

# Basal Cell Carcinoma of the Skin: A Clinical Study

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## Abstract

Skin cancer is a major public health due to raise incidence over the world. Basal cell carcinoma (BCC) is the most common form of human skin cancer. The study aims to detect the association between demographic, clinical and pathological characters of BCC. A cross-sectional study was conducted from August 2019 to June 2023. Totally, 105 lesions on the head and neck belonging to 99 cases who were suspected to have BCC by clinical examination. Each excisional biopsies were sent for histopathological study to confirm the diagnosis. Concerning the socio-demographic characters, 68 (69.3%) were males and 30 (30.7%) females, their ages ranged between 38 - 70 years ( $59.8 \pm 12.9$  years). Seventy-eight (79.6%) were lived in rural areas, while 21 (20.4%) cases were lived in urban regions and 59 (60.2%) of them previously worked as farmers. Smoking was predominant habit in 68 (69.3%). The family history of skin cancers was positive in 36 (35.7%). A significant differences were noted concerning the job and positive family history of skin cancer among cases in the two study settings ( $p = 0.05$ ) and ( $p = 0.04$ ), respectively. Sun exposure is an important risk factor for developing skin cancer, especially in those living in rural areas. In the future, a histopathological investigation of BCC lesions could be provided only to the control of the treatment. The better diagnoses improve an early removal of lesions with much better prognosis.

**Keywords:** Basal cell carcinoma, Skin cancer, Skin-photo-type, Fitzpatrick's classification, Morphea form

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**Citation:** Altaieima UMM, Al-Edani USR, Alrahmani MAA (2024) Basal Cell Carcinoma of the Skin: A Clinical Study. Prensa Med Argent, Volume 110:6. 435. DOI: <https://doi.org/10.47275/2953-4763-435>

**Received:** September 11, 2024; **Accepted:** December 02, 2024; **Published:** December 04, 2024

## Introduction

According to the latest published cancer registry in Iraq, skin cancer is the 9<sup>th</sup> most common diagnosed malignancy [1, 2]. Ultraviolet radiation from sun exposure is an etiological factor [3], in addition to fair skin, sun burn, smoking and subjection to ionizing radiation [4]. BCC does not metastasize, but sometimes it can distract the skin and invade underlying organs [4, 5]. BCC is defined by WHO Committee of the skin tumors as "a locally invasive, slowly spreading rarely metastasizing tumor and arising in the epidermis" [5, 6]. The skin type is another important factor in etiology which could influence signal intensity. In general, skin types are classified into six categories according to the Fitzpatrick scale as follows [7, 8]. The BCC clinical variants include nodular, ulcerated, superficial spreading, infiltrative and morphea forms [5].

## Methods

### Study design and setting

A cross-sectional study conducted including cases attending a dermatological consultation clinic in Basrah Teaching Hospital, Basrah Health Directorate from August 2019 to June 2023.

### Participants

One hundred and five lesions on the head and neck belonging to 99 cases who were suspected to have BCC by clinical examination.

### Data collection

The excisional biopsies of these lesions were sent for histopathological

study to confirm the diagnosis of BCC. The corresponding biopsy results were compared with the socio-demographic and clinical features.

### Ethical approval

Written informed consent was obtained from the cases and was conducted according to the ethical standards established by the 1964 declaration of Helsinki.

### Statistical analysis

We implemented standard descriptive statistics and data analysis using IBM SPSS statistics software (version 20.0, SPSS, Inc., Chicago, Illinois, USA). Mean and standard deviation were used to present data. The Chi square test was used, and  $p$  values  $\leq 0.05$  were considered significant.

## Results

Concerning the socio-demographic characters, 68 (69.3%) were males and 30 (30.7%) females, their ages ranged between 38 - 70 years ( $59.8 \pm 12.9$  years). Seventy-eight (79.6%) were lived in rural areas, while 21 (20.4%) cases were lived in urban regions and 59 (60.2%) of them previously worked as farmers. Smoking was predominant habit in 68 (69.3%). The family history of skin cancers was positive in 36 (35.7%). A significant differences were noted concerning the job and positive family history of skin cancer among cases in the two study settings ( $p = 0.05$ ) and ( $p = 0.04$ ), respectively (Table 1).

The cases' skin-photo-type according to Fitzpatrick's classification was mainly type III 68 (69.3%) cases. Other skin photo types were observed II 23 (23.4%), IV 5 (5.1%) and I 2 (2.2%) (Figure 1).



