

## Assessment Clinical Findings of Quality of Life for Iraqi Patients with Spitz Nevus

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**Abstract: Background:** Spitz nevus was a diverse category to melanocytic nevi, which has generated a lot of attention due to their resemblance to melanoma (MM). **Objective:** Our study was interested largely to assess clinical outcomes of patients who suffer of Spitz nevus and determine risk factors affected on patients. **Patients and methods:** 60 people with Spitz nevus underwent a cross-sectional study that diagnosed all patients using a dermoscopy technique, which was specialized in determining the location and histological subtypes of Spitz nevus and its extent, as well as identifying risk factors affecting the quality of life of patients with Spitz nevus. Participants' data was collected from different hospitals in Iraq, which was conducted during the periods of 9 July 2022 to 25 August 2023. **Results:** The study identified 30 cases of spitz nevus in adults and children, with 60% of cases occurring in males and 40% in females. The most prevalent comorbidities were hypertension, diabetes, and anaemia. The most common clinical manifestations included a width greater than 1 cm, unclear margins, irregular colouration, a family history, exposure to sunlight, and hormonal changes. Spitz nevus was the most prevalent lesion type, with 12 cases in children and 11 in adults. The severity scores of spitz nevus were classified as follows: benign (12 patients), atypical (18 patients), and malignant (30 cases). Furthermore, the items that had the greatest negative impact on the quality of life of patients were Functioning ( $48.54 \pm 7.94$ ) and social interactions ( $50.22 \pm 5.82$ ) in children. In contrast, functioning ( $58.95 \pm 5.89$ ) and social interactions ( $57.90 \pm 8.70$ ) had the greatest positive impact in adults. **Conclusion:** Spitz nevus, a benign skin lesion affecting young people and children, can mimic severe melanoma but has negative impacts on participants and lowers their quality of life.

**Keywords:** Spitz nevus; Histological subtype; Risk factors; Comorbidities; Exposure to sunlight; and Localization.

### INTRODUCTION

S. Spitz initially clarified the range for benign melanocytic lesions known as Spitz nevi (SN) in 1948 [Menezes, F. D. *et al.*, 2017]. The clinical limits of SN are still unknown because of their similarity to melanoma (MM). Without a doubt, dermoscopy has improved the clinical identification of SN that is pigmented or not. Currently, the ability to distinguish between SN and melanoma has significantly increased because to reflectance confocal microscopes (RCM) [Abboud, J. *et al.*, 2017].

Large epithelioid and spindled melanocyte nests were initially seen in children in 1948 and were initially reported by Sophie Spitz as benign juvenile melanomas. Since then, a variety of diagnoses have been added to the categorization of these spitzoid proliferations, including atypical Spitz tumors, spitzoid melanomas, and classical or benign Spitz nevi [Ring, C. *et al.*, 2021].

Children and teenagers are the main populations affected by SN, a dermatological disorder. On the other hand, MM is more common among middle age and older, peaking in individuals who are over

40 [Menezes, F. D. *et al.*, 2017; Abboud, J. *et al.*, 2017; Stefanaki, C. *et al.*, 2016]. The dermoscopic patterns starburst, negative network, non-specific, and homogeneity patterns are most frequently linked to SN. A total of six dermoscopic patterns of SN were described by Johr and Stolz [Pollock, J. L., 2018; Ferrara, G. *et al.*, 2013]. They comprised lesions that had a black pigment system as well as pink lesions as well as to the four patterns outlined before [Pollock, J. L., 2018-Kerner, M. *et al.*, 2013].

These lesions can occasionally appear in a way that is similar to malignant melanoma. Differentially diagnosing these lesions can be difficult [Wiesner, T. *et al.*, 2016]. In contrast to melanoma and typical nevi, histological examination of SN shows unique patterns of genetic abnormalities [Kerner, M. *et al.*, 2013-Ferrara, G. *et al.*, 2015]. The dermoscopic diagnostic standards for SN have been the subject of several investigations [Lallas, A. *et al.*, 2017]. Because of the increasing complexity of their nomenclature and their resemblance to

melanomas, diagnosing and treating spitzoid lesions among kids has long been challenging and contentious. [Urso, C, 2016]

A case of atypical Spitz tumours and one of the fatalities documented in patients with spitzoid melanomas involves a youngster who had a previous diagnosis of a conventional Spitz nevus, which six pathologists had deemed benign, but which turned out to have metastasized. Regarding the best course of action for treating pediatric Spitz tumors, dermatologists and surgeons don't seem to agree [Jing, Y. *et al.*, 2019]. This might be since there isn't enough precise medical knowledge available on the subject. The potential for leftover tumor tissue to remain after surgical excision is one of the primary causes of this ambiguity. This could call for a second surgery, particularly when the first biopsy did not produce definitive results. [Ritter, A. *et al.*, 2018]

According to Tlougan *et al.*, more than half of the dermatologists surveyed would suggest excision again for a benign Spitz nevus that is still exhibiting signs, either clinically or under a microscope. However, about one-third would advise against it in cases where the nevus extends up into the lateral histological margin, but there is no clinical evidence of remaining tumor cells [Bär, M. *et al.*, 2012].

