
Pattern of skin and skin related disorders in Libya: (8 years observational descriptive study)

***Dr. Bashir Erhoma**

Abstract

Skin diseases are common and represent major burden, and studying their pattern can help decrease it. In Libya studies are deficient in that regard. The aim of this study is to describe the pattern of different skin diseases that have been diagnosed in population of 313 patients from the western part of Libya. The data were collected from pathology department, medical faculty Tripoli University during the period 1990 to 1998 from different hospitals around the western territory of Libya, and categorized according to histopathological results. Descriptive statistics were used to assess the distribution by age, sex category. The results of the statistical investigation indicated that the average age of the patients was $39.125 \pm (14.750)$, with slight male predominance. The most common site of skin lesion was the head (15.3%). benign tumors were the most frequent skin disorders (38.3%) followed by malignant tumor (24%), dermatitis (9.6%) and

basal cell carcinoma was the most common diagnosis overall (13.7%), infectious diseases were low (3.2%). benign tumors predominate in all age groups followed by malignant except in patients more than 60 years in which malignant tumor was more common, also we found a significant difference between female and male patients.

The study showed significant relation between age groups and type of skin disease. The observed pattern of histopathologic diagnoses in the study provides valuable information to better promote medical training adapted to the type of local skin burden and needs.

*Staff member Faculty of Medicine University of Tripoli Libya

Introduction:

Skin disease is one of the most common diseases encountered in the community (Federman, et.al.2001, pp25-29). Three skin conditions, fungal skin diseases, subcutaneous diseases, and acne were in the top of 10 most prevalent diseases worldwide in 2010. Collectively, skin conditions were the 4th leading cause of non-fatal disease burden worldwide and skin cancer, including both melanoma and non-melanoma is the most common cancer in Caucasians for both genders(RJ, et al. 2014, pp 1527-1534) and (Apalla Z, et.al.2017, pp 5-19). The pattern of skin conditions varies according to the geographic and demographic factor (El-Khateeb, Imam, and Sallam, 2011, pp 844-853). Therefore, the evaluation of the prevalence in different populations is important key to develop strategies to reduce their burden. In Africa, the prevalence of skin disorders has been estimated between 11.5% and 60%. (Beltraminelli Het al. 2015, pp 1370-1375)

Early accurate diagnosis help in early treatment and prevent further complications of skin diseases especially neoplastic types, cancer registries and advanced dermatological diagnostic tools are needed in Libya, which will help to bring more accurate diagnosis of different types of skin diseases, which can be helpful for future development and implantation of preventive and therapeutic strategies. Previous study described skin diseases in only specific Libyan populations as pediatric, geriatric, refugee campus. (Elfaituri, S. 2015, p. 64) and (Elfaituri, S. 2015, p 1593).

Aim of the study

The main aim of this investigation is to describe the pattern of different skin disease in some Libyan patients, and provide preliminary data on the burden of skin diseases among Libyans.

Material and Methods:

This study was a case series study, based on the archive of the pathology department at The University of Tripoli's faculty of medicine which was the main center for histopathology investigation, in the country, during the late eighties to the year two thousand. A total of 313 cases who had skin disease and had done histopathology investigation at the pathology department in the time period (1990 – 1998), were included in the study. Patients files were reviewed and the following data were obtained; Age, gender, site of the lesion, diagnosis of the histopathology.

Classification system to study the pattern of skin diseases within these specific populations. The diagnoses were classified into categories and subcategories based on the histopathology result.

Statistical analysis was performed using the Statistical program for Social Sciences (SPSS version 21) that is used for data entry and analysis. Descriptive statistics were used and all results are presented as frequencies, means $\pm$ standard deviation and percentages. Categorical data were compared using the Chi-square test and Fisher's exact test if appropriate. A P-value of less than or equal to 0.05 was considered statistically significant.

