



**Faculty of Medicine**

**Dermatology Department**

**Quality of life index in Alopecia areata in Libyan patients  
in Benghazi**

**المقياس الجلدي لجودة الحياة لدي مرضى الحاصة البقاعي (الثعلبة) في  
بنغازي**

Submitted by :

**Dr.fatma Agila Abdelsalam El fallah**

**Dermatology Department**

**Jomhoria hospital**

**Benghazi -libya**

**Supervisor**

**DR.Abdulhamid Ali Mahmoud Elorfi MD**

Associate Professor of Dermatology and Venereology

Dermatology department, Faculty of Medicine, Benghazi University

This thesis is submitted to dermatology department- university of Benghazi in partial

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## **Dedication :**

To my dear husband Hamed and my lovely sons Mohammed, Abdullah and Yusuf.

## **Acknowledgment :**

First thanks go to the almighty GOD ALLAHAH TAALLA.

I would like to express my high respect and sincere thanks to my supervisor Dr.ABDULHAMED ALI MAHMOUD ELORFI associate Prof. of Dermatology and Venereology for his fruitful guidance, wise opinion, and encouragement not only during the writing of this work but throughout my career in the department of dermatology.

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Finally, I would like also to thank my patients who agree to participate in this study.

Dr. Fatma Agila Abdelsalam EL fallah

## **Declaration:**

Thesis entitled; I hereby declare that this work included in this study of Quality of life index in Alopecia areata in Libyan patients in Benghazi has not been submitted to any university before.

**Dr Fatma Agila Abdelsalam EL fallah**

DERMATOLOGY DEPARTMENT

ALJOMHORIA HOSPITAL

BENGHAZI- LIBYA

## Certification :

I hereby certify this thesis entitled "**Quality of life index in Alopecia areata in Libyan patients in Benghazi** " was prepared by me under direct supervision of Associate Prof. ABDUL HAMID ALI MAHMOUD ELORFI as partial fulfillment for the degree of Msc in dermatology and venereology .

(SIGNATURE)

Supervisor : Dr. ABDUL HAMED

ALI MAHMOUD ELORFI

-----

Associate Prof. of Dermatology and Venereology

(SIGNATURE)

Candidate: Dr Fatma A EL fallah

Dermatology Department

Al Jomhoria hospital

Benghazi -libya

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## **LIST OF abbreviations**

**DQLI:** Dermatology quality of life index

**AA:** Alopecia areata

**AU:** Alopecia universalis

**AT:** Alopecia totalis

**TE:** Telogen effluvium

**HLA:** Human leukocyte antigens

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# Summary

## 1-Summary :

Alopecia areata (AA) is a chronic worldwide inflammatory disease that involves the hair follicles and sometimes the nails. Alopecia areata affecting 0.1%-0.2% of humans, occurring in both males and females. Initial presentation most commonly occurs in the late teenage years, early childhood, or young adulthood, but can happen in people of any ages. In the present study, our aim is to determine the quality of life (QOL) in alopecia areata , and its effect on their life in Libyan patient

**Patients and Methods :** This is a prospective study during the period from the first of September 2010 to end of March 2011. A Cross sectional study included 100 Libyan patients, with the clinical diagnosis of alopecia areata attending dermatology outpatient department and hair clinic in AL-Jomhoria hospital Benghazi –Libya , were enrolled in this study. All of them were subjected to quality of life assessment by questionnaires Dermatology life quality index (DLQI) consisting of 10 questions .according to Finaly A ,It is designed for use in adults-<sup>20</sup> ie patients over the age of 16.<sup>20</sup>The Data were recorded as an appendix 1 and 2 including the followings

(A) Full detail history including associated conditions. (B) Thorough general and dermatological examination .The DLQI questionnaires were completed by the patients, with assistance for some of them. Our results showed that More than half of the patients were female ( 62%). Mean age of the patients was  $30.4 \pm 10.9$  years, with range equal to 47years.

Mean duration of disease was ( SD 3.8±Mean 5.5) years. DQLI was affected in 84% of cases of alopecia areata. More than half of patients (56%) the effect was ranging from moderate to extremely large effect. The mean  $\pm$  SD of DLQI score was (8.1 $\pm$  6.3), in males was (8.71 $\pm$  6.89) and in females(SD 7.69  $\pm$ Mean 5.99), although there were no statistical significant difference between them ( p. value 0.204 ),we conclude from this study that there is a preponderance in female (F: M = 1.6:1). The DLQI score proved easy to use in outpatient clinic .We recommend a larger study to be done to better understand the disease process and application of DLQI .

# Introduction

## 2-Introduction:

Alopecia areata (AA) is a chronic worldwide inflammatory disease that involves the hair follicle and sometimes the nails.<sup>1,2</sup>

The hair follicle is an immunologically privileged organ that is protected from the attack by cytotoxic T-lymphocytes (CTLs) by decreasing major histocompatibility complex (MHC) class I expression.<sup>3,4</sup> AA is a lymphocyte cell mediated inflammatory form of hair loss with research evidence suggesting an underlying autoimmune etiopathogenesis. The development of hair loss involves aberrant modulation of the hair growth cycle, resulting in dystrophic anagen hair follicles and/or increased frequency of telogen state follicles. Genetic susceptibility to the development of AA involves specific alleles of the HLA region though other non-HLA genes are also likely to be involved. Susceptibility to the development of AA may be modified by environmental factors, including exposure to proinflammatory agents and possibly other modulators, including stress and diet.<sup>2</sup>

Alopecia areata is an immune mediated form of hair loss that occurs in all ethnic groups, ages, and both sexes, with an estimated life risk of 1.7% among the general population.<sup>1,5</sup> Overall, alopecia areata likely affects males and females equally.<sup>6</sup>

In most patients, the onset is within the first decades of life, although alopecia areata can start at any age.<sup>2, 7</sup>

The significance of genetic factors in alopecia areata is underlined by the high frequency of a positive family history in exaggerated individuals. In most reports, this range from 10% to 20% of cases, but mild cases are often overlooked or hidden and the true figure may be larger<sup>2,8,9</sup>. In the United States, AA was estimated to occur in 0.1% to 0.2% of the general population.<sup>10</sup> A wide range of clinical presentations can occur, from the loss of a single patch of hair to complete loss of hair on the scalp (AT) or over the entire body (AU).<sup>3,4</sup> AA can occur on virtually any hair-bearing area, but it affects the scalp in approximately 90% of cases seen in dermatology clinic.<sup>6</sup> The histopathologic picture varies depending on disease duration. A peribulbar lymphocytic infiltrate “swarm of bees” characterizes the acute phase of AA. In subacute cases, large numbers of catagen and telogen hairs will be present. Hair follicle miniaturization with minimal or no inflammation is seen in chronic cases.<sup>2,8,11</sup> AA can be found in association with other autoimmune diseases. Thyroid autoimmunity is probably the main association with an incidence between 8% and 28%.<sup>12</sup> The presence of thyroid autoantibodies has no clinical correlation with AA severity.<sup>13</sup> Vitiligo may be another important association, with a 3% to 8% incidence in AA patients compared to a prevalence of 1% in the US population.<sup>14</sup> Atopy is twice as common in AA patients compared with the general population.<sup>14</sup> Other diseases and genetic disorders reported to be associated with AA include Down syndrome, Addison disease, pernicious anemia, psoriasis, lupus, celiac disease, ulcerative colitis. These less common autoimmune diseases are more likely to be associated with AT/AU.<sup>15</sup> There may be an increased risk of type

