. Acne vulgaris, seborrheic dermatitis, atopic dermatitis and urticaria were the commonest diseases. Table 4

DISCUSSION

We have documented the spectrum of skin diseases and demonstrated that non-infectious diseases are the main reason for clinic attendance. Attendance at dermatology clinics is steadily rising, which reflects easier access to the facility and the increase in the number of dermatologists. In addition, there is an increasing incidence of this. While the prevalence of tumors was rising, infectious diseases had a slight downward trend.

Non-infectious diseases accounted for the most common reason for clinic attendance. Eczemas were the most prevalent group of illnesses, followed likewise by conditions affecting the appendages of the skin, tumours, and malignant skin lesions.

Radiation-related disorders, which comprise photosensitivity reactions and actinic cheilitis were uncommon. This may be because sunscreen is routinely prescribed to dermatology patients, and this protects them from the photosensitive drugs prescribed to them. With the exception of the studies by Bissek et al, Onayemi et al, Onyekonwu et al and Ukonu et al (9,11,13,17). Where infectious diseases are still prevalent, this study, in concordance with other studies on the continent, shows a clear departure from infectious diseases despite the classification of diseases in comparable studies differing from ours (2,4).

The most frequent diagnoses were acne vulgaris and seborrheic dermatitis, which is consistent with the age range of the clinic's patients. These diseases typically have their onset and occur in late teenage years to mid-forties (10,18).

In the group of eczemas, seborrhoeic dermatitis, and atopic dermatitis were the commonest diseases. Lichen planus was discovered to be more prevalent than psoriasis in papulosquamous diseases. According to other studies, psoriasis affects Nigerians infrequently (4,9-11). Due to the low prevalence of this disease in Africans, hidradenitis suppurativa was not common. (19,20).

The most frequent cutaneous autoimmune disease diagnosed was discoid lupus. Patients with autoimmune diseases typically visit the hospital's rheumatology clinic, and those with only cutaneous manifestations visit the dermatology clinic. The high prevalence of discoid lupus is due to the fact that it typically affects the skin. Another common disease was idiopathic urticaria, which is similar to what has been reported in other studies (4,9,12). We are uncertain as to why urticaria is a common presentation in the clinic. Although bullous diseases were infrequent, bullous pemphigoid was the predominant type. This although, in contrast with pemphigus vulgaris being the most common of the bullous diseases (21,22) is similar to that from other Nigerian studies (4,9,10).

Infectious diseases were uncommon in the clinic. We attribute this to increased urbanization, improved hygiene standards, and a reduction in contact with infected sources like farms and poultry. Reports of the prevalence of infectious and non-infectious diseases differ from study to study. While some studies show more infectious diseases (9,10,11,13,14,23), some studies that agree with ours show more non-infectious diseases (2,4). More frequently occurring among the infectious diseases were fungal infections, primarily onychomycosis. The authors opine that the practices associated with manicures and pedicures with the removal of the

nail cuticle may be responsible for this. Though occupation was assessed in the study, wet work-related occupations may also have played a role. Similar prevalence of fungal infections and dermatophyte infections to those found in this study were observed in other studies (4,9,1015). Warts caused by viruses were particularly prevalent. We do not know why viral warts are common in our patients. Dermatology patients are routinely tested for retroviral infections, and there was only one positive result. Viral warts were frequent in other studies (4,11). One infectious disease was scabies, a neglected tropical disease. This primarily affected young people. Overcrowding associated with the attendance of boarding schools and the increasing population of the country may be responsible for the occurrence of scabies in this population.

In line with similar studies, malignant tumours were rare, and squamous cell carcinoma (SCC) was more prevalent than basal cell carcinoma (BCC) (2,4,10). Malignant melanoma was even rarer. Sun-induced malignancies are rare in skin of colour individuals accounting for the low prevalence of these tumours (24). Due to their lack of melanin and negligent sun protection habits, people living with albinism have been observed in the clinic to account for the majority of SCC and BCC cases.