Results:

The gender of the total patients included in this study (51.4% males and 48.6% females) were included in the study. The mean age of the patients was 39.125 ± 14.750 (ranges from one year to seventy years and over), cases less than 10 years and more than 70 years represent (4.5%) and (10.2%) of the investigated cases respectively. Figure (1) displays the age group and their percentage. It is clear that the age group (20-29) year

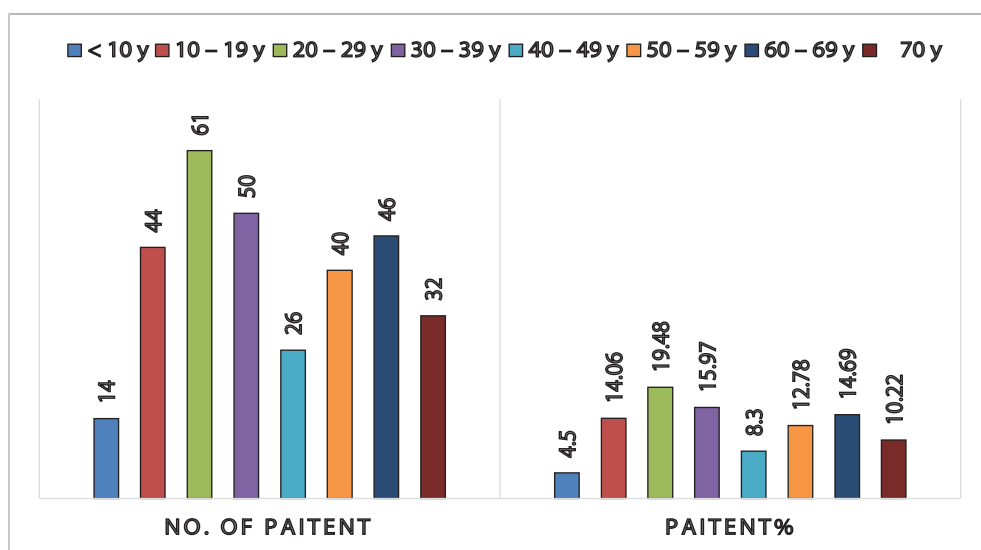


Figure (1) number of patient according to their ages and percentage

scored the highest percentage of the 313 investigated patients, and the rest of the percentage is distributed over the age groups (30-39), (60-69), (10-19), (50-59), (over70), (40-49), and (less than 10)years respectively.

With regards to the site of skin diseases, the lesion sites that have been recognized are illustrated in figure (2) 33.9% on other sites (neck, back, shoulder, axilla, hands, feet, buttock).

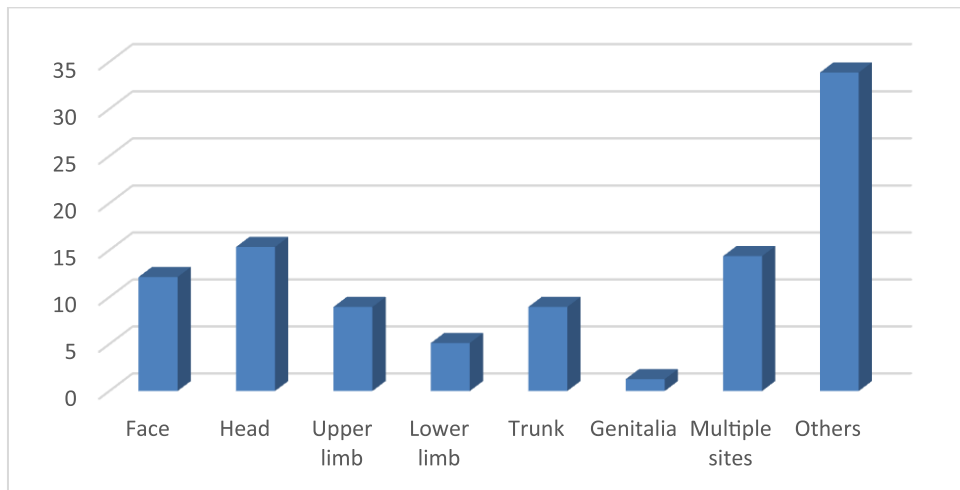


Figure (2) site of skin disease and patient%

The disease categories are displayed in figure (3), the most common skin disease which represent 71.90% of the total patients are the benign tumor, malignant tumor, and dermatitis then miscellaneous (8.63%), Papulosquamous (7.67%), systemic disease (5.75%), infectious (3.2%) and bullous disease (2.87%).