1 diabetes in family members of AA patients; in contrast, the patients themselves may have a reduced incidence compared to the general population.<sup>16</sup> There may be a high psychiatric morbidity in AA, especially anxiety and mood disturbance.<sup>17</sup> In one report, ophthalmologic findings such as asymptomatic lens opacities and fundus changes occurred in 51% and 41% of AA patients, respectively. <sup>18</sup>

Treatment options for alopecia areata:- Alopecia areata (AA) is a common dermatosis characterized by a chronic and unpredictable course. Therapeutic agents used in the treatment of AA include topical and systemic corticosteroids, topical minoxidil, anthralin, phototherapy and topical immunotherapy. Intralesional corticosteroid injections are widely used as therapy for patchy alopecia exhibiting good efficacy and tolerance by patients.

Topical immunotherapy with the use of diphencyprone or squaric acid dibutylester has well-proven efficacy both in localized and extended disease. Other modalities, such as topical calcineurin inhibitors and biologic agents, have been used with limited success<sup>19</sup>. Although generally not life threatening skin diseases are well known to have destructive effects on life quality of patients. These effects may include psychological stress , embarrassment , physical discomfort as well as impairment of emotional well being , social activities and functioning , productivity at work or school and self-care activities .<sup>17</sup> Quality of life (QOL) is most commonly assessed by means of self – reported questionnaires.

Dermatology life Quality Index (DLQI) are specifically designed for assessment of skin disease.<sup>20</sup> It consists of 10 questions with simple tick box answers scored from zero to three . It is designed for use in adults i. e patients over the age of 16 . <sup>20</sup> It is self explanatory and can be simply handed to the patient who is asked to fill it in

without the need for detail explanation . It is usually completed in 1-2 min. The questions were classified into six items .Symptoms and feelings. (Questions 1 and 2 ) daily activities (questions 3 and 4) leisure are ( questions 5 and 6 ) , and personal relationships (questions 8 and 9) each item with a maximum score 6; work and school(questions 7 )and treatment( question 10 ) each item with a maximum score 3 .<sup>2</sup> The Dermatology life Quality Index is calculated by summing the scores of each question resulting in a maximum of 30 and a minimum of zero .The higher the score , the more the quality of life is impaired.<sup>20</sup> The DLQI can also be expressed as a percentage of the maximum possible score of 30.<sup>20</sup>

# **Review of Literature**

## 3-Review of literature

**3.1 Definition :** Alopecia Areata (AA) is a chronic inflammatory disease which is characterized by the loss of hair from the scalp and at times the nails. <sup>1,2</sup>

Alopecia Areata is a common, non-scarring type of hair loss, touching approximately 1.7% of the population. <sup>1,2</sup> Current evidence suggests that Alopecia Areata is a T-cell mediated autoimmune disease focused against a putative auto antigen of hair follicle. It affects both sexes equally, can happen early in life or present in adulthood. <sup>2,7</sup>

**3.2 Epidemiology :** Prevalence of Alopecia Areata in United States in the general population is 0.1-0.2%. The lifetime risk of developing alopecia areata is estimated to be 1.7%. Alopecia areata is responsible for 0.7-3% of patients seen by dermatologists. <sup>10,1</sup>

The Worldwide prevalence of alopecia areata is the same as that in the United States. Mortality and Morbidity in alopecia areata: it is a benign condition and most patients are asymptomatic; however, it can cause emotional and psychosocial distress in affected individuals. Self-consciousness concerning personal appearance can become important. Openly addressing these issues with patients is important in helping them cope with the condition. <sup>10,1</sup>

**3.3 Race :** All races are affected equally by alopecia areata; no increase in prevalence has been found in a particular ethnic group. <sup>1,8,10</sup>

**3.4Sex :** Data concerning the sex ratio for alopecia areata vary slightly in the literature. In one study including 736 patients, a male-to-female ratio of 1:1 was reported.<sup>21</sup> In another study on a smaller number of patients, a slight female preponderance was seen.<sup>5</sup> While in study by Amer E. et al found that male, constitute to 72% and female 28% <sup>22</sup>, although in other reported series by seyrafi H and Kavak A , reported that in Asian patients sex incidence is equal. <sup>12 , 23</sup>

**3.5Age :** Alopecia areata can occur at any age from birth to the late decades of life.<sup>1,2,10</sup> Congenital cases have been reported.<sup>2,8,11</sup> Peak incidence appears to occur from age 15-29 years.<sup>1,10</sup> As many as 60%of people with alopecia areata have onset at younger than 20 years.<sup>11,24</sup> One study suggests that 85.5% of Asian patients with alopecia areata have disease onset before 40years of age.<sup>25</sup> other study by Amer E, Tan E and Shellow, found that most of patients were in 20-40 years age groups<sup>22,25,26</sup>. Shama VK found the majority of patients (88%) were below 40 years of age .<sup>27</sup>

### **3.6Etiology :**

Genetic factors :The family history of Alopecia Areata in patients varies from 10% up to 42 % of cases there are reports of identical twins evolving Alopecia Areata instantaneously.<sup>2,5,8,15</sup> .In a Chinese study by Yang S et al, the incidence of family history was found in 8.4% of their patients <sup>28</sup>, which is a lower than in our study. Alopecia Areata has HLA-class II alleles association with DQB1 <sup>29</sup> and possible HLA-A2. <sup>30</sup> These associations with HLA-DR and HLA-DQ recommend a role for

CD4+ T-cells in Alopecia Areata<sup>8</sup> . The most characteristic histological feature of alopecia areata is lymphocytic infiltration around and within hair follicles . loss of hair during active disease is spontaneous with an infiltrate of activated CD4+ cells around the hair follicles, along with a CD8+ intra follicular infiltrate. <sup>31</sup>

### **3.6.1 Autoimmune factors:**

Alopecia Areata has also been stated in a child with common variable immunodeficiency. <sup>32</sup>

Alopecia Areata patients show a raised incidence of autoimmune disease comprising pigmented defects. The sudden appearance of fulminant Alopecia Areata (AA) touches mostly pigmented hair follicles . Thus, only preexisting grey or white hair is seen . This phenomenon is known as "overnight graying" .<sup>33</sup>

A number of studies have also revealed a greater frequency of thyroid disease , pernicious anemia's , psoriasis , and vitiligo in patients with alopecia areata. <sup>25</sup>

In contrast, Wang et al <sup>34</sup> found that history of type-1- diabetes mellitus was less repeated in proband with Alopecia areata but expressively more common in their relatives.