Spitz-type lesions are multicolored, well-circumscribed papules and nodules that might be pink, red, or non-pigmented. Lesions with deep pigmentation are brown or dark. Although these skin tumors can appear anywhere on the body, they are frequently found on the limbs just below the knees and hips. Usually, they manifest before the ages of thirty to forty [Bär, M. *et al.*, 2012].

Differentiating Spitz-type proliferations, which start as benign Spitz nevi, can be achieved using histological and molecular stratification. These nevi can be further separated into Spitzoid melanomas at one end and Classic Spitz Naevi (CSN) as well as Spitzoid naevi at the other. Atypical Spitz Tumours (ASTs) found in between have a murky and unclear prognosis potential [Argenziano, G. *et al.*, 2011].

## PATIENTS AND METHODS

A cross-sectional study of sixty individuals with Spitz's nevus, aged 10 to 40, was carried out. Over the course of 16 months, from July 2022 to August 25, 2023, different hospitals in Iraq provided all the demographic and clinical information that was gathered. Age, gender, body mass index (underweight, normal weight, overweight, along with obesity), concurrent conditions, family history, and symptoms were all included in the data set in both males and females.

In addition, clinical data relating to diagnostics for Spitz's nevus were recruited in our study and divided into two groups: 30 instances of children and 30 cases that were adults made up the first group. Dermoscopy was used to identify the patients. This enabled the determination of the patient's histological subtype, sun protection kind of lesion, as well as its location (leg/thigh, arm/shoulder, foot/ankle, and head and neck), and head and neck (face, ears, scalp, and neck).

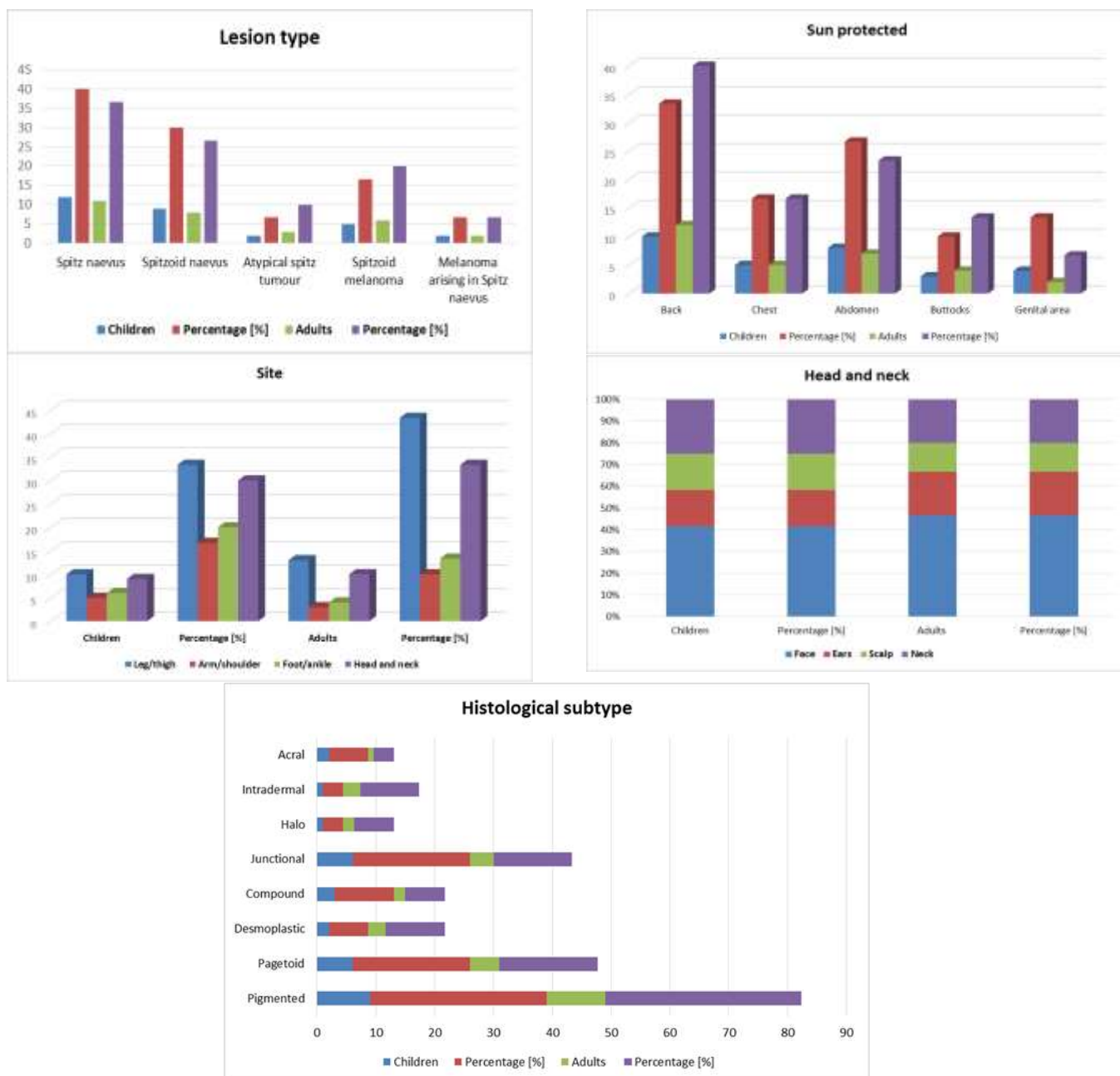
Additionally, the Spitz-Reed categorization system, which groups all melanocytic lesions according to their microscopic appearance, was used in this study to classify the severity of Spitz nevus. Examining the lesions' anniversaries allowed for the categorization into those which are benign alongside those that are categorized as either certainly malignant or maybe malignant. When a lesion poses no risk to the individual's health or is not harmful, it is classified as benign. Atypical lesions are non-cancerous lesions that exhibit certain anomalies that necessitate continuous monitoring. Normalized lesions are particularly dangerous because, in the absence of treatment, they may quickly spread to various regions of the body. The results also included a quantification of the quality assessments about symptoms, emotions, functioning, as well as social interactions. The Skindex-29 scale that had a range of 0 to 100—100, denoting the most favorable result and 0 as the least favorable outcome.