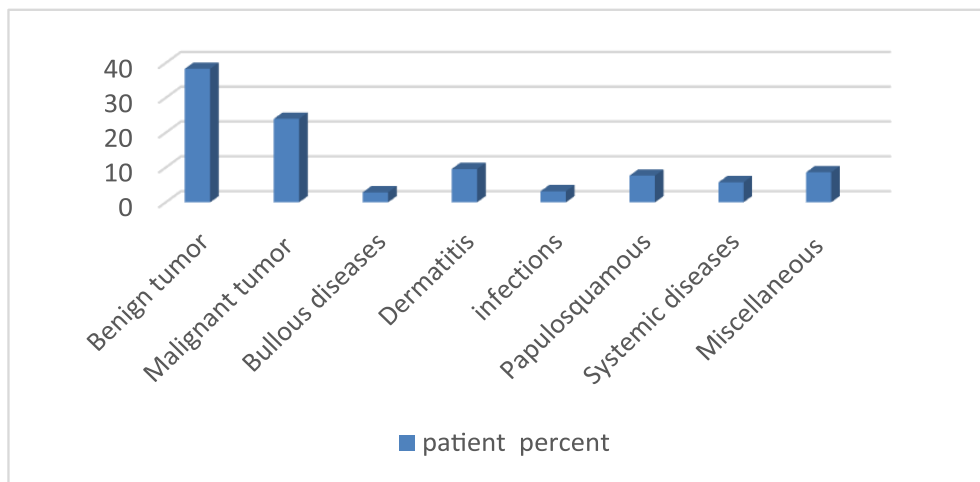


Figure (3) disease categories and percentage

The detailed investigation of 120 patients those have benign tumor, are subdivided into 13 subcategories as illustrated in figure(4) the most common diagnosis was nevus (21.67% of all benign tumor) followed by Seborrheic Keratosis and Squamous Cell Papilloma (15.8% for each).

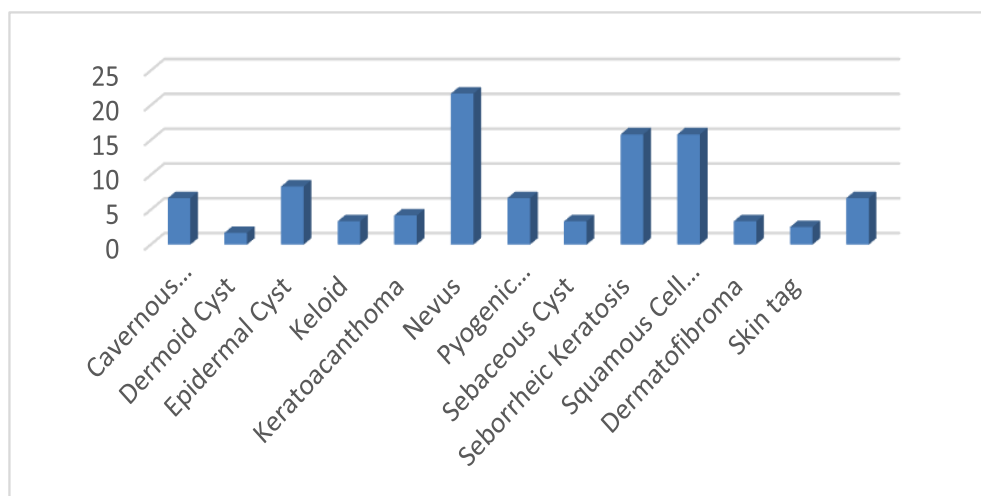


Figure (5) subcategories of benign tumor

57.33% of 75 patients with malignant tumor group was basal cell carcinoma, followed by squamous cell carcinoma (16%). Figure (6) displays the subcategories of the malignant tumor group.