Down's syndrome and autoimmune polyendocrinopathy candidiasis ectodermal dysplasia syndrome (APECED). This condition is accompanied with a mutation of

autoimmune regulator gene on chromosome 21q 22.<sup>35</sup> Association between Alopecia Areata and atopic features has been found in more than 40% of alopecia areata patients . It is likely that alopecia Areata (AA) similar to other autoimmune disease is polygenic i.e there are multiple susceptibility genes that interact with environmental factors. <sup>5</sup>

Environmental factors , sporadic reports .connecting Alopecia Areata with infective agents continue to seem Skinner et al <sup>36</sup> . reported finding mRNA for cytomegalo virus in AA lesions , but this was not definite , in subsequent study from Italy.<sup>37</sup>

Emotional stress: Many medical conditions can be exacerbated by stress. It is also Possible that in a subset of patients, stressful life events lead to both onset and the progression of Alopecia Areata . <sup>38</sup> However, Alopecia areata is also concerned with bigger incidence of depression and anxiety disorders which may be secondary to hair loss. <sup>39</sup>

### **3.6.2Neuropeptides:**

Neuropeptides manufactured by cutaneous nerves have been found to modulate inflammation in the skin, making a potential link between the brain and the skin disease . <sup>40</sup>

Immunomodulatory neuropeptides contain substance p, Calcitonin gene related peptides (CGRP), and vaso-active intestinal peptide (VIP). There is evidence suggesting that a deficiency of a calcitonin gene related peptides may have a part in Alopecia Areata (AA). <sup>41</sup>

### **3.7 Laboratory investigations:**

Routine testing is not indicated in AA Routine screening for autoimmune disease (thyroid disease in particular) is not generally indicated because of insufficient clinical evidence.<sup>1</sup> Older patients, patients with long disease duration females, patients with persistent patchy AA (as compared to transient patchy AA), and patients with AT/AU have been found to more likely have thyroid abnormalities.<sup>15</sup> However, because AA severity and thyroid disease are neither correlated nor causal, Potassium hydroxide, fungal culture, lupus serology, syphilitic screening, and a scalp biopsy may be necessary in ambiguous or difficult to diagnose cases. However, most presentations of AA are obvious, and further laboratory tests are not indicated in the vast majority of cases .<sup>42</sup>

### **3.8 Histopathology Findings:**

Anagen follicle at the margins of getting bigger patches of alopecia areata characteristically show a perifollicular and intrafollicular inflammatory cell infiltrate ,determined in and around the hair bulb. The inflammatory infiltrate is made of mainly activated T-lymphocytes , with a dominance of CD4 cells, and admixture of macrophages and Langerhans's cells. <sup>43</sup>

Lymphocytic infiltration of the dermal papilla and bulbar epithelium may be attended by increased expression of HLA –class I and II antigens and ICAM-1 that are known to be secondary to the local release of T-cell cytokines.<sup>44,45</sup>

Normal numbers of follicles are set up in established bald patches and in alopecia universalis. The inflammatory infiltrate lean towards to be less pronounced than in early lesions and is concomitant essentially with anagen follicles. <sup>46</sup>

Consequently, the histopathology appearance of AA varies depending on disease duration. <sup>47</sup> However, increased numbers of esinophils can be present in regions of AA affected skin in any stage of AA and are a useful diagnostic feature. <sup>48,49</sup>

In the acute stage, a peribulbar lymphocytic infiltrate “swarm of bees” preferentially targets anagen stage follicles <sup>47</sup>.The infiltrate is composed of both CD41 and CD81 cells with the CD41/CD81 ratio being higher in clinically active disease <sup>31</sup>. As a consequence, edema, microvesiculation, apoptosis, necrosis, macrophages, and foreign body giant cells can be seen in and around the affected hair follicles. <sup>50</sup>

The root sheaths and hair matrix are infiltrated by lymphocytes and there may be hair follicle pigment incontinence, keratinocyte cell necrosis, and vacuolar damage.

<sup>6,51</sup> Focal matrix cell vacuolization and necrosis, a relatively uncommon event, is claimed to be a characteristic feature of AA. <sup>52</sup> Ultra structural studies showed that keratinocytic degeneration may affect layers of matrix cells in AA, unlike the apoptosis of scattered outer root sheath cells in normal catagen. <sup>53</sup> Anagen arrest, shortly followed by catagen, weakens the hair shaft and causes breakage at the surface of the skin. As the follicle goes into telogen the fractured widened tip will further extrude, resulting in the typical exclamation point hair. <sup>50</sup> Trichomalacia with marked narrowing of the hair shafts (“pencil point hair”) results in fragile hairs that fall from the scalp in great numbers. <sup>52</sup>

In the sub acute stage, large numbers of catagen hairs, followed by telogen hairs, can be observed. <sup>50</sup>

The percentage of catagen/telogen is markedly increased and often exceeds 50% of the total follicles. <sup>52</sup> Some remnant inflammation may persist in or around fibrous streamers as the follicles ascend to telogen level. <sup>50</sup>

In the chronic stage, there is marked hair follicle miniaturization. The terminal to vellus scalp hair follicle ratio is reduced and is likely to be 1:1. <sup>50</sup> These miniaturized anagen follicles are situated slightly deeper than normal vellus follicles. <sup>52</sup>

Chronic lesions are characterized by the presence of nanogen follicles (an intermediate stage between terminal and vellus anagen). <sup>6</sup> Nonsclerotic fibrous tracts (streamers) extend along the original site of the previous terminal follicles into the subcutis. <sup>47</sup> The inflammatory infiltrate, if present, is likely to be in the papillary dermis around miniaturized follicles <sup>50</sup>. In the recovery stage, the terminal to vellus ratio reverts to normal, the percentage of anagen hairs increases, and there is little or no inflammation. <sup>50</sup>

The total number of follicles are normal or decreased in AA compared to normal scalp. <sup>52</sup>

### **3.9 Clinical features of Alopecia Areata :**

AA classically presents as asymptomatic, well defined patches of non-scarring alopecia, with no overt epidermal change. Patches can be mildly reddened or peachy in color. Acute diffuse and total alopecia is a new variant of AA with favorable prognosis. AA can occur on virtually any hair-bearing area, but it affects the scalp in approximately 90% of cases seen in

dermatology clinics. <sup>6</sup> The disease can be classified based on the extent or pattern of the hair loss.<sup>42,54</sup>

The hair loss can present as single delimited patches of hair loss (most common), multiple patches, or extensive hair loss. Based on the extent of hair loss, the disease is clinically classified as follows: patchy AA, in which there is a partial loss of scalp hair; alopecia totalis (AT), in which 100% of scalp hair is lost; or alopecia universalis (AU), in which there is a 100% loss of all scalp and body hair.

Approximately 10% of cases will progress to AT/AU. <sup>55</sup> The pattern of hair loss observed in AA can vary considerably, and less common presentations can be observed in a minority of patients, including reticular patches of hair loss; ophiasis type, band-like hair loss in parieto-temporo-occipital area; ophiasis inversus (sisapho), very rare band-like hair loss in the fronto-parieto-temporal area ; and a diffuse thinning over part or all of the scalp. Another variant that should be considered is acute diffuse and total alopecia, which was first described by Sato-Kawamura et al <sup>56</sup> and was reported more recently by Lew et al <sup>57</sup> in a larger series of patients with similar characteristics. This new variant is characterized by its rapid progression and extensive involvement, along with a favorable prognosis.