## RESULTS

**Table 1:** Clinical and demographic features of patients with Spitz nevus

Features	Frequency [n = 60]	Percentage [%]
<b>Age</b>		
10 – 19	30	50%
20 – 29	6	10%
30 – 40	24	40%

<b>Gender</b>		
Male	36	60%
Female	24	40%
<b>BMI, [Kg/m<sup>2</sup>]</b>		
Underweight	3	5.0%
Normal weight	23	38.33%
Overweight	26	43.33%
Obesity	8	13.33%
<b>Comorbidities</b>		
Yes	18	30%
No	42	70%
Diabetes	9	15%
Hypertension	15	25%
Asthma	6	10%
Heart failure	2	3.33%
Anemia	8	13.33%
Kidney diseases	4	6.67%
<b>Symptoms</b>		
Larger than 1 centimeter (cm) in width	12	20%
Unclear, poorly defined margins or borders	15	25%
Irregular, variable color	12	20%
Scaly, rough, or flaky appearance	7	11.67%
Located on the back	8	13.33%
Open wounds or cracks	6	10%
<b>Other factors</b>		
History family	12	20%
Exposure to sunlight	30	50%
Hormonal changes	18	30%
<b>Education status</b>		
Not in the school	5	8.33%
Primary	9	15%
Secondary	11	18.33%
College/university	15	25%
Post – graduated	20	33.33%
<b>Marital status</b>		
Single	39	65%
Married	12	20%
Divorced	6	10%
Widow	3	5%



**Figure 1:** Determine diagnostics findings related to patients with Spitz nevus in terms of lesion type, site, sun protected and histological subtype

**Table 2:** Distribution severity scores associated with Spitz nevus through the Spitz-Reed classification system scale

Classification	Frequency [n = 60]	Percentage [%]
Benign	12	20.00%
Atypical	18	30.00%
Malignant	30	50.00%

**Table 3:** Evaluations of quality of life for patients with spitz nevus in regrading between children and adults

Items	Children	Adults	P – value
Symptoms	57.50 ± 4.60	64.20 ± 13.15	< 0.001
Emotions	55.46 ± 7.89	65.60 ± 6.68	< 0.001
Functioning	48.54 ± 7.94	58.95 ± 5.89	< 0.001
Social interactions	50.22 ± 5.82	57.90 ± 8.70	< 0.001