Neurofibroma was the main neural tumour similar to what was recorded by Akinboro et al (4). Keloid was the main mesenchymal tumour in keeping with keloid being a disease of Africans, Asians, Hispanics and individuals of Mediterranean ancestry (25,26). Keloid was also recorded commonly in other studies from Nigeria (4,9,10). Cutaneous T-Cell lymphoma was uncommon in accordance with other studies (2,4,10). This neoplastic lesion appears to be uncommon in skin of colour individuals. The most prevalent non-malignant epidermal tumors were dermatosis papulosa nigra and seborrhoeic keratosis. These lesions are commonly documented in Africans (2,4).

Acne vulgaris, seborrheic dermatitis, and atopic dermatitis were found to be the most prevalent diseases among the ten most typical diseases diagnosed in the clinic. The average age of the patients was young and this is the age group typically affected by these diseases.

On comparison of this study with seven previous studies from the region, this study had a high prevalence of non-infectious diseases and the least prevalence of infectious diseases (9-15). This reflects an obvious departure from infectious diseases in the country. Except in the studies by Akinboro et al. and Ogunbiyi et al., where acne was not prevalent (4,12), atopic dermatitis and acne vulgaris were found to be the most commonly reported diseases (4,9-14). These studies by Ogunbiyi et al and Akinboro et al had a higher prevalence of infectious diseases than our study. We are uncertain if this is why acne was uncommon in their studies. In contrast to our study, Onyekonwu et al, Ogunbiy et al, and Akinboro et al reported urticaria as one of their top most common diseases. Ukonu et al. listed the viral wart as one of the ten frequently diagnosed diseases (11).

Overall, females were diagnosed with the majority of the diseases more frequently than males, but some diseases showed gender-based differences. Viral and parasitic infections (scabies) were more common in males, and fungal infections were more common in females. Males were more likely to be diagnosed to have cutaneous T-Cell lymphoma. The authors are unable to explain this difference. Similar gender based comparative studies of the spectrum of skin diseases did not compare the infections between males and females (1,6-8). Rather, they found men to have more cancers and acne compared to women (6-8).

A look at the trend of diseases diagnosed in the clinic showed that non-infectious diseases remained the most frequent reason for clinic attendance. However, there was a reduction in the frequency of non-infectious diseases in 2020 and a gradual increase to normal levels by 2022. Infectious skin diseases, which had peaked between 2018 and 2019, began to increase in 2020 and remained elevated until 2022, when their frequency began to decline back to a low normal level. On the other hand, tumour incidence rose in 2018 and stayed there until 2020, when it began to decline, reaching its lowest level in 2021. In 2022, tumour frequency increased. The 2020 COVID-19 pandemic had an impact on dermatological services and clinic attendance, which explains the diagnosis trend in 2020. We did not examine the trend in attendance by age, so we cannot link the rise in tumoral disease diagnoses with aging. The increased clinic attendance for tumoral diseases may have been influenced by increased awareness of dermatological services and the "Dr. Google" effect, where patients assume the worst about their illnesses. Akinboro et al similar to our study demonstrated a gradual departure from infectious disease in their patients (4).

CONCLUSION

In conclusion, there is an increasing and

improving access to dermatological care. Non-infectious diseases remain the main reasons for clinic attendance. Acne vulgaris, seborrheic dermatitis, and atopic dermatitis make up the bulk of diseases diagnosed at the clinic. Clinic attendance for infectious diseases is declining, and infectious diseases occur more in males.

Conflict of interest: The authors declare none.

Authors contribution: ELA did the conceptualization, literature review, patient evaluation, write up and manuscript review. OMC and OA performed the patient evaluation, write up and manuscript review.