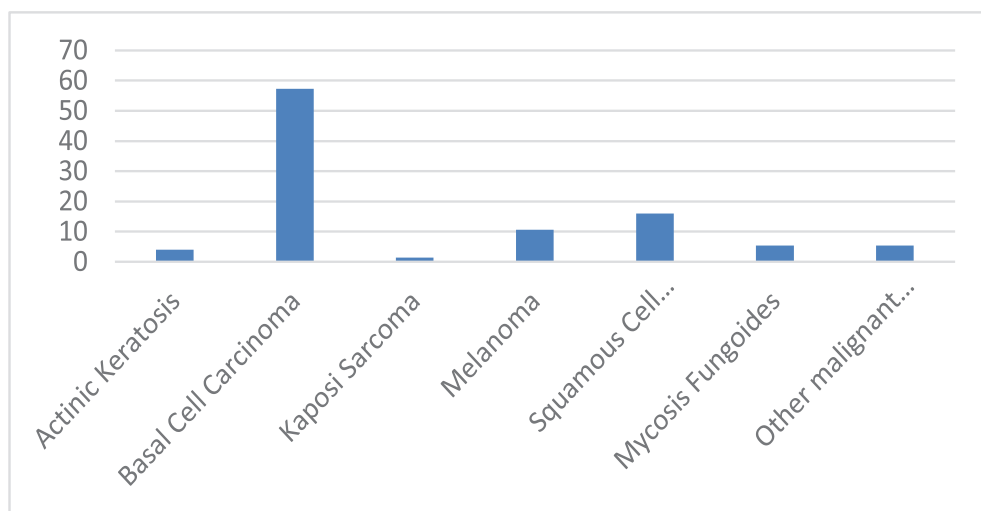


Figure (6) subcategories of the malignant tumor group

In dermatitis group the most common disease was chronic nonspecific dermatitis that represents (66.7%) of a total of 30 patients, the rest subcategory is illustrated in figure (7).

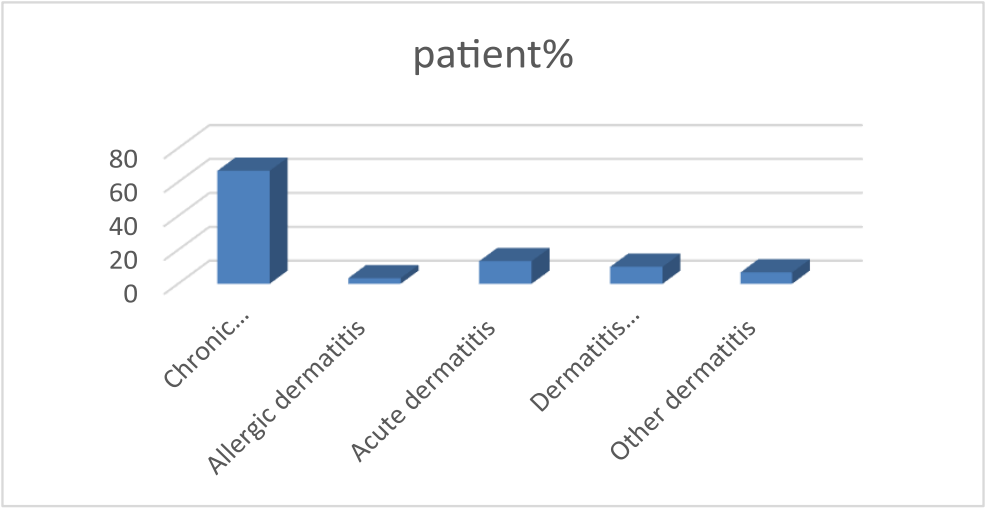


Figure (7) percentage of dermatitis subcategory

Figure(8) illustrates the Papulosquamous subcategory it is clear the most common disease was Lichen Planus (50% of 24 patients), followed by Psoriasis and Papulosquamous diseases at 16.67% respectively then Lichen Sclerosis at 12.5% , and 4.16% for Pityriasis rosea. Systemic diseases group depict that Discoid Lupus Erythematosus was the most common disease (27.8%) of the total of 18 patients diseases). In infectious skin disease group, the most common disease was Condyloma Acuminatum with 40% of 10 patients.