Classic AA lesions are well demarcated, round or oval, completely bald, smooth-surfaced patches <sup>42</sup>. The skin within the patch is usually normal on the first examination; however, it is not uncommon to see a slightly peachy <sup>42</sup> or reddened color. <sup>8</sup> A characteristic finding that is frequently seen in (or at the border of) the patches is "exclamation mark hairs" <sup>6</sup>. These are short hairs that are tapered

proximally and wider distally. In active disease, where alopecia patches are expanding, a hair pull test may be positive at the periphery of lesions.<sup>42</sup> An interesting feature of AA is its initial sparing of white hairs in patients with graying hair.<sup>8</sup> However, eventually white hair is also often lost as the disease duration becomes chronic. Initial hair regrowth, whether spontaneous or induced by treatment, is typically non- or hypopigmented but the color usually returns with time.<sup>8</sup> The disease is frequently asymptomatic, although a few patients report pruritus, burning sensations, or pain before hair loss begins.<sup>42</sup>

The use of videodermoscopy with a magnification of 20 to 70 times may be a valuable, noninvasive tool in equivocal AA cases. The presence of numerous yellow dots and short regrowing hairs is suggested to be a characteristic feature.<sup>58,59</sup>

Yellow dots, however, can also be seen in androgenic alopecia.<sup>60</sup> Close examination of the hair shafts at the edge of lesions, particularly exclamation mark hairs, may reveal subtle defects in the structure and cuticle.<sup>61</sup>

Alopecia areata is considered by the sudden presence of round or oval patches of non-scarring hair loss with spontaneous remission and exacerbations .

The patches are well constrained, may have a mild peachy hue , sometimes with "exclamation point" hairs are broken short hairs with a border distal segment as a compared to the proximal end.

The involved skin is usually smooth and almost always totally devoid of hair .

The most known clinical presentation Alopecia Areata (AA) is patchy hair loss five to ten percent of patients , especially children , end up losing all their scalp hair (alopecia totalis), loss of all their body hair (alopecia universalis ).<sup>62</sup>

Patients with reticular variant of patchy alopecia Areata reveal hair loss in one site and spontaneous hair regrowth in another area of bald lesions. The extension of Alopecia along the scalp margin is known as Ophiasis.<sup>8</sup>

Subsequent progress is very wide-ranging , the initial patch may regrow within a few months, or further patches may appear after interval of 3 to 6 weeks and then in cyclical fashion. These intervals are varying durations . In some cases the initial hair loss is diffuse, and total denudation of the scalp has been recounted within 48 hours.<sup>8</sup>

The scalp is first affected site in most cases , but any hair-bearing skin can be affected.

The eyebrows and Eye lashes are gone in many cases of alopecia areata and may be the only sites affected. (Alopecia areata tends to preferentially affect pigmented hairs, with relatives sparing with white hairs). During the regrowth phase hairs may be non or hypo pigmented but hair pigmentation usually improves completely . In Exceptional cases where regrown hair remain non-pigmented the possibility of simultaneous vitiligo should be considered.<sup>8,62</sup>

**3.9.1 Nail involvement** :is comprehended in approximately 20 percent of Adults and 50 percent of children with Alopecia Areata and is most common in male patients with severe involvement . Geometric pitting is the most common ,nail dystrophy seen in alopecia Areata . Other Changes include longitudinal ridging and thickening .The Trachyonychia is quite common in children affected by alopecia totalis or universalis . Nail abnormalities may improve with systemic steroids treatment or spontaneously.<sup>2,62,63</sup> .Ahmed I, Sharma VK also found a significant association of nail changes with disease severity <sup>27,64</sup> .

### **3.10 Differential Diagnosis :**

Trichotillomania and tinea capitis are the most important differential diagnoses in children .Diffuse AA can be easily misdiagnosed as telogen effluvium .

In children, the most important entities to rule out are tinea capitis and trichotillomania. Tinea capitis can be differentiated by the presence of inflammation or at least mild scaling. Trichotillomania may involve irregular or bizarrely shaped lesions. The presence of broken hairs with varying lengths gives lesions a rough texture, unlike the smooth surface of AA. The differentiation of diffuse AA from telogen effluvium (TE) can be challenging. The patient's history may reveal a triggering factor that may point towards a diagnosis of TE. In diffuse AA, the hair pull test may show some dystrophic anagen hairs compared to the pure telogen hairs found in TE. Ultimately, a scalp biopsy may be required to correctly differentiate diffuse AA and TE. Lupus and secondary syphilis may also be considered in the

differential diagnosis of AA and may require serology testing or a scalp biopsy for confirmation. Where a strong family association of universal hair loss is observed, the differential diagnosis may include a rare inherited genetic hair loss condition called congenital atrichia. <sup>65</sup>

Though the clinical diagnosis is usually direct, other conditions that typically need to be well-thought-out are :

1. Tinea Capitis -obvious inflammation (e.g. scaling pustules ) in association with patchy hair loss suggest a diagnosis of Tinea Capitis and excludes alopecia Areata .

2. Tricho tillomania -This can be difficult to differentiate from alopecia areata . (and may, in fact be associated with it ,especially in children ). However, here the hair loss is rarely complete and the broken hairs are usually firmly anchored in the scalp, unlike exclamation point hairs .

3. Early scarring alopecia

4. Syphilis (Alopecia areolaris).

5. Diffuse Alopecia areata can be demanding to differentiate from other causes of diffuse hair loss and may be associated with them (e.g. thyroid abnormalities, other auto immune disease and syphilis). Diffuse Alopecia Areata usually develops promptly and the diagnosis becomes strong with time, but a biopsy may be necessary to shed light on remaining uncertainties. <sup>2,8</sup>

### **3.11 Prognosis :**

Spontaneous remission can be projected in the majority of cases where hair loss is incomplete to a few small patches (possibly up to around 80 % within 1 year ), even though most patients experience recurrences at some stage<sup>66</sup>. The prognosis in extensive Alopecia areata , mainly alopecia totalis and universalis , is less favorable and fewer than 10 % of patients in the former two groups recover simultaneously.

The prognosis is less promising when onset occurs during childhood and in Ophiasis.<sup>8</sup> Other features pointing to a poor prognosis include onset in childhood , loss of body hair, nail involvement , atopy and a positive family history for alopecia areata.<sup>2,8</sup> The course of AA is unpredictable. Up to 50% of patients will recover within 1 year even without treatment<sup>54</sup>. However, most patients will have more than one episode of hair loss. The most important factors indicating a poor prognosis are the extent of hair loss presentation (extensive AA/AT/AU)<sup>67</sup> or an ophiasis pattern of hair loss.<sup>57</sup> Other factors associated with a poor prognosis include a long duration of hair loss<sup>52</sup>, atopy, a positive family history, the presence of other autoimmune diseases, nail involvement, and young age of first onset.<sup>42</sup> In children, the disease may have a tendency towards worsening with time, even if the initial presentation was mild.<sup>67</sup>

### **3.12 Management :**

Counseling of patients on the nature of alopecia areata , its prognosis and the treatment options are essential . For the majority of patients , alopecia areata is a

cosmetic issue. Occasionally , it causes physical disability (e . g. , when there is eye lash involvement or marked nail dystrophy) .