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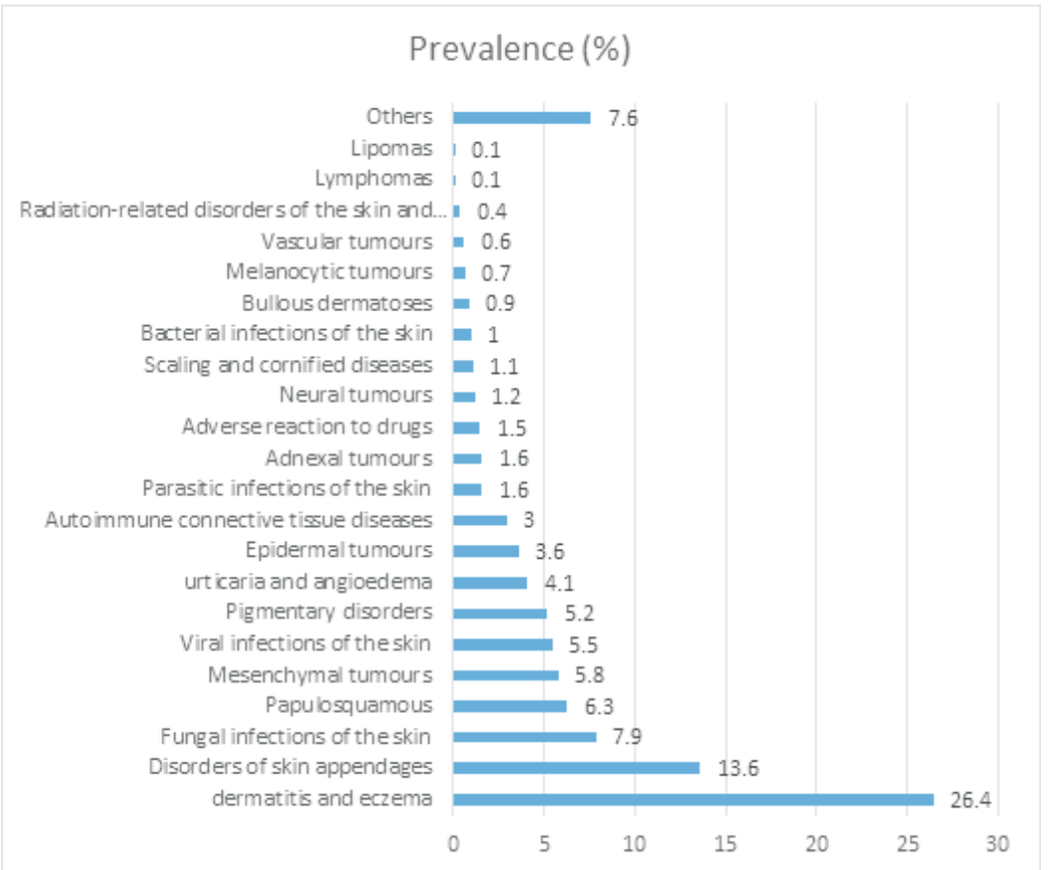

Figure 1. Spectrum and prevalence of skin diseases at the clinic

Table 1. Distribution of the non-infectious skin diseases (icd code)