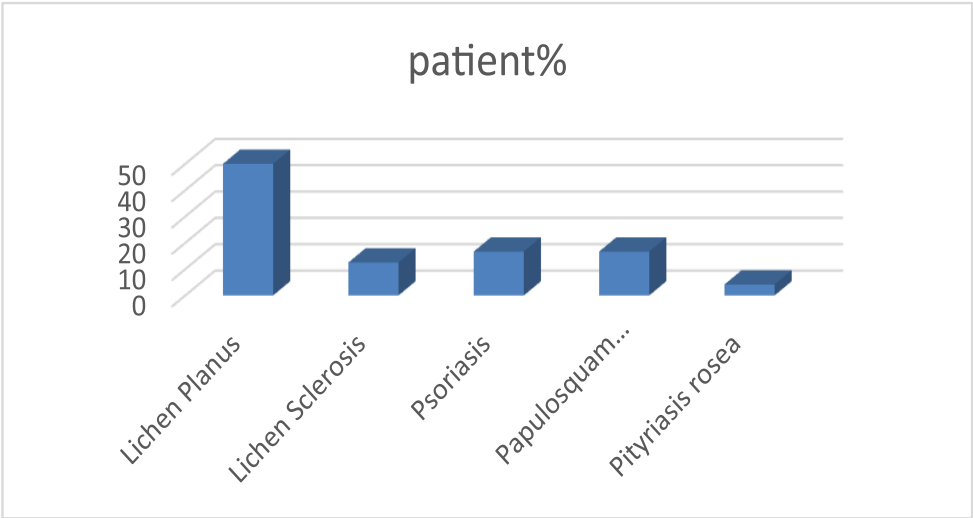


Figure (8) Papulosquamous subcategory and their percentage

In the miscellaneous group which includes 27 patients the main disease was Hyperpigmentation (14.8%).

Regarding the age group distribution, the result displayed in table(1) showed that the most common disease of all age group was benign tumors followed by malignant except for the age groups 60-69 and ≥ 70 years in which malignant tumors was the most common skin disease followed by benign tumor, the result was statistically significant with p value < 0.05 .

Skin disorder category	Age groups distribution by years							
	< 10	10 – 19	20 – 29	30 – 39	40 – 49	50 – 59	60 – 69	≥ 70
Benign tumor	5 35.7%	19 43.2%	26 42.6%	19 38.0%	10 38.5%	18 45.0%	14 30.4%	7 21.9%
Malignant tumor	2 14.3%	6 13.6%	6 9.8%	9 18.0%	4 15.4%	10 25.0%	19 41.3%	19 59.4%
Bullous diseases	0 0.0%	1 2.3%	4 6.6%	1 2.0%	0 0.0%	1 2.5%	1 2.2%	1 3.1%
Dermatitis	2 14.3%	3 6.8%	6 9.8%	6 12.0%	6 23.1%	1 2.5%	5 10.9%	2 6.3%
infections	2 14.3%	2 4.5%	3 4.9%	2 4.0%	0 0.0%	0 0.0%	1 2.2%	0 0.0%
Papulo-squamous	0 0.0%	4 9.1%	3 4.9%	5 10.0%	3 11.5%	5 12.5%	2 4.3%	2 6.3%
Systemic diseases	1 7.1%	2 4.5%	4 6.6%	3 6.0%	1 3.8%	1 2.5%	4 8.7%	0 0.0%
Miscellaneous	2 14.3%	7 15.9%	9 14.8%	5 10.0%	2 7.7%	4 10.0%	0 0.0%	1 3.1%

Table (1) most common disease of all age groups and their percentage

In respect to sex distribution, the result illustrated in figure(9) indicated that benign tumor was the most prominent skin disease in both sexes (33.6% in females, 41.6% in males) followed by malignant tumor (19.7% in female, 28% in male). Bullous and systemic diseases were more in females (5.3%

of female cases but only 0.6% of males) (8.6% of female vs 1.9% of males) respectively. The result was statistically significant with p value < 0.05 .

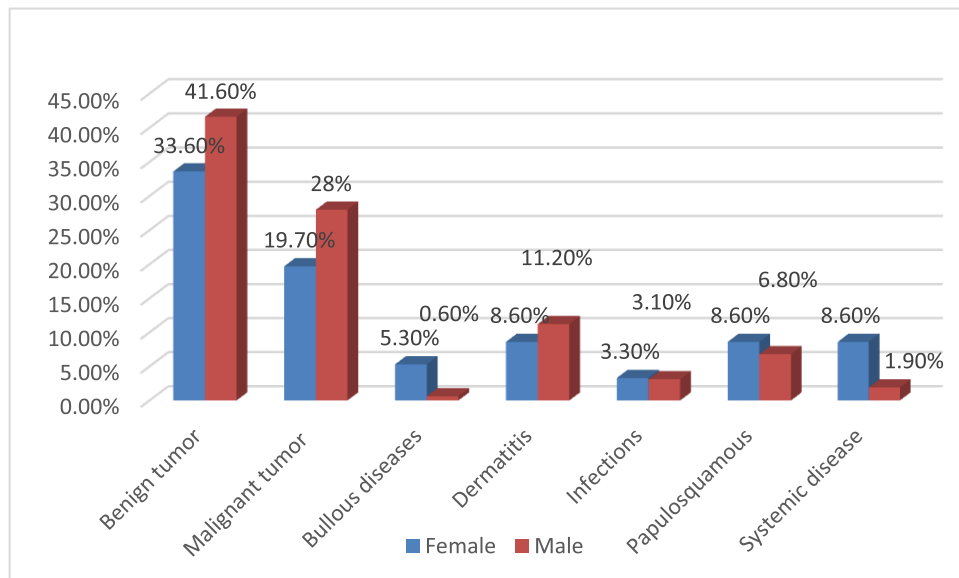


Figure (9) Skin disorder sex relationship

Discussion:

Although skin diseases are prevalent in all communities, their pattern and distribution vary widely from place to place even in the same country (that can be attributed to several geographic and demographic factors), which lead to different burdens ranging from simple nuisance like itching and pruritus to disability as in psoriasis all the way to death because of cancer metastasis, hence, the evaluation of skin diseases pattern in the local population is important in planning to reduce their burden.

This study provides the first comprehensive and systematic data about the histopathological diagnoses of skin biopsy specimens made in Libya. The result of the present study demonstrated slight male predominance (51.4%) in contrast to other studies in Tunisia and Egypt, (El-Khateeb, et.al 2011, pp 844-853 and Souissi A, et.al. 2007; pp 111-116), while similar to other studies in Saudi Arabia (Al Shobaili, 2010, pp 448-453 and Bahamdan 1995, pp 455-457). The study reported that Benign tumors were the most frequent skin disorder followed by malignant tumors then the dermatitis disorders whereas the bullous dis-

eases were less frequent preceded by the infectious diseases. The most common skin pathology of all the subgroups was basal cell carcinoma. A similar study in the sub-Saharan Africa which was also based on the histopathology findings reported that the most common skin disease was inflammatory skin diseases. The same study reported that skin tumors was the second most common skin disease and it represented 30.4% of all histopathological diagnoses. Specifically, 80.3% of these cases consisted of malignant diseases (Beltraminelli *et al.* 2015, pp 1370-1375). A study in UK reported similar result in that tumors were the leading skin disorder (Doe *PT, et al.* 2001, pp323-326).

Of the benign tumor category, Nevus was the most common benign tumor in the study followed by Squamous Cell Papilloma and Seborrheic Keratosis. A study in Egypt showed that Keloid was the most common benign tumor followed by Nevus and epidermal cyst. (El-Khateeb, *et al.* 2011, pp 844-853). Benign skin tumors in this study affected mainly the age groups less than 60 years but it is shifted to malignant tumors after the age of 60, that may be because of increase in risk with age or the transition from benign to malignant in neglected cases; either way, this may be a crucial point in planning for screening and prevention of skin cancer. Malignant tumors were the second most common skin disease and Basal cell carcinoma was the most common malignant tumor followed by Squamous Cell Carcinoma which was similar to other studies done in Tripoli and Cairo (Tresh *A, et al.* 2013, pp 798-804). Previous studies from African countries indicated Squamous Cell Carcinoma, followed by Basal cell carcinoma, sarcomas and melanomas as the most frequent malignant skin tumors (Asuquo 2012, pp 32–36 and Napo-Koura, 1997, pp 26-29).

One study in sub-Saharan Africa showed that the most common malignant tumor was Kaposi sarcoma (El-Khateeb, *et al.* 2011, pp 844-853). Dermatitis occupied the third most common skin disease in this study. Most of the cases of dermatitis were nonspecific dermatitis. Studies in Egypt, Tunisia and sub-Saharan Africa reported higher level of dermatitis compared to the current study. (Souissi *A, et al.* 2007; pp 111-116). The findings that dermatitis preceded infectious skin diseases within the list of the most common skin diseases may represent an indicator of relative development and urbanization of the community.

This study found a significant difference between female and male patients in the patterns of the skin diseases, tumors (benign and malignant) and der-

matitis were more predominant in males while Bullous diseases, infectious, Papulosquamous and systemic diseases showing female predominance. The result was similar to other Arab countries which can be related to the increase high risk of autoimmune diseases in Women (Saleh M.A.,2015, pp 27-30).

Conclusion:

In conclusion, the most common skin disease in western Libya is tumors followed by dermatitis. The most common skin disease of all subgroups was basal cell carcinoma followed by nevus then nonspecific dermatitis. The study showed significant relation between age groups and type of skin disease. The observed pattern of histopathologic diagnoses in the study provides valuable information to better promote medical training adapted to the type of local skin burden and needs.

