



## **The Prevalence of Actinic Keratoses in Outpatient Patients at the Dermatology Clinic of the University Clinical Center of Kosovo (QKUK) for the Years 2016-2017**

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### **Abstract**

Actinic keratoses are scaly spots on the outer layer of the skin. They initially appear as red spots, and later develop a light brown or white crust. These can progress to skin carcinoma, with the primary cause being sun exposure. Actinic keratoses generally affect the elderly.

The aim of this study is to analyze and investigate the prevalence of actinic keratoses in outpatients during the period 2016–2017 at the Dermatology Clinic in Pristina, classifying them by gender, month, residence, age, and treatment type.

This research is a retrospective study of outpatients with actinic keratoses at the Dermatology Clinic within the University Clinical Center of Kosovo (QKUK) in Pristina. Data were collected from patient records of those who visited the Dermatology Clinic's outpatient department over a two-year period, from January 2016 to December 2017.

During the period from January 2016 to December 2017, a total of 567 outpatient cases of actinic keratosis were recorded at the Dermatology Clinic in Pristina, with 332 cases in 2016 and 235 cases in 2017. Males were more affected than females in both years. The condition appeared most frequently in December-January and March. Most patients resided in urban areas in both years. The age group most affected in 2016 was 61-80 years, with 212 patients, and in 2017, the same age group was most affected, with 153 patients. Cryotherapy was the most frequently used treatment for actinic keratoses, applied in 273 cases in 2016 and in 151 cases in 2017.

The data indicate that actinic keratoses most commonly affected males, with the highest incidence in the months of December-January and March. Patients living in urban areas were more affected than those in rural areas, and the age group most affected was 61-80 years. The total number of outpatient cases of actinic keratosis at the Dermatology Clinic in QKUK during 2016-2017 was 567. Treatments included cryotherapy, chloramphenicol 5% cream, fusidic acid cream, sun protection creams, and locally curative creams (antifungal, antiviral, corticosteroid).

**Key words:** *Actinic Keratosis, keratosis, dermatology, lesion, skin disease, outpatients.*



## Introduction

Actinic Keratosis

Synonyms

Actinic keratosis is also known by synonyms such as keratosis solaris and keratosis senilis.

Actinic keratosis consists of one or more hyperkeratotic lesions, flat or raised on the skin, and is also known as a precancerous condition, typically associated with squamous cell carcinoma. It is common, particularly observed in the elderly and more frequently in men. Reducing sun exposure can help lower the risk. It is most commonly found on the face, lips, ears, scalp, neck, and dorsal side of the hands. An actinic keratosis lesion may take years to develop.