Dermatological diagnosis	Group	n(%)	overall (%)
Non-infectious skin diseases			
1 Dermatitis and eczemas	(L20-30), n = 884 (26.4%)		
Seborrheic dermatitis	L21	234 (26.5)	6.98
Atopic dematitis	L20	228 (25.8)	6.80
Hand and foot dermatitis	L30.9	110 (12.4)	3.28
Papular uricaria	L28.2	63 (7.1)	1.88
Contact dermatitis	L23-25	57 (6.4)	1.70
Lichen simplex chronicus	L28.0	54 (6.1)	1.61
Exfoliative dermatitis	L26	40 (4.5)	1.19
Stasis eczema	I87.2	39 (4.4)	1.16
Prurigo nodularis	L28.1	19 (2.1)	0.56
Breast dermatitis	N64.59	17 (1.9)	0.51
Non Specific chronic dermatitis	L29.9	14 (1.6)	0.42
Pompholynx	L30.1	5 (0.6)	0.15
Allergic dermatitis	L23	2 (0.2)	0.06
Perioral dermatitis	L71	2 (0.2)	0.06
2. Erythemas, Urticaria and angioedema (L49-54), n = 138 (4.1%)			
Uritcaria	L50.1	111 (80.4)	3.31
Angioedema	T78.3XXA	8 (5.8)	0.24
Purpura	D69	8 (5.8)	0.24
Aquagenic urticaria	L50.6	5 (3.6)	0.15
Erythema Nodosum	L52	4 (2.9)	0.12
Erythema Induratum	A18.4	2 (1.4)	0.06
3. Papulosquamous diseases (L 40-45), n = 210 (6.3%)			
Lichen planus	L43	98 (46.7)	2.92
Psoriasis	L40	91 (43.3)	2.71
Pityriasis Rosae	L42	13 (6.2)	0.39
Lichen nitidus	L44.1	2 (1.0)	0.06
Lichen striatus	L44.2	2 (1.0)	0.06
Digitate dermatitis	L44	1 (0.5)	0.03
Lichen aureus	L81.7	1 (0.5)	0.03
Pityriasis rubra pilaris	L44	1 (0.5)	0.03
Pityriasis Lichenoides chronica	L41.1	1 (0.5)	0.03
4. Bullous dermatoses (L 10-14), n = 31 (1.0%)			
Bullous pemphigoid	L12.0	18 (58.0)	0.54
Pemphgus vulgaris	L10.0	6 (19.4)	0.18
Dermatitis herpetiformis	L13	3 (9.7)	0.09
Subcorneal pustular dermatosis	L13.1	2 (6.5)	0.06
Paraneoplastic pemphigus	L10.81	1 (3.2)	0.03
Pemphigus foliaceus	L10.2	1 (3.2)	0.03

Table 1 ctd. Distribution of the non-infectious skin diseases

Dermatological diagnosis		Group n (%)	Overall (n%)
Non-infectious skin diseases			
2. Disorders of skin appendages (L60-75), n = 457 (13.6%)			
Acne vulgaris	L70.0	252 (55.1)	7.51
Alopecia areata	L63.8	59 (12.9)	1.76
Folliculitis decalvans	L66.2	45 (9.9)	1.39
Acne kelodalis nuchae	L73.0	36 (7.9)	1.07
Hidradenitis suppurativa	L73.2	23 (5.0)	0.69
Pseudofolliculitis barbae	L73.1	9 (2.0)	0.27
Rosacea	L71	8 (1.8)	0.24
Central centrifugal cicatricial alopecia	L66	7 (1.5)	0.21
Milaria	L74.1	5 (1.1)	0.15
Pityrosporum folliculitis	L66.4	5 (1.1)	0.15
Androgenetic alopecia	L64	4 (0.9)	0.12
Traction alopecia	L65.8	4 (0.9)	0.12
Dissecting cellulitis	L66.3	2 (0.4)	0.06
Fordyce disease	L75.2	1 (0.2)	0.03
3. Radiation-related disorders (L56-59), n = 15 (0.4%)			
Photosensitivity eruptions	L56.4	12 (80.0)	0.36
Actinic cheilitis	K13.0	3 (20.0)	0.09
4. Other disorders of the skin and subcutaenous tissue (L80-99)			
A. Pigmentary disorders n = 176 (5.2%)			
Vitiligo	L80	98 (55.7)	2.92
Post inflammatory hyperpigmentaion	L81.0	42 (23.9)	1.25
Exogenous ochronosis	E70.29	16 (9.1)	0.48
Idiopathic guttate hypermelanosis	L98	10 (5.7)	0.30
Dyschromia	L81.9	5 (2.9)	0.15
Occulocutaneous albinism	L81.0	4 (2.3)	0.12
Melasma	L81.1	1 (0.6)	0.03
B. Scaling and cornified diseases n =36 (1.1%)			
Palmoplantar keratoderma	L85.1	15 (41.7)	0.45
Xerosis	L85.3	15 (41.7)	0.45
Acquired Ichthyosis	L85.0	5 (13.9)	0.15
Callus	L84.0	1 (2.8)	0.03
C. Autoimmune connective tissue diseases n = 100 (3.0%)			
Discoid Lupus Erythematosus	L93.0	52 (52.0)	1.55
Cutaneous SLE	L93	24 (24.0)	0.72
Morphea	L94	10 (10.0)	0.30
Bechet's disease	M35.2	5 (5.0)	0.15
Mixed Connective tissue disease	M36	5 (5.0)	0.15
Scleroderma	M34	2 (2.0)	0.06
Dermatomyositis	M33	2 (2.0)	0.06