References:

- 1.Adegbidi H, Yedomon H, Atadokpede F et al. Skin cancers at the National University Hospital of Cotonou from 1985 to 2004. *Int J Dermatol* 2007; 46: 26–29.
- 2.Al Shobaili, H.A., The pattern of skin diseases in the Qassim region of Saudi Arabia: What the primary care physician should know. *Annals of Saudi Medicine*, 2010. 30(6): p. 448-453.
- 3.Apalla Z, Nashan D, Weller RB, et al. Skin Cancer: Epidemiology, Disease Burden, Pathophysiology, Diagnosis, and Therapeutic Approaches. *Dermatology and Therapy*. 2017; 7: 5-19.
- 4.Federman DG, Reid M, Feldman SR, et al. The primary care provider and the care of skin disease: the patient's perspective. *Arch Dermatol*. 2001; 137: 25-9.
- 5.RJ, Johns NE, Williams HC, et al. The global burden of skin disease in 2010: an analysis of the prevalence and impact of skin conditions. *J Invest Dermatol*. 2014; 134: 1527-34.
- 6.Apalla Z, Nashan D, Weller RB, et al. Skin Cancer: Epidemiology, Disease Burden, Pathophysiology, Diagnosis, and Therapeutic Approaches. *Dermatology and Therapy*. 2017; 7: 5-19.
- 7.El-Khateeb, E.A., A.A. Imam, and M.A. Sallam, Pattern of skin diseases in Cairo, Egypt. *Int J Dermatol*, 2011. 50(7): p. 844-53.

- 8.Beltraminelli H, Kiprono S, Zuriel D, et al. Dermatopathology in subSaharan Africa: a systematic 5-year analysis of all histopathological diagnoses from the Regional Dermatology Training Centre (RDTC) in Moshi, Tanzania. *Journal of the European Academy of Dermatology and Venereology*. 2015; 29: 1370-75.
- 9.Elfaituri, S., Pediatric dermatoses in Benghazi, Libya. *Indian Journal of Paediatric Dermatology*, 2015. 16(2): p. 64.
- 10.Elfaituri, S.S., Skin diseases among internally displaced Tawerghans living in camps in Benghazi, Libya. *Int J Dermatol*, 2016. 55(9): pp. 1000-1004.
- 11.Elfaituri, S.S., Geriatric Dermatoses in Benghazi, *J Turk Acad Dermatol* 2015; 9 (3): 1593a1
- 12.Souissi A, Zeglaoui F, Zouari B, et al. A study of skin diseases in Tunis. An analysis of 28,244 dermatological outpatient cases. *Acta Dermatovenerol Alp Pannonica Adriat*. 2007; 16: pp111-116.
- 13.Al Shobaili, H.A., The pattern of skin diseases in the Qassim region of Saudi Arabia: What the primary care physician should know. *Annals of Saudi Medicine*, 2010. 30(6): pp. 448-453.
- 14.Bahamdan KA, Egere JU, Khare AK, et al. The pattern of skin diseases in Asir region, Saudi Arabia: A 12-month prospective study in a referral hospital. *Ann Saudi Med*. 1995; 15: pp 455-457.
- 15.Doe PT, Asiedu A, Acheampong JW, et al. Skin diseases in Ghana and the UK. *Int J Dermatol*. 2001; 40: pp 323-326.
- 16.Tresh A, El Gamati O, Elkatabi N, et al. NON MELANOMA SKIN CANCER TRENDS IN TRIPOLI/LIBYA. *Our Dermatology Online/ Nasza Dermatologia Online*. 2014 Oct 1;5(4). Gimbel DC, Legesse TB. Dermatopathology practice in ethiopia. *Arch Pathol Lab Med* 2013; 137:pp 798–804.
- 17.Asuquo ME, Ebughe G. Major dermatological malignancies encountered in the University of Calabar Teaching Hospital, Calabar, southern Nigeria. *Int J Dermatol* 2012; 51: 32–36
- 18.Napo-Koura G, Pitche P, Tchangai-Walla K, et al. [Cutaneous cancers in Togo]. *Bull Cancer*. 1997; 84: pp. 877-879.

19. Adegbidi H, Yedomon H, Atadokpede F et al. Skin cancers at the National University Hospital of Cotonou from 1985 to 2004. *Int J Dermatol* 2007; 46: pp. 26–29.
20. Saleh, M.A., Pemphigus in the Arab world. *The Journal of Dermatology*, 2015. 42(1): pp. 27-30.