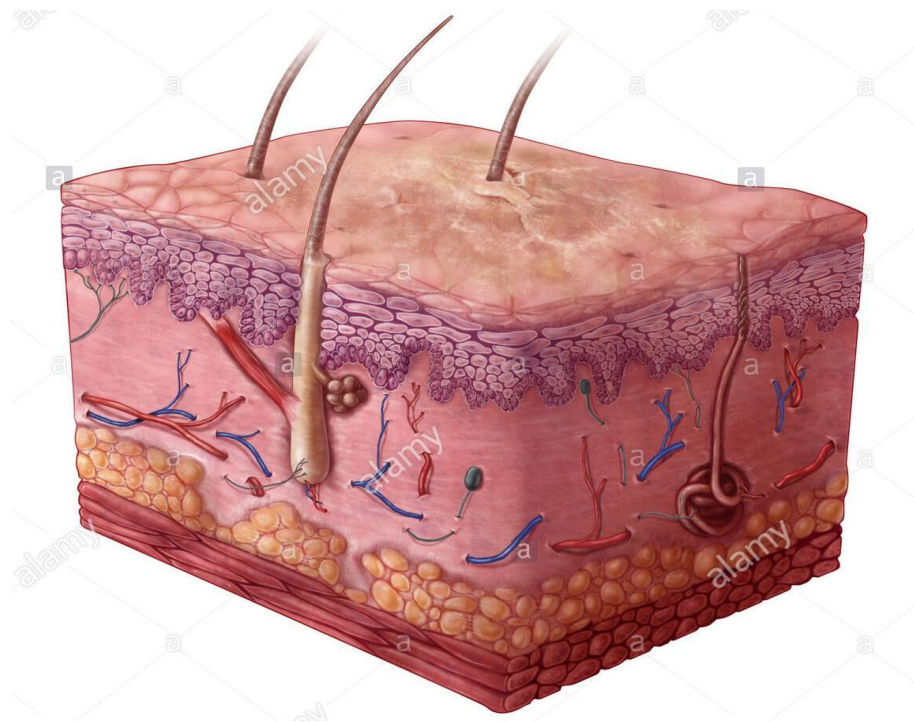


Fig. 1. Presentation of Actinic Keratosis

Fig 1. <https://c8.alamy.com/comp/2BEGPAT/actinic-keratosis-2BEGPAT.jpg>

Actinic keratosis is considered a distinct, premalignant lesion. In fact, molecular analyses have revealed that actinic keratosis and squamous cell carcinoma (SCC) share a similar genetic profile, including mutations in p53, p16INK4a, MYC, and the epidermal growth factor receptor. Actinic keratosis is the second most common diagnosis seen by dermatologists in the United States, with actinic keratosis reported in 11-25 percent of patients diagnosed with skin diseases in 2008, and around 5.2 million patient visits occurring annually during the period 2000-2003.



Fig. 2a. Skin Changes in Actinic Keratosis

Fig 2a. Photo taken by me 14/12/2024



Fig. 2b. Skin Changes in Actinic Keratosis

Fig.2b. Photo taken by me 5/9/2024

The frequency of actinic keratosis increases with each decade of life and is higher among residents living in sunny regions closer to the equator, as well as individuals with outdoor occupations, such as sailors, farmers, and athletes.

### **Objective of the Study**

The objectives of this study are to present the prevalence of actinic keratoses at the Dermatology Clinic in Pristina for the period January 2016 to December 2017 and to analyze the incidence of actinic keratoses by gender, month, residence, age, and treatment.

### **Methodology**

This research is a retrospective study of outpatients with actinic keratoses at the Dermatology Clinic within the University Clinical Center of Kosovo (QKUK) in Pristina. Data were collected from outpatient records for the two-year period from January 2016 to December 2017.

The data were gathered based on gender, month, residence, age, and treatment. The results were processed using the statistical software Microsoft Excel and presented in tables and graphs.



## Results

Table 1. Outpatient Cases of Actinic Keratosis at the Dermatology Clinic in Pristina - QKUK

Condition: Actinic Keratosis	Outpatient Cases in 2016	Outpatient Cases in 2017	Difference in Cases (2016-2017)
567	332	235	97

In total, there were 567 outpatient cases of actinic keratosis recorded over the two-year period, with 332 cases in 2016 and 235 cases in 2017, resulting in a difference of 97 fewer cases in 2017 compared to 2016.

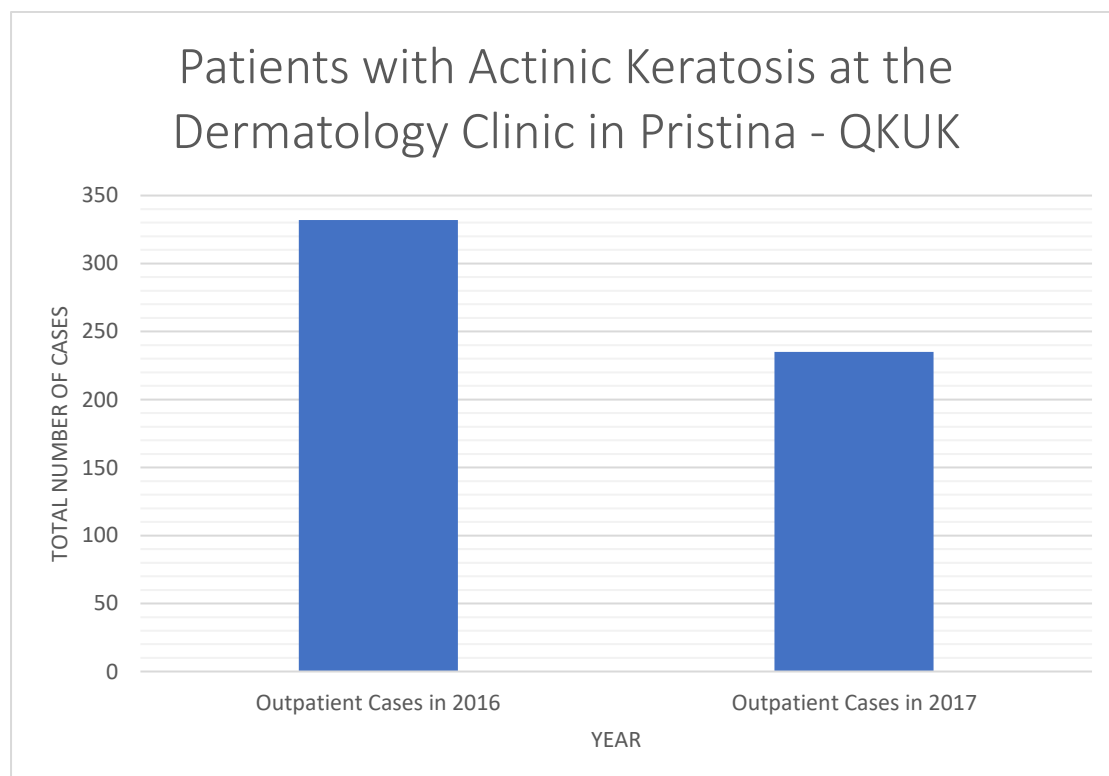


Chart 1. Outpatient Patients with Actinic Keratosis at the Dermatology Clinic in Pristina – QKUK.