Nevertheless , the cosmetic importance of hair is such that alopecia areata can cause severe emotional problems , particularly in children and young women , though by no means restricted to these groups. <sup>68</sup>

In view of the limited efficacy of current forms of treatment , the physician has an important role in helping patients adapt to their lack of hair . This is not an easy task and input from other health professional , such as clinical psychologist , may be needed. <sup>2,8</sup>

**3.12.1 Treatment :** Leaving alopecia areata untreated is a legitimate option for many patients .Spontaneous remission occurs in up to 80% of patients with limited patchy hair loss of short duration ( less than one year) . <sup>8</sup> Such patients may be managed by reassurance alone , with advice that regrowth cannot be expected within three months of the development of any individual patch.

The prognosis of long standing extensive alopecia is less favorable . However , all treatments have a high failure rate in this group and some patients prefer not to be treated , other than wearing a wig if appropriate. <sup>2,8</sup>

### 3.12.1

#### 1 .Corticosteroids:

### 3.12.2

**2.Topical corticosteroids :** Potent topical steroids are widely used to treat alopecia areata , but the evidence for their efficacy is limited. There is some evidence of efficacy if potent corticosteroids are used under occlusion. <sup>69</sup>

### 3.12.1.3

**3.Intralesional Corticosteroids:** Intralesional corticosteroids also are used frequently in alopecia areata AA. Their use was first described in 1958 with the use of hydrocortisone. <sup>70</sup> Preparations used include triamcinolone acetonide (5-10 mg/ml ) and hydrocortisone acetate ( 25mg /ml ) are commonly used , either by sub dermal injection or using needle – less device. <sup>2,8</sup> Multiple injections repeated monthly are usually necessary , limited by patient discomfort .

Intralesional corticosteroids are most suitable for patchy , relatively stable hair loss of limited extent . This modality is not appropriate in rapidly progressive alopecia areata or in alopecia totalis , universalis . Skin atrophy is common, especially with triamcinolone injections which may increase exponentially with each repeated injection.<sup>2</sup>

### 3.12.1.4

**4. Systemic corticosteroids** : Oral corticosteroid therapy can induce short term hair regrowth in patients with alopecia areata , however , hair regrown is usually lost after treatment is discontinued. <sup>71</sup>

Newer regimens that involve pulsed oral corticosteroids ( e. g. prednisolone 200 mg once weekly for 3 months or dexamethasone 5 mg daily for 2 consecutive days /wk for 3 months) may also induce hair regrowth in some patients. <sup>2,8,72</sup>

No significant side effects have been reported in published series but cannot be ruled out , and long-term benefits have not been shown. <sup>2</sup>

### 3.12.1.5

**5. Topical minoxidil solution** : There is limited clinical trial evidence that topical minoxidil solution (TMS) stimulate hair regrowth in some patients <sup>73,74</sup> . Minoxidil is ineffective in alopecia totalis/ universalis .

### 3.12.1.6

**6. Anthralin (Dithranol )** : Data from small case series suggest that treatment with anthralin cream is helpful in some cases , but the overall response rate is low. <sup>2,75</sup>

### 3.12.1.7

**7.Photo chemo therapy** : Photo therapy using UVB has been widely used but there is no convincingly documented evidence of efficacy .

There are several un controlled studies of photo chemo therapy (PUVA) for alopecia areata , using all types of PUVA ( oral or topical psoralen , local or whole body UVA irradiation ) , claiming success rates of up to 65% . Two retrospective reviews have reported low response rates. <sup>2,8</sup>

The relapse rate following treatment is high and continued treatment is usually needed to maintain hair growth which may lead to an un acceptably high cumulative UVA dose . The deleterious long-term effects of photo therapy induced premature skin aging and photo carcinogenesis argue against this treatment option , especially in children. <sup>2,8</sup>

### 3.12.1.8

**8.Contact immune therapy** : This is the only form of therapy for which efficacy has been convincingly documented . This may be the most effective treatment for patients with extensive alopecia areata , although it is not widely available . Also , there is insufficient comprehensively comparative analysis with alternative treatment options .

The patient is sensitized to a potent allergen (usually diphenyl cycloprenone ( DPCP) or squaric acid dibutylester ( SADBE) and then a solution of DPCP or SADBE is painted on the scalp once weekly . The concentration of DPCP or

SADBE is adjusted to induce a mild dermatitis reaction , published response rates vary widely (9 percent to 85 percent ) but clinical experience suggests that approximately 30 percent of patients with extensive alopecia areata achieve a cosmetically worth-while response after 6 months of treatment .

Continuous or intermittent treatment is needed to maintain the response in most patients . Alopecia totalis / universalis is less likely to respond to contact immune therapy , and it is unclear whether patient with rapidly progressive disease profit . Risks include severe dermatitis , urticarial , and pigmentary abnormalities including vitiligo ( an important consideration in racially pigmented skin ) . Sensitization of health care workers and relatives handling the immunogen is also a significant hazard . Contact immune therapy has been in use since the early 1980 , and no long term side effect have been reported. <sup>2</sup>

### **3.12.1.9**

**9.Cosmetic measures** : Female patients with extensive alopecia areata often choose to wear a wig or hairpiece . Temporary tattooing can be helpful for loss of eye brows. <sup>2,76,77</sup>

### **3.12.1.10**

**10.Biological therapy**: Initial optimism that biological drugs would introduce a new era in the treatment of a alopecia areata . The antitumor necrosis factor drugs

appear in effective .A case report of alopecia universalis responding to alefacept needs to be confirmed in a larger study. <sup>78</sup>

### **3.12.1.11**

11.Ferrando and Moreno propose the use of mesotherapy multiple injections with 5 or 7 needles . This is then is useful method in cases of patchy alopecia areata of less than 50% extension , especially at the onset of the disease or when the patient fails to respond to other therapeutic measures. <sup>79</sup>

It is also useful in certain cosmetically sensitive sites such as the outer eye brows (although particular care should be taken at this site due to the risk of cataracts and increased intra-ocular pressure. <sup>80</sup>

### **3.9.1.12**

12.In a study published recently by the journal of the American Academy of Dermatology , no benefit was observed in using 0.1% tacrolimus in 11 patients who completed the study , although 1 patient did show minor regrowth. <sup>81</sup>

### **3.12.1.13**

**13.Laser Therapy:** Given the excimer lasers operating at 308 nm induce T –cell apoptosis in vitro , and that a alopecia areata is an auto immune disorder in which T-cells are implicated , Zakaria et al suggested that such a laser might be beneficial

in the treatment of this disease . However , further studies are needed to confirm these finding. <sup>82</sup>

# Aim of the study

4-Aim of the study:

To determine the quality of life (QOL) in Libyan patients with alopecia areata who attend dermatology outpatients department and Hair clinic at Al-Jomhoria hospital in Benghazi..