Table 1 ctd. Distribution of the non-infectious skin diseases

Dermatological diagnosis		Group n (%)	overall (%)
Non-infectious skin diseases			
Other disorders of the skin and subcutaneous tissue			
E. Others n = 256 (7.9%)			
Pruritus	L29.9	69 (27.0)	2.06
Sarcoidosis	L92.9	18 (7.0)	0.54
Chronic ulcer	L97.0	16 (6.3)	0.48
Post herpetic neuralgia	B02.22	15 (5.9)	0.45
Skin aging	L90.9	15 (5.9)	0.45
Bleached skin syndrome	R23.8	13 (5.1)	0.39
Aquagenic pruritus	L29.8	11 (4.3)	0.33
Acanthosis nigricans	L83	4 (1.6)	0.12
Panniculitis	M79.3	2 (0.8)	0.06
Adermatoglyphia	Q82.8	3 (1.2)	0.09
Palmoplantar Hyperhidrosis	L98	1 (0.4)	0.03
Nutritional dermatoses	L30	2 (0.8)	0.06
Others	L30	87 (34.0)	2.59

Table 1. (Ctd) Distribution of the infectious skin diseases

Dermatological diagnosis		Group n (%)	overall (%)
2. Infectious diseases of the skin			
Fungal infections of the skin n = 266 (7.9%)			
Tinea Ungium	B35.1	58 (21.8)	1.73
Pityriasis versicolor	B36.0	57 (21.4)	1.70
Candidiasis	B37.2	41 (15.4)	1.22
Tinea cruris	B35.6	32 (12.0)	0.95
Tinea corporis	B35.4	30 (11.3)	0.89
Tinea pedis	B35.3	23 (8.6)	0.69
Tinea incognito	B35.9	14 (5.3)	0.42
Paronychia	L03.0	6 (2.3)	0.18
Tinea manuum	B35.2	3 (1.1)	0.09
Tinea faciei	B35.8	2 (0.8)	0.06
Viral infections of the skin n = 185 (5.5%)			
Viral Wart	B07	145 (78.3)	4.32
Herpes zoster	B02	17 (9.2)	0.51
Epidemodysplasia verruciformis	B07.8	10 (5.4)	0.30
Herpes simplex	B00.1	6 (3.2)	0.18
Molluscum contagiosum	B08.1	4 (2.2)	0.12
Eczema herpeticum	B09	1 (0.5)	0.03
Monkeypox	B04	1 (0.5)	0.03
HIV	B20	1 (0.5)	0.03
Bacterial infections of the skin n = 33 (1.0%)			
Furuncles and carbuncles	L02	6 (18.8)	0.18
Cellulitis	L03	6 (18.8)	0.18
Lepramatous leprosy	A30.5	6 (18.8)	0.18
Erythrasma	L08.1	6 (18.7)	0.18
Syphillis	A53.9	4 (12.5)	0.12
Impetigo	L01	2 (6.1)	0.06
Cutaneous tuberculosis	A30.1	3 (9.4)	0.09
Parasitic infections of the skin (n, %), (55, 1.6%)			
Scabies	B86	40 (72.7)	1.19
Elephantiasis	B74.0	9 (16.4)	0.27
Onchodermatitis	B73	6 (10.9)	0.18