	Number of Patients with Actinic Keratosis in 2016		Number of Patients with Actinic Keratosis in 2017	
Month	Males	Females	Males	Females
January	35	8	11	2
February	16	2	10	10
March	26	4	25	5
April	28	8	15	9
May	18	5	8	9
June	22	10	18	5
July	15	14	19	2
August	15	5	10	2
September	24	6	16	4
October	22	11	3	3
November	16	4	11	9
December	10	8	21	8
Total	247	85	167	68

According to the chart presented for the two-year period of 2016-2017, there were 567 outpatient patients at the Dermatology Clinic in QKUK, with 332 cases recorded in 2016 and 235 cases in 2017.

Table 2. Number of Outpatient Patients with Actinic Keratosis for the 2016-2017 Period at the Dermatology Clinic, Divided by Month and Gender.

Based on the research presented in the table above (Table 2), it is observed that in 2016, actinic keratosis appeared more frequently in males, with 247 cases, representing 74%, compared to females, who had an incidence of 85 cases or 26%. In 2017, actinic keratosis was again more common in males, with 167 cases, accounting for 71%, while females had an incidence of 68 cases, or 29%.

Table 3. Number of Outpatient Patients with Actinic Keratosis for the Year 2016 at the Dermatology Clinic, Based on Gender.

Year 2016	Males	Females
	74%	26%



## PERCENTAGE OF CASES IN 2016

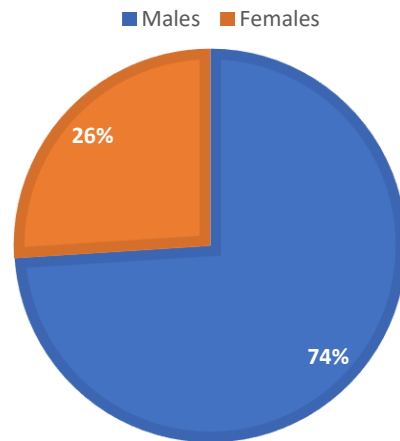


Chart 2. Graphic Representation of Patients by Gender for 2016 with Actinic Keratosis, Showing a Higher Percentage in Males.

Table 4. Number of Outpatient Patients with Actinic Keratosis for the Year 2017 at the Dermatology Clinic, Based on Gender.

Year 2017	Males	Females
	71%	29%

## PERCENTAGE OF CASES IN 2017

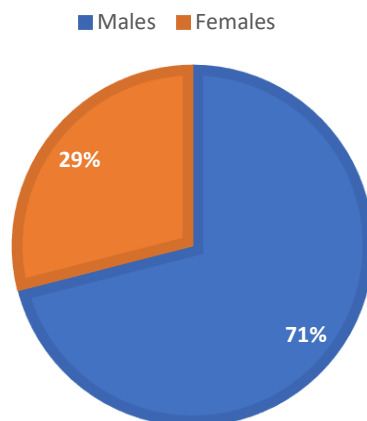


Chart 3. Graphic Representation of Patients by Gender for 2017 with Actinic Keratosis, Showing a Higher Percentage in Males.



Month	Number of Patients with Actinic Keratosis in 2016	Percentage in 2016	Number of Patients with Actinic Keratosis in 2017	Percentage in 2017
January	43	12.95 %	13	5.53 %
February	18	5.42 %	20	8.51 %
March	30	9.04 %	30	12.77 %
April	36	10.84 %	24	10.21 %
May	23	6.93 %	17	7.23 %
June	32	9.64 %	23	9.79 %
July	29	8.74 %	21	8.94 %
August	20	6.02 %	12	5.11 %
September	30	9.04 %	20	8.51 %
October	33	9.94 %	6	2.55 %
November	20	6.02 %	20	8.51 %
December	18	5.42 %	29	12.34 %
Total	332	100 %	235	100 %

Table 5. Number of Outpatient Patients with Actinic Keratosis for the 2016-2017 Period at the Dermatology Clinic, Divided by Month.

According to these data, the highest frequency of patients with actinic keratosis in 2016 occurred in January, with 43 patients, while in 2017, the highest frequency was observed in March with 30 cases and in December with 29 cases.