**Table 4:** Performance of a multivariate analysis of the effect of risk factors in patients with Spitz nevus

Variables	Children	Adults	P - value
Family history	2.3 [0.6 – 4.7]	2.1 [0.8 – 5.7]	0.13
Hormonal changes	4.4 [1.2 – 6.9]	6.5 [2.4 – 10.4]	0.17
Unclear, poorly defined margins or borders	3.5 [0.9 – 5.7]	2.1 [1.5 – 6.7]	0.42
Larger than 1 centimeter (cm) in width	2.2 [0.7 – 5.5]	3.6 [1.1 – 6.8]	0.32
Spitz naevus	7.5 [4.7 – 11.5]	4.8 [2.8 – 8.9]	0.13
Leg/thigh	4.6 [2.2 – 5.8]	7.5 [2.3 – 9.4]	0.63
Head and neck	4.7 [3.3 – 5.5]	5.8 [3.4 – 8.5]	0.426
Site	6.7 [2.6 – 12.8]	5.6 [2.1 – 8.2]	0.181
Symptoms	4.7 [1.4 – 6.8]	4.8 [2.9 – 9.8]	0.23
Comorbidities	5.3 [2.3 – 10.4]	5.4 [2.5 – 13.8]	0.470

## DISCUSSION

Our findings shown adults included 30 cases and children included 30 cases, males were 60%, and females were 40%; BMI was classified into underweight got 3 cases, normal weight got 23 cases, overweight got 26 cases, and obesity got 8 cases, rate of comorbidities was 30%, which the most diseases prevalence in the patients were Hypertension had 15 cases, diabetes had 9 cases, and anemia had 8 cases, main signs had an effect on patients were larger than 1 centimeter (cm) in width included 12 patients, unclear, poorly defined margins or borders included 15 patients, and irregular, variable color included 12 patients, and others had History family with 12 cases, exposure to sunlight with 30 cases, hormonal changes with 18 cases.

In terms of lesion type, the most types prevalence in patients which are spitz naevus, was 12 cases; and spitzoid naevus was 9 cases in children while spitz naevus was 11 cases, and spitzoid naevus was 8 cases in adults, the most locations Leg/thigh was 10 cases and Head and neck was 9 cases in children while Leg/thigh was 13 cases and Head and neck was 10 cases, Histological subtype was included items who had an impact which are Pigmented was 9 cases, and Pagetoid was 6 cases in children while Histological subtype was included items who had an impact which are Pigmented was 10 cases, and Pagetoid was 5 cases in adults, Sun protected was back with 10 cases and Abdomen with 8 cases in children, but back with 12 cases and Abdomen with 7 cases in adults.

Moreover, the severity scores of Spitz nevus classified into Benign had 12 patients, Atypical had 18 patients, and Malignant had 30 cases; the most items that had a negative impact on the quality of life of patients were Functioning had  $48.54 \pm 7.94$ , and social interactions had  $50.22 \pm$

$5.82$ , while functioning had  $58.95 \pm 5.89$  and social interactions had  $57.90 \pm 8.70$ .

Recent studies had confirmed that Spitz nevi are noncancerous growths that are most common in children and young adults. People suffering from them usually recover well, though it is unclear what type of person develops them. The growth may affect some people more than others, but most affected individuals will eventually recover. Spitz nevi tend to occur more frequently in younger age groups, typically affecting people under 30. It can also affect fair-skinned people who have previously been exposed to sunlight. [Zedek, D. C. et al., 2009; Pogorzelska-Antkowiak, A. et al., 2021]

According to an American study, the symptoms of Spitz nevus can present differently in children and adults. In children, the nevus usually appears as round, pink-red growths that resemble raised bumps on the skin or a dome shape. These growths can eventually turn dark brown or even black and have either flat surface areas or nodules, especially when examined closely. In children, the nevus may also be limited to a single spot, which resembles the appearance of several melanocytic nevi, with a size of less than 1 cm. [Pellacani, G. et al., 2009]

Spitz nevi are commonly observed in kids and young adults, particularly teenagers, but they can also manifest in other stages of life. It is important to note that while the vast majority of Spitz nevi have benign, some may exhibit characteristics that warrant additional investigation to verify a melanoma diagnosis. Another study revealed that the almost prevalence of Spitz nevi is quite low internationally, indicating only approximately 1 to 2% among all melanocytic neoplasms. [Guida, S. et al., 2016]

## CONCLUSION

Spitz nevus is a benign skin lesion that can mimic severe melanoma among children and young adults. Healthy people are often not greatly impacted. On the contrary, our studies showed that Spitz nevus adversely impacts those who participated, which significantly lowers their quality of life.

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