Table 2. Icd-10 code based classification of the tumors

Dermatological diagnosis			Group n (%)	Overall (%)
2. Tumours, pre-malignant and malignant lesions				
Epidermal tumours n= 120 (3.6%)				
Dermatosis papulosa nigra	D23.3		36 (29.0)	1.07
Seborrheic keratosis	L82.0		17 (14.2)	0.51
Epidermal naevus	Q82.5		16 (13.3)	0.48
Squamous cell carcinoma	C44.92		15 (12.5)	0.45
Actinic keratosis	L57		15 (12.5)	0.45
Basal cell carcinoma	C44.0		9 (7.5)	0.27
Keratoacanthoma	L85		3 (2.5)	0.09
Fibroma	D21.9		2 (1.7)	0.06
Stucco keratosis	L82.1		2 (1.7)	0.06
Endometriosis	Q86.12		1 (0.8)	0.03
Ganglion	M67.4		1 (0.8)	0.03
Miscellenous tumors	D23.9		3 (2.5)	0.09
Neural tumours (n, %) (41, 1.2%)				
Neurofibromatosis	Q85.01		38 (92.7)	1.13
Tuberous sclerosis	Q85.1		3 (7.3)	0.09
Melanocytic tumours (n, %), (22, 0.65%)				
Melanocytic naevus	D22.9		18 (81.8)	0.54
Malignant Melanoma	C43.9		4 (18.2)	0.12
Vascular tumours n =20 (0.6%)				
Pyogenic granuloma	L92		12 (60.0)	0.36
Kaposi sarcoma	C46.0		7 (35.0)	0.21
Haemangioma	D18.0		1 (5.0)	0.03
Adnexal tumours (n, %) (55, 1.6%)				
Cysts	L72		23 (49.1)	0.69
Syringoma	D23.3		22 (40.0)	0.66
Idiopathic scrotal calcinosis	D23.9		2 (3.6)	0.06
Sebaceoma	D23.9		2 (3.6)	0.06
Trichloblastoma	D23.9		2 (3.6)	0.06
Mesenchymal tumours n =196 (5.8%)				
Keloid	L90		184 (93.9)	5.49
Xanthelasma	L98		5 (2.6)	0.15
Xanthomas	L98		5 (2.6)	0.15
Dermatofibrosarcoma protuberance		C49.2	1 (0.5)	0.03
Miscellaneous Malignant growth		C44	1 (0.5)	0.03
Lymphomas n = 5 (0.1%)				
Cutaneous T-cell Lymphoma		C84.A	5 (100.0)	0.15
Lipoma n = 4 (0.1%)				
Lipoma		D17.1	4 (100.0)	0.12

Table 3. Gender distribution of dermatological diseases

Dermatological disease	Male n = 1420(%)	Female n = 1934 (%)
Non-infectious skin diseases		
1. Dermatitis and eczema	398 (28.0)	486 (25.1)
2. Urticaria and angioedema	50 (3.5)	88 (4.6)
3. Papulosquamous	81 (5.7)	129 (6.7)
4. Bullous dermatoses	16 (1.1)	15 (0.8)
5. Disorders of skin appendages	202 (14.2)	255 (13.2)
6. Radiation-related disorders of the skin	6 (0.4)	9 (0.5)
7. Other disorders of the skin and subcutaneous tissue		
A. Pigmentary disorders	71 (5.0)	105 (5.4)
B. Scaling and cornified diseases	15 (1.1)	21 (1.1)
C. Autoimmune connective tissue disorders	21 (1.5)	79 (4.1)
D. Adverse reaction to drugs	19 (1.3)	30 (1.6)
E. Others	101 (7.1)	155 (8.0)
8. Infectious Skin diseases		
Fungal infection of the skin	103 (7.3)	163 (8.4)
Viral infection of the skin	116 (8.2)	69 (3.6)
Bacterial infection of the skin	15 (1.1)	18 (0.9)
Parasitic infection of the skin	37 (2.6)	18 (0.9)
9. Tumours, pre-malignant and malignant lesions		
Epidermal tumours	36 (2.5)	84 (4.3)
Neural tumours	19 (1.3)	22 (1.1)
Melanocytic tumours	6 (0.4)	16 (0.8)
Vascular tumours	9 (0.6)	11 (0.6)
Adnexial tumours	17 (1.2)	38 (2.0)
Mesenchymal tumours	76 (5.4)	120 (6.2)
Lymphomas	4 (0.3)	1 (0.1)
Lipomas	2 (0.1)	2 (0.1)