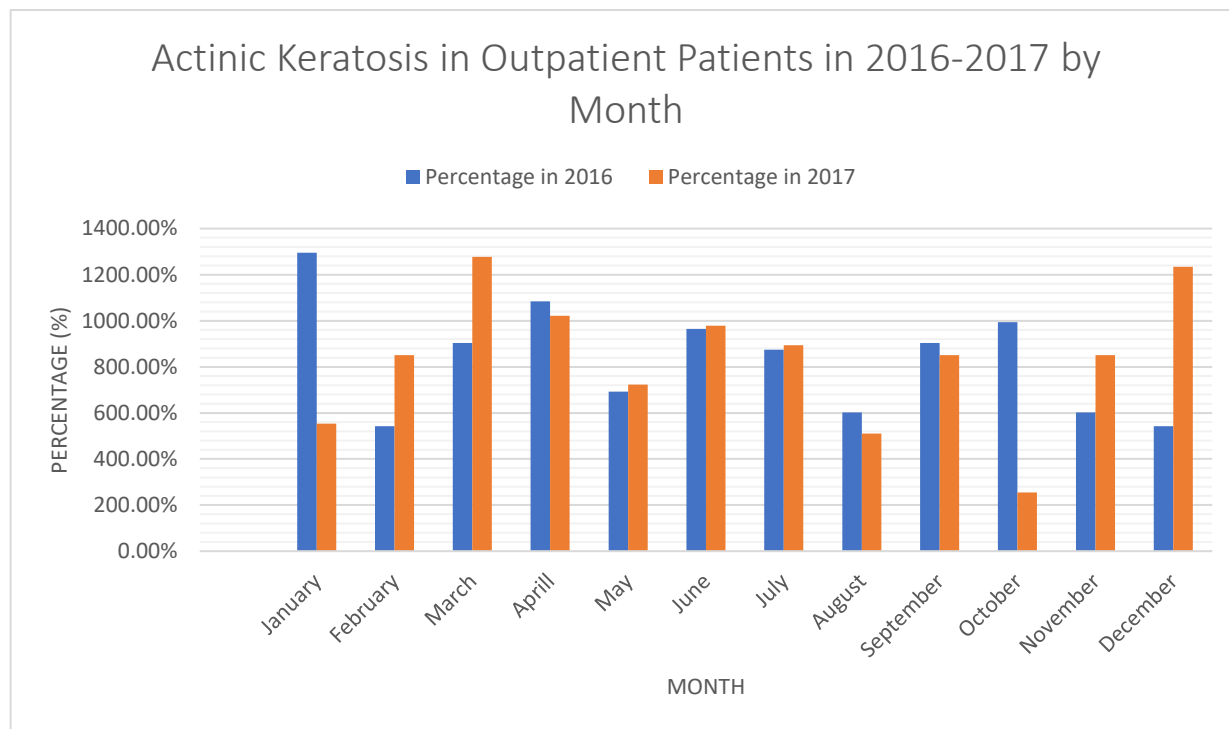


Chart 4. Graphic Table Representation of Actinic Keratosis in Outpatient Patients for 2016-2017 by Month.

During the two-year period of 2016-2017, 567 patients visited the Dermatology Clinic at QKUK, with 332 cases in 2016 and 235 cases in 2017. The highest frequency was recorded in January with 43 cases and in March with 30 cases in 2016, while in 2017, the highest frequency was observed in December with 29 cases and in March with 30 cases.

Table 6. Frequency of Actinic Keratosis in Outpatient Patients at the Dermatology Clinic for the 2016-2017 Period, According to Place of Residence.

Municipality	Number of Patients in 2016	Percentage in 2016	Number of Patients in 2017	Percentage in 2017
Prishtinë	137	41.27 %	86	36.60 %
Vushtrri	12	3.62 %	11	4.68 %
Viti	4	1.20 %	3	1.28 %
Ferizaj	17	5.12 %	13	5.53 %
Peje	7	2.11 %	/	/
Klinë	10	3.01 %	6	2.55 %
Lipjan	21	6.33 %	9	3.83 %
Suharekë	8	2.41 %	1	0.43 %