# Patients and methods

## **5-Patients and Methods:**

This is a prospective study during the period from the first of September 2010 to end of March 2011. A Cross sectional study included 100 Libyan patients, with the

clinical diagnosis of alopecia areata attending dermatology outpatient department and hair clinic in AL-Jomhoria hospital Benghazi –Libya , were enrolled in this study.

All of them were subjected to quality of life assessment by questionnaires

(Dermatology) life quality index (DLQI) consisting of 10 questions according to

Finaly A ,It is designed for use in adults .i.e patients over the age of

16.<sup>20</sup>

The Data were recorded as an appendix 1 and 2 including the followings:

(A)Full detail history including associated conditions .

(B) Thorough general and dermatological examination.

The DLQI questionnaires were completed by the patients, with assistance for some of them.

### **Statistical analysis:**

Results were expressed as mean  $\pm$  standard deviation (SD) or number and percent

. Comparison between two groups was performed using unpaired student t-test.

Categorical data was compared using Chi square test. Correlation between different parameters was performed using Pearson's rank correlation coefficient. Statistical analysis was performed with the aid of the statistical package for the social sciences (SPSS) computer program (version 18 windows). P value  $<0.05$  was considered significant

# Results

6-Results :

One hundred (100) Libyan patients with the clinical diagnosis of AA attending dermatology outpatient department and hair clinic in AL Jomohoria hospital Benghazi-Libya where enrolled in this study.

Sixty-two (62%) percent were female and Thirty-eight (38%) percent were male.

( Figure 1 )

The patient age was ranging from 16-60yrs(mean 30.4).Majority of patients were below 40yrs 86% and the maximum number of cases were presented in age group between 21-30yrs.( Figure 2 )

Concerning marital status, out of total cases 66 patients (66%) were single and 30 patients (30%) were married.( Figure 3 )

Regarding job; in 60 patients (60%) were housewife or student. ( Table 1 )

In our study group the education of secondary and university level were recorded in 73 patients (73%).( Table 2 )

According to clinical type of alopecia, majority of cases were AA seen in 73% followed alopecia universalis 17% .( Figure 4 )

In 50% of cases the duration of the disease less than one year, where in 10% the disease was persistat more than 10 yrs.( Figure 5 )

Family history of AA was recorded in 17% of cases and personal or family history of hypertension(essential hypertension) were recorded in 12% of cases.

According to the number of patches of alopecia (1-3 patches) were observed in 46% of cases, where 4-10 patches were observed in 38% of cases. ( Table 3 )

Regarding size of the lesion, more than ( 5cm ) seen in 51% of cases and ( 3-5cm ) seen in 33% of cases. ( Table 4 )

Concerning presentation of patients according to the site of lesion are 96 cases (96%) with scalp lesion; among them 56% whole area of scalp, while 40% one scalp area with almost equal distribution whether frontal 8% , occipital 9% , parietal 11% ,temporal 12% ;While total beard cases 16 with 4 cases 4% beard alone. The other areas along with scalp involvement are as follow :

-Eye brows in 23 cases ( 23% ) -Eye lashes in 22 cases ( 22% ) -Other body site in 56 cases ( 56% ). ( Figure 6 )

Stress was observed to be an aggravating factor in 64% of cases and disease showed slow progression in 44% of cases. ( Table 5 )

Clinical thyroid disease or vitiligo were recorded as associated disease in 3% and 5% respectively, whereas nail changes( mainly pitting) were observed in 62% of cases. Concerning treatment received in patients, majority of them had used topical steroids, Minoxidil and Intralesional steroids seen in 76%,65% and 42% respectively. ( Table 6 )

Response to treatment was noticed either to be : no response; mild; moderate or marked in order 40%, 39%, 17%, and 4% .In our study DQLI were affected in 84%

of cases of AA. Significant percent  $\approx 56\%$  the affect were ranging from moderate to extremely large effect ( P.value 0.79 ) ( Figure 7 )

The relation of individual DQLI sore mean to feeling, clothing, treatment and personal relation in men were 1.6%, 1.1%, 1.1% and 0.92% respectively, whereas mean score in women regarding feeling, personal relation, physical symptoms and clothing were 1.5%, 0.97%, 0.95% and 0.9% respectively (Table 7) .

Regarding relation of DQLI to sex and age, there were no statistically significant difference in the effect of the disease on patient life .

((P.value not significant) (Table 8)

Regarding relation to different age group on patient life (P.value not significant). (Table 9). 70.6% of patient with alopecia universalis had moderate to very large effect on patient life and there is no statically difference between the other type of alopecia. ( Table 10 )

56% of patients had moderate effect to very large effect on patients life where number of patches were ( 6-10 ) as compared to 33% of patient were number of lesion more than (10). There is no statistically significant relation between the degree of DQLI and the number of patches .( Table 3 )