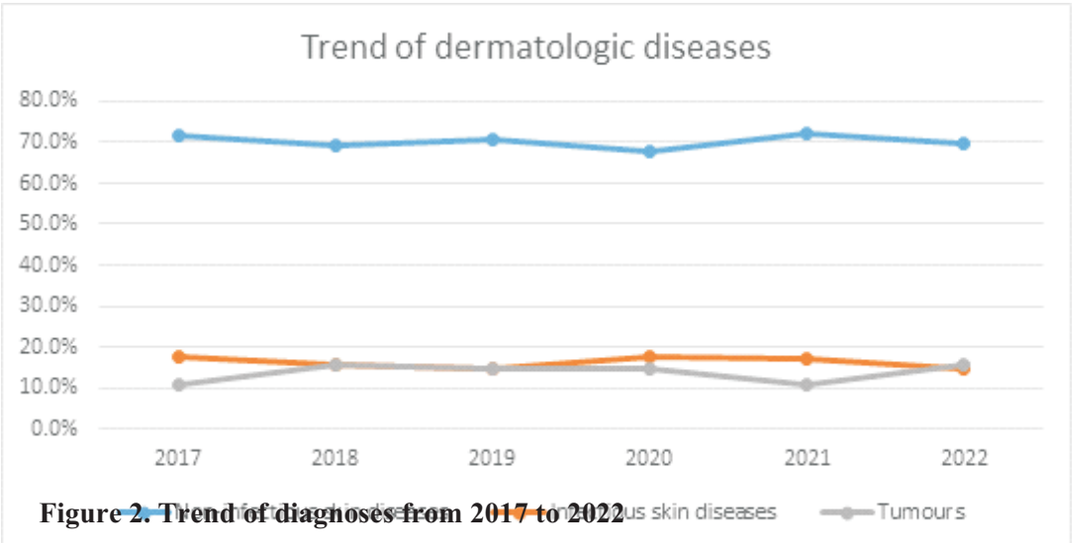

Figure 2. Trend of diagnoses from 2017 to 2022

Table 4. Comparison of the 10 commonest diseases in present study with that in previous nigerian studies

Disease	Present study. 2017-2022 (3354)	Onyekonwu et al 2013-2014 n=387	Henshaw et al 2006-2012 n=1307	Ukonu et al 2006-2007 Benin n=755	Akinboro et al 2005-2010 n=895	Altraide et al 2005-2008 n=1333	Onayemi et al 1999-2001 n=746	Ogunbiyi et al. 1994-1998 n=1091
Acne vulgaris	7.5	7.0	5.1	4.5	4.0	4.6	4.3	2.8
Seborrheic dermatitis	7.0	3.0	5.6	0.8	6.0	-	4.0	2.9
Atopic dermatitis	6.8	6.5	4.5	6.1	8.0	6.0	0.8	5.8
Keloid	5.5	3.9	0.7	1.8	1.1	-	1.0	1.5
Viral wart	4.2		2,5	4.5	4.5	2.8	2.9	2.0
Urticaria	3.3	5.4	2.5		6.8	6.5	3.7	4.6
Hand and foot dermatitis	3.3	-	1.5	-	-	2.2	-	0.7
Lichen planus	2.9	2.8	1.0	3.2	4.5	4.6	1.9	3.4
Vitiligo	2.9	3.9	3.6	3.2	4.8	5.3	2.8	5.7
Psoriasis	2.7	2.4	1.4	2.6	1.1	2.0	1.2	0.9