<b>Malishevë</b>	14	4.22 %	5	2.13 %
<b>Obiliq</b>	11	3.31 %	17	7.23 %
<b>Shtime</b>	7	2.11 %	12	5.11 %
<b>Skenderaj</b>	12	3.62 %	6	2.55 %
<b>Gjilan</b>	7	2.11 %	2	0.85 %
<b>Drenas</b>	7	2.11 %	7	2.98 %
<b>Podujevë</b>	26	7.83 %	24	10.21 %
<b>Istog</b>	2	0.60 %	2	0.85 %
<b>Decan</b>	7	2.11 %	5	2.13 %
<b>Gjakovë</b>	1	0.30 %	1	0.43 %
<b>Kamenicë</b>	4	1.20 %	/	/
<b>Mitrovicë</b>	3	0.90 %	6	2.55 %
<b>Fushe Kosovë</b>	4	1.20 %	10	4.24 %
<b>Prizren</b>	6	1.81 %	1	0.43 %
<b>Rahovec</b>	1	0.30 %	1	0.43 %
<b>Kacanik</b>	/	/	1	0.43%
<b>Junik</b>	/	/	2	0.85 %
<b>Villages</b>	4	1.20 %	4	1.70 %
<b>Total</b>	332	100%	235	100 %



According to Table 6, we observe that the highest number of patients in 2016 came from Pristina (137 cases), followed by Podujeva (26 cases) and Lipjan (21 cases). In 2017, the highest number of patients again came from Pristina, with 86 cases, followed by Podujeva with 24 cases and Obiliq with 17 cases.

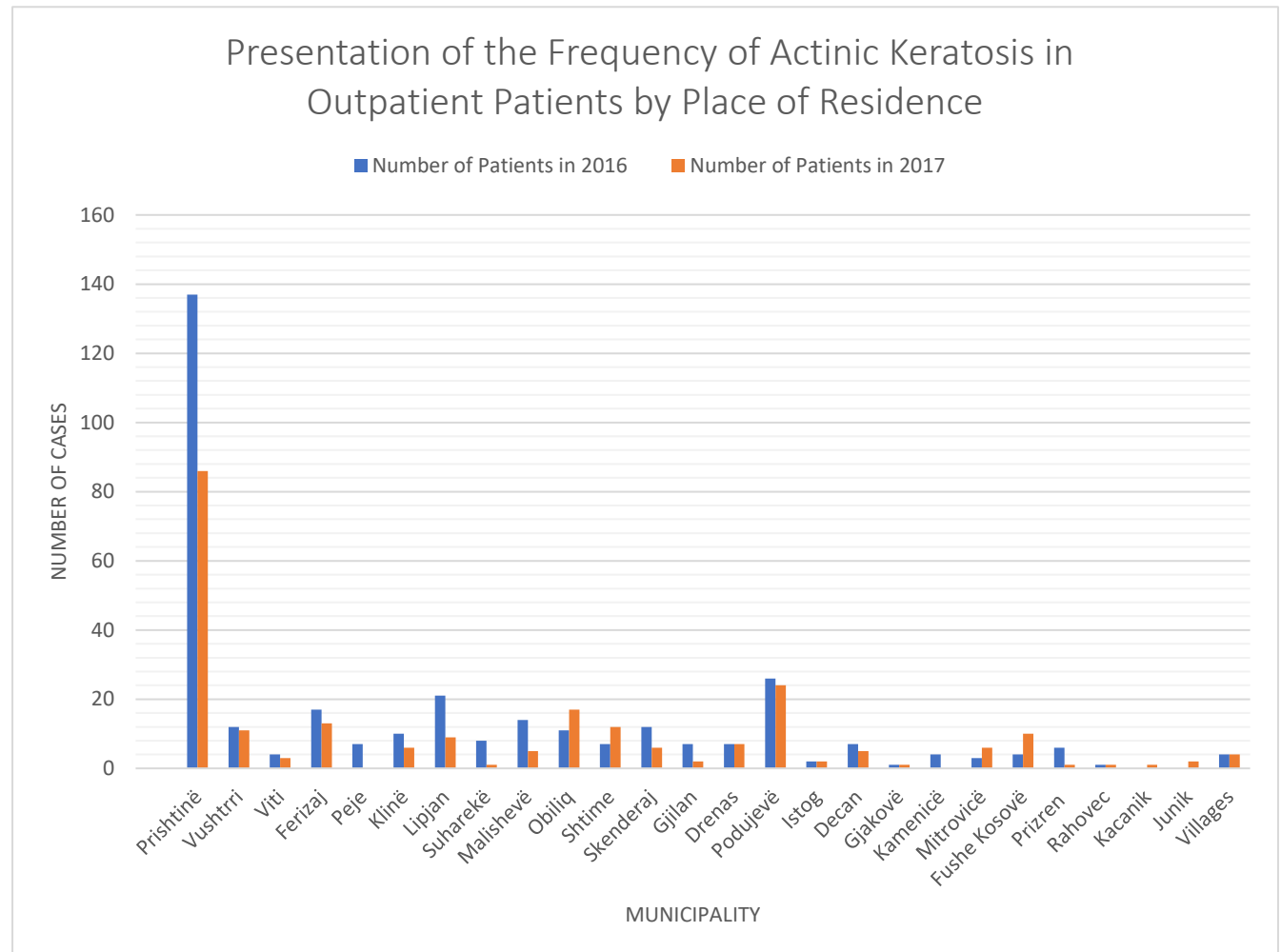


Chart 5. Representation of the Frequency of Actinic Keratosis in Outpatient Patients by Place of Residence