Fig. 1: Distribution of patients according to the sex

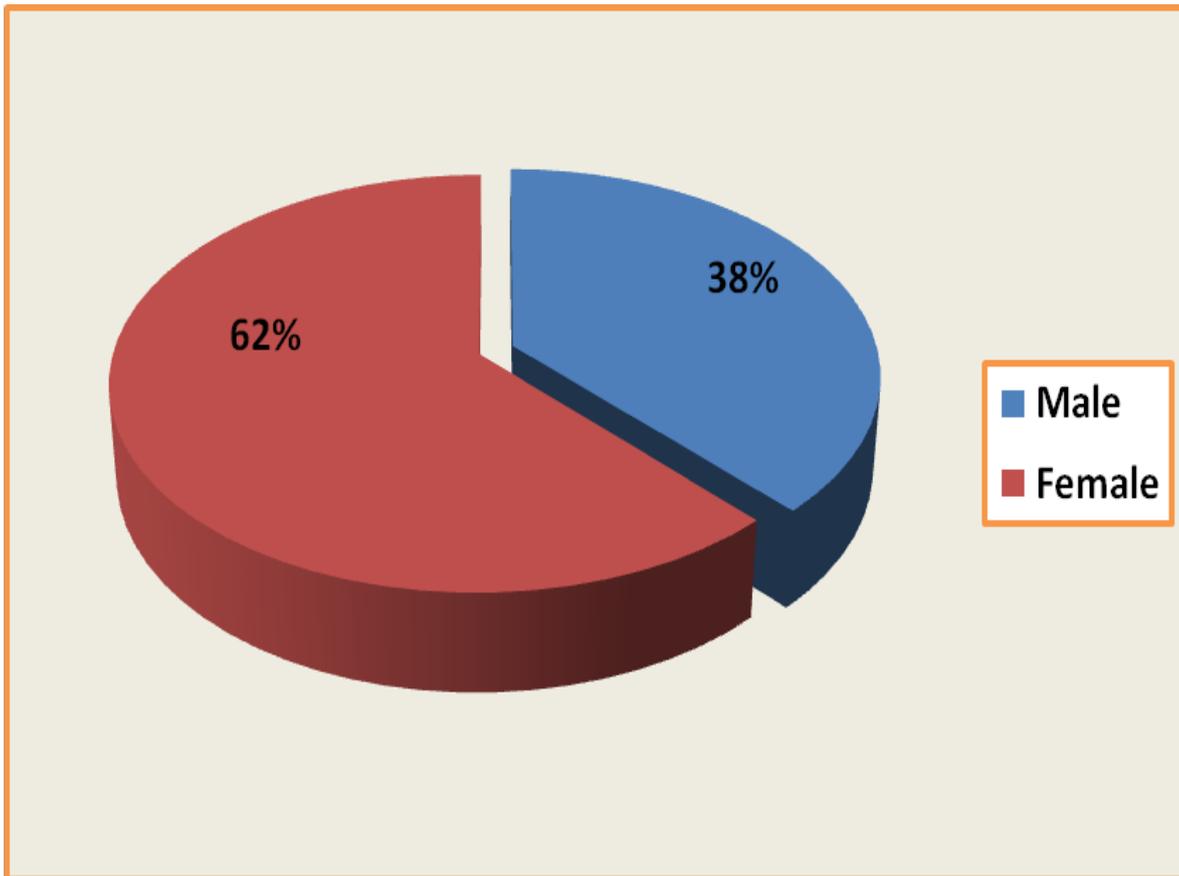


Fig. 2: Distribution of patients according to the age

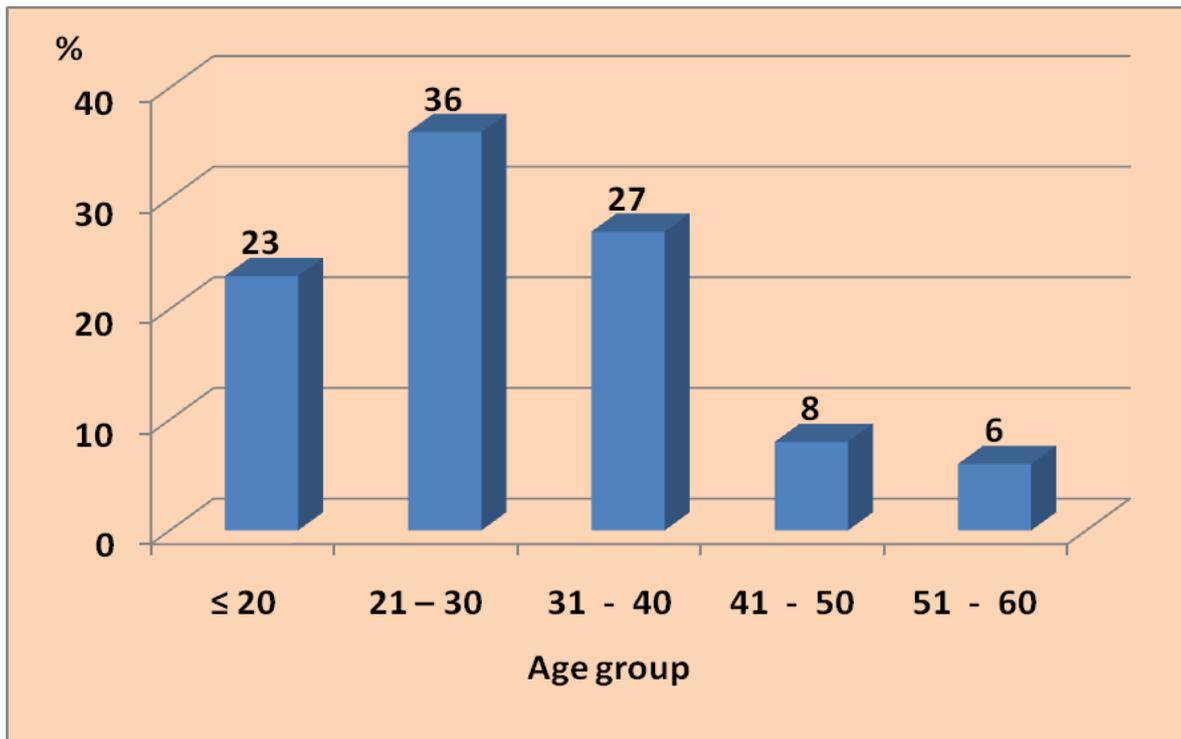
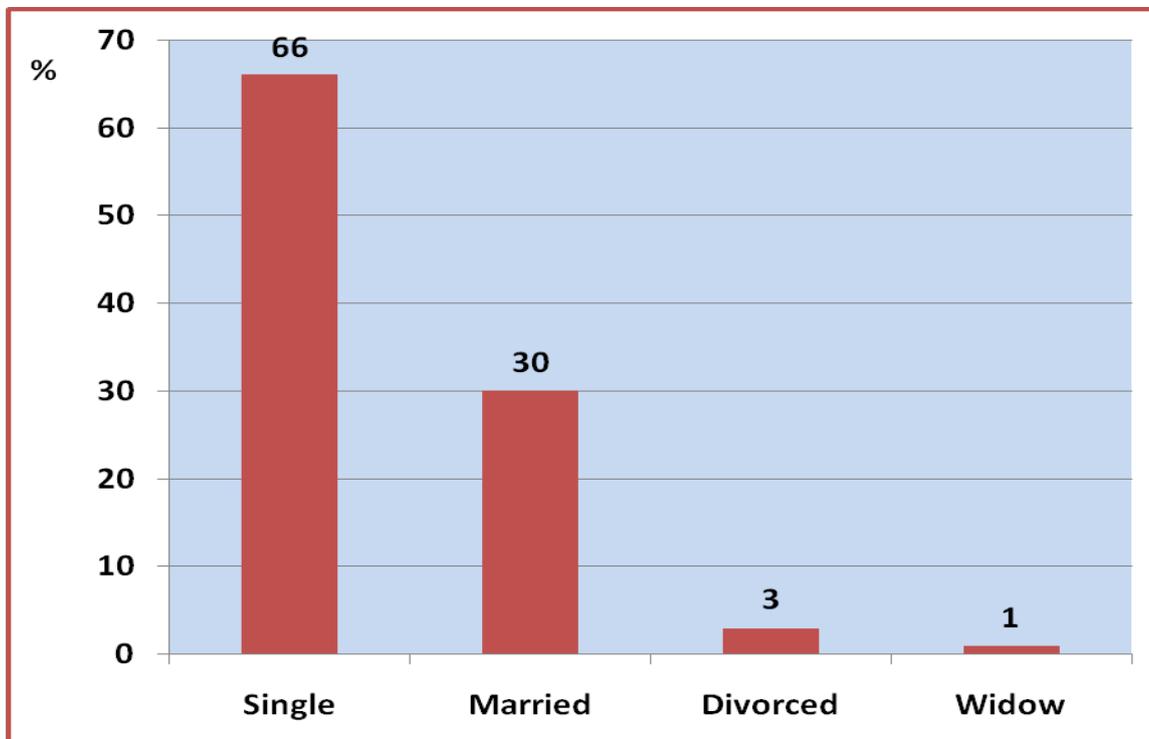


Fig. 3: Distribution of patients according to marital status.