**Table 1:** Association of socio-demographic characters.

Variables		n	%	P value
Sex	Male	68	69.3	0.3
	Female	31	30.7	
Age (mean ± SD) years		66.5 ± 1.5		
Residency	Inside the city	21	20.4	0.1
	Rural areas	78	79.6	
Job	Officer	12	11.2	0.05
	Private work	16	16.3	
	Farmer	59	60.2	
	No	12	12.3	
Smoking	Smoker	68	69.3	0.8
	Nonsmoker	31	30.7	
Family history	Positive	36	35.7	0.04
	Negative	63	64.3	

**Table 2:** Association of clinical types of BCC and their sub-class of pigmentation.

Clinical type	Al-Yarmook teaching hospital lesions (n = 129)		P value
	pBCC	npBCC	
	n (%)		
Nodular	45 (66.2)	23 (33.8)	0.05
Ulcerated	28 (90.3)	3 (9.7)	0.01
Superficial spreading	8 (44.5)	10 (55.5)	0.1
Infiltrative	6 (66.7)	3 (33.3)	0.8
Morphea form	1 (33.3)	2 (66.7)	0.4

Here, tobacco smoking is recorded in (69.4%) cases, which is expected as smoking is considered a risk factor for BCC [4]. That agreed with the findings of Smith and Randle [12] who described an increased prevalence of BCC among the smokers [12]. On the other hand, Kumar et al. [13] found that all cases were non-smokers.

Regarding the positive family history of skin cancer, was demonstrated in 35.7% with very highly significant differences. Ahluwalia et al. found that 40% of cases had a positive family history [14], while Abbas et al. [9] registered only 29.4% [9].

Here, skin-type III represented as common (69.3%) while type I was the least common (2.2%). The pigmentation of skin is considered a protective factor for skin cancer [4], which explained findings observation; due to the most of Iraqi cases have skin-type III. These were consistent with the findings of Reiter et al. [15] where most of their study samples had skin type III [15].

In relation to clinical patterns, the commonest type was nodular type in 52.7% of the lesions and this is similar to Dourmishev et al. [5] study results found that nodular BCC about (80%) of all cases [5]. This high proportion of ulcerative type could be due to the fear from ulcers that make the case seek medical help.

## Conclusion

Sun exposure is an important risk factor for developing skin cancer, especially in those living in rural areas. In the future, a histopathological investigation of BCC lesions could be provided only to the control of the treatment. The better diagnoses improve an early removal of lesions with much better prognosis.

## Acknowledgements

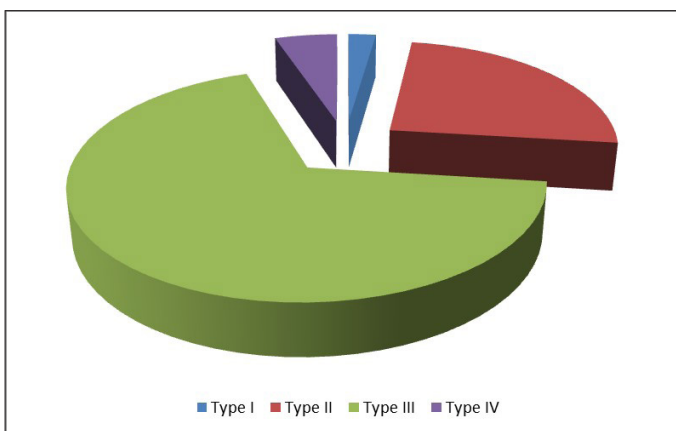
None.

## Conflict of Interest

None.

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**Figure 1:** Concerning cases' skin-photo-type according to Fitzpatrick's classification.

Clinically BCC tumors types, the most frequent type was the nodular variant as 68 (52.7%) lesions. Morphea form was the least common one as 3 (2.3%) lesions. The pigmented BCC (pBCC) and non-pigmented BCC (npBCC) recorded in (68.2%) and (31.7%) respectively. A significant differences was noted in nodular and ulcerative types ( $p = 0.05$ ) and ( $p = 0.01$ ), respectively (Table 2).

## Discussion

In both study settings males were more than females, this can be due to men are more outdoor working and sun exposure more or more smoking habits which can cause repeated trauma and burns to lips, that is consistent with the results of Abbas et al. [9] who found that 62.6% of their sample were males [9].

The mean age for cases in this study is close to the findings reported by Janjua et al. [10], probably because of the buildup of sun exposure over time. The living in rural situations among cases with BCC is 79.6%. This is explained by the differences in temperatures of these areas as cumulative exposure to sunlight over years is necessary for tumor development [9] and this can probably highlight the significant differences concerning the history of jobs.

The lower frequency of BCC among rural inhabitants may be explained on the basis that rural cases regard initial lesions of BCC as a minor cosmetic problem with insignificant impact on health and seek medical advice only when lesions become symptomatic or disfiguring. However, this comes in contrast to the result of Bauer et al. [11] where 63% of their BCC cases came from rural areas and most of them had a history of chronic sun exposure.



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