Table 7. Presentation of the Classification of Outpatient Patients with Actinic Keratosis for the 2016-2017 Period at the Dermatology Clinic by Age Group

Age Group	Number of Patients in 2016	Percentage in 2016	Number of Patients in 2017	Percentage in 2017
0-10	3	0.91 %	2	0.85%
11-20	4	1.20 %	1	0.43 %
21-30	3	0.91 %	5	2.13 %
31-40	6	1.81 %	4	1.70 %
41-50	19	5.72 %	11	4.68 %
51-60	58	17.47 %	30	12.77 %
61-70	96	28.91 %	75	31.91 %
71-80	116	34.94 %	78	33.19 %



<b>81-90</b>	24	7.23 %	29	12.34 %
<b>91-100</b>	2	0.60 %	/	/
<b>101-110</b>	1	0.30 %	/	/
<b>Totali</b>	332	100 %	235	100 %

According to Table 7, we understand that out of 332 outpatient patients with actinic keratosis in 2016 at the Dermatology Clinic, the most affected age group was 71-80 years, with 116 cases, followed by the 61-70 age group with 96 cases. Similarly, in 2017, the most affected age group was again 71-80 years, with 78 cases, while the 61-70 age group had 75 cases. The least affected age groups were 0-10 and 11-20 years, with 5 cases each.

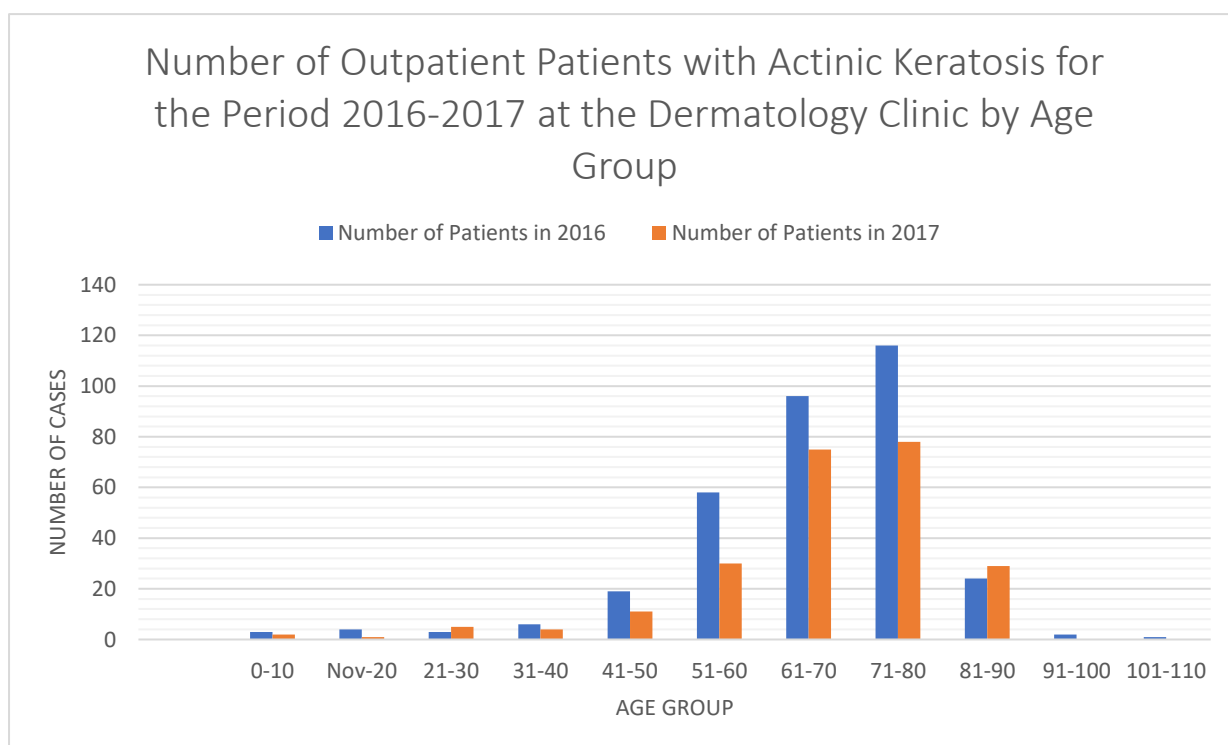


Chart 6. Graphic Representation of Outpatient Patients with Actinic Keratosis for the 2016-2017 Period at the Dermatology Clinic, Divided by Age Group



Table 8. Treatment of Actinic Keratosis for the Years 2016-2017 in Outpatient Patients at QKUK.

Treatment Method	Number of Patients Treated in 2016	Number of Patients Treated in 2017	Total Number of Patients for Two Years
Antibiotics (Chloramphenicol cream/Fucidin cream)	31	26	57
Cryotherapy	273	151	424
Creams (antimycotic, antiviral, corticosteroids)	20	38	58
Sunscreen Creams	3	10	13
No Treatment	5	10	15
<b>Total</b>	<b>332</b>	<b>235</b>	<b>567</b>

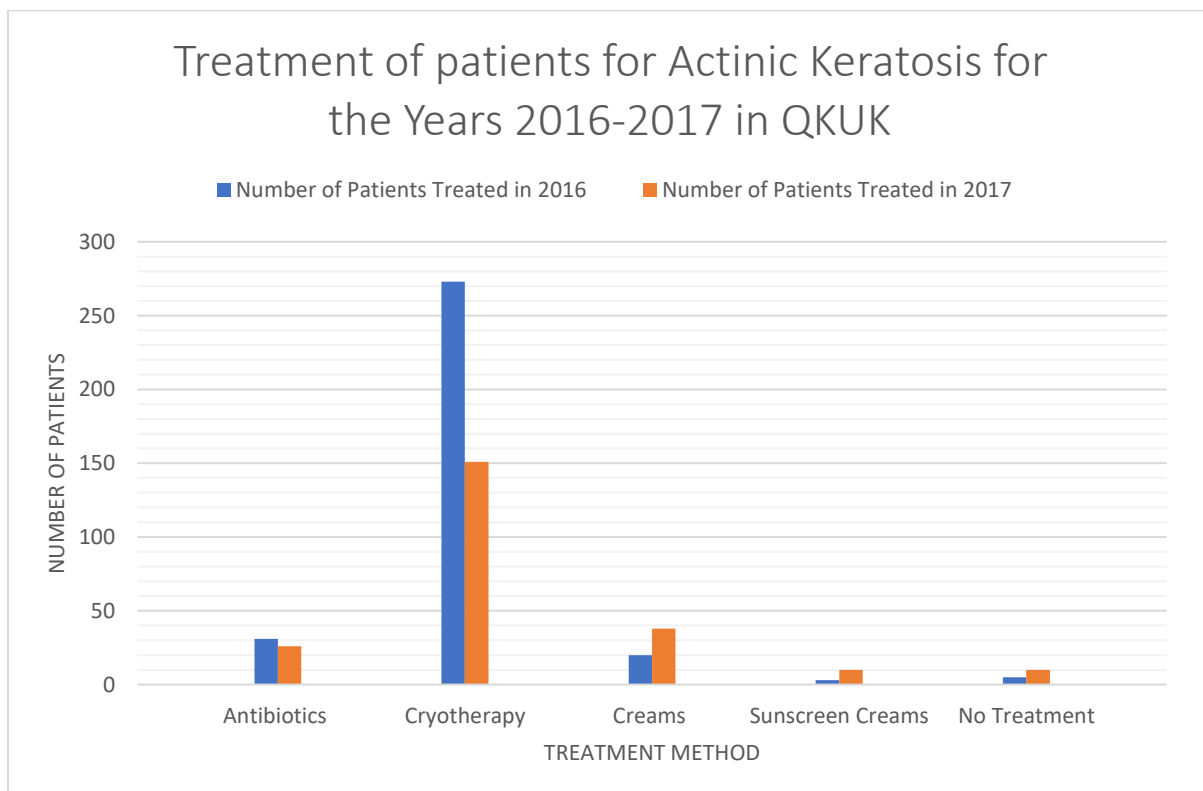


Chart 7. Treatment of Actinic Keratosis for the Years 2016-2017 in Outpatient Patients at QKUK



In Chart 7, the treatment scheme for the years 2016-2017 is presented, showing that cryotherapy was used as the most frequent treatment option in both years. Additionally, the medications used, apart from cryotherapy, included antibiotics (Chloramphenicol 5% cream, Fucidin 20 mg/g cream) and creams such as antivirals and corticosteroids.

## **Discussion**

Actinic keratosis is a skin disease increasingly considered precancerous, manifesting with skin changes in the form of erythema in the early stages, and later, due to the hyperproliferation of keratinocytes, results in visible skin changes in the form of scales. This disease primarily occurs in individuals who have been exposed to sunlight for prolonged periods without preventive care. Given the duration of exposure and the accumulation of these rays on the skin, the greatest risks are seen in professions that operate in open environments, particularly in nature. Regions closer to the equator report more cases of actinic keratosis, and higher incidence rates are observed in males compared to females.

Research conducted at the Dermatology Clinic in Pristina regarding the frequency of actinic keratosis for the years 2016-2017 revealed a total of 567 cases. A study based on the population of the Netherlands, including over 2,000 individuals with an average age of 72 years, examined by trained physicians, found that nearly 38% had one or more actinic keratoses, and 8% had 10 or more.

Considering the number of cases for the respective years, it emerges that out of the total of 567 cases for 2016-2017, there were 58.55% cases in 2016 compared to 41.44% in 2017.

In terms of gender structure, of the 567 outpatient patients diagnosed with actinic keratosis over the two years (2016 and 2017), 414 or 73% were male, while 153 or 27% were female. Compared to statistics in Europe, the prevalence of actinic keratosis was 49% (46-52%) for males and 28% (26-31%) for females.

The months with the highest occurrences of actinic keratosis in 2016 were January, with 43 cases (12.95%). In 2017, the highest number of outpatient cases was in December, with 29 cases (12.34%), followed by March with 30 cases.

Based on the collected data, it is noted that out of 567 outpatient patients with actinic keratosis over the two years, the majority were from the city of Pristina, with 223 patients, followed by Podujeva with 50 cases and Ferizaj with 30 cases.

Our data indicates that out of 567 identified patients with actinic keratosis over the two years (2016 and 2017), 194 patients or 34% were aged 71-80 years. The 61-70 age group was also significantly affected, with 171 cases or 30%, as well as the 51-60 age group with 88 cases or 16%. The least affected age groups during these two years were the younger groups of 0-10 and 11-20 years, each with only 5 patients over the two years, accounting for 1.76%.

In the treatment of actinic keratosis, the collected data indicate a preference for cryotherapy, with 273 cases treated with cryotherapy in 2016 and 151 cases in 2017.

## **Conclusion**



During the period from January 2016 to December 2017, a total of 567 patients with actinic keratosis frequented the Dermatology Clinic at QKUK in Pristina, with 332 cases recorded in 2016 and 235 cases in 2017.

Regarding gender, actinic keratosis was more frequently observed in males, with 247 cases or 74%, compared to females, who had an incidence of 85 cases or 26% in 2016. In 2017, the trend continued with males having 167 cases or 71%, while females had 68 cases or 29%. Analyzing the months of disease occurrence, the highest frequency was noted in January 2016 with 43 cases, while in 2017, the months with the highest numbers were December with 29 cases and March with 30 cases.

In terms of patient distribution by place of residence, the majority of patients in 2016 came from the following cities: Pristina (137 cases), Podujeva (26 cases), Lipjan (21 cases), and Ferizaj (17 cases). In 2017, the highest number of patients again came from Pristina with 86 cases, followed by Podujeva with 24 cases and Obiliq with 17 cases.

Based on age, among the 332 outpatient patients with actinic keratosis in 2016, the most affected age group was 61-80 years, with 212 cases. For 2017, out of 235 outpatient patients, the most affected age group remained the same, 61-80 years, with 153 cases.

The therapy most commonly used for outpatient patients at the Dermatology Clinic was cryotherapy. In 2016, 273 cases were treated with cryotherapy.

### **Summary**

Actinic keratoses (AKs) are common cutaneous lesions associated with chronic exposure to ultraviolet (UV) radiation. AK presents a scaly, erythematous papule or plaque and is considered the earliest clinically recognizable manifestation of squamous cell carcinoma (SCC).

From the research done regarding the frequency of actinic keratosis for the years 2016-2017, it results that for two years we have 567 cases of actinic keratosis.

Regarding the gender structure, it appears that out of 567 outpatients diagnosed with Actinic Keratosis during the two years 2016 and 2017, 414 of them or 73% are male and 153 of them or 27% are female.

The months in which actinic keratosis appeared most often for 2016 was January with 43 cases (12.95%). In 2017 the highest number of outpatient cases were in December with 29 cases respectively (12.34%) and March with 30 cases (12.77%).

Based on the results obtained, it is noticed that out of 567 outpatients with Actinic keratosis during the two years, we have the most patients from the city of Prishtina with 223 patients.

From our data it results that from 567 patients identified with Actinic Keratosis during the two years: 2016 and 2017, 194 patients or 34% of them belonged to the age group 71-80 years. Courses affected to a considerable degree are also the age group 61-70 years with 171 cases or 30% and the age group 51-60 years with 88 cases or 16%.

In the treatment of Actinic Keratosis from the data collected we mostly have referrals for cryotherapy.



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