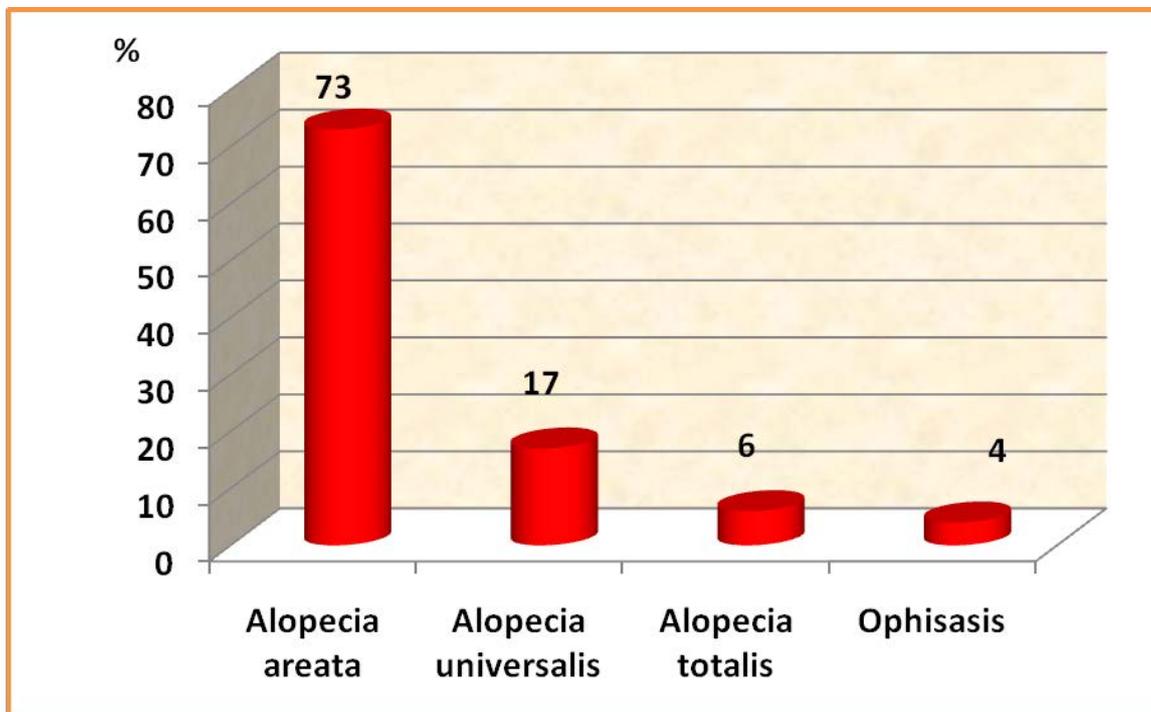
**Table 1: Distribution of patients according to occupation.**

<b>Occupation</b>	<b>No.</b>	<b>%</b>
House wife	34	34
Student	26	26
Employee	11	11
Policeman	9	9
Teacher	7	7
Free business	5	5
Nurse	2	2
Driver	2	2
Engineer	1	1
Cleaner	1	1
Farmer	1	1
Unemployed	1	1
<b>Total</b>	<b>100</b>	<b>100</b>

**Table 2: Distribution of patients according to level of education.**

Level of education	No.	%
Literate	8	8
Primary School	19	19
Secondary School	44	44
University	29	29
Total	100	100

**Fig. 4: Distribution of patients according to the clinical diagnosis.**



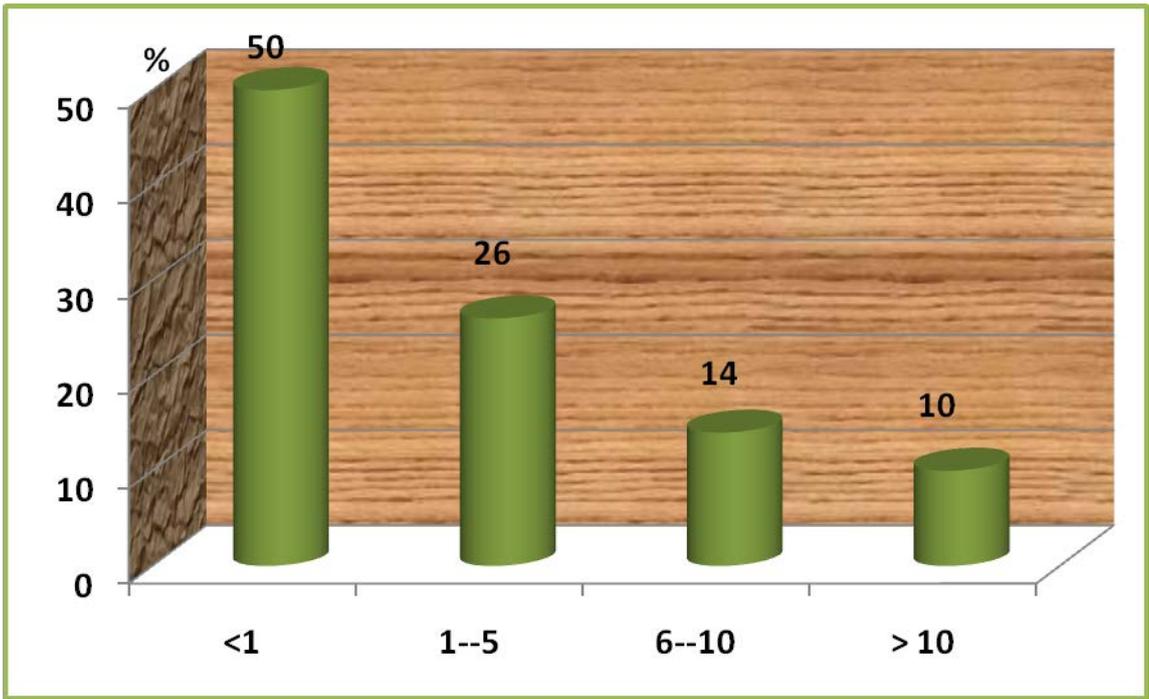


Fig. 5: Distribution of patients according to the duration of the disease.

**Table 3: Distribution of patients according to number of patches**

<b>Number of patches</b>	<b>No.</b>	<b>%</b>
<b>Single</b>	<b>20</b>	<b>20</b>
<b>2 - 3</b>	<b>26</b>	<b>26</b>
<b>4 - 5</b>	<b>18</b>	<b>18</b>
<b>6 - 10</b>	<b>20</b>	<b>20</b>
<b>&gt;10</b>	<b>6</b>	<b>6</b>
<b>All scalp</b>	<b>10</b>	<b>10</b>
<b>Total</b>	<b>100</b>	<b>100</b>

4Table: Distribution of patients according to size of lesion.

Size of lesion	No.	%
<1cm	3	3
1 – 2cm	13	13
3 - 5 cm	33	33
> 5cm	51	51
Total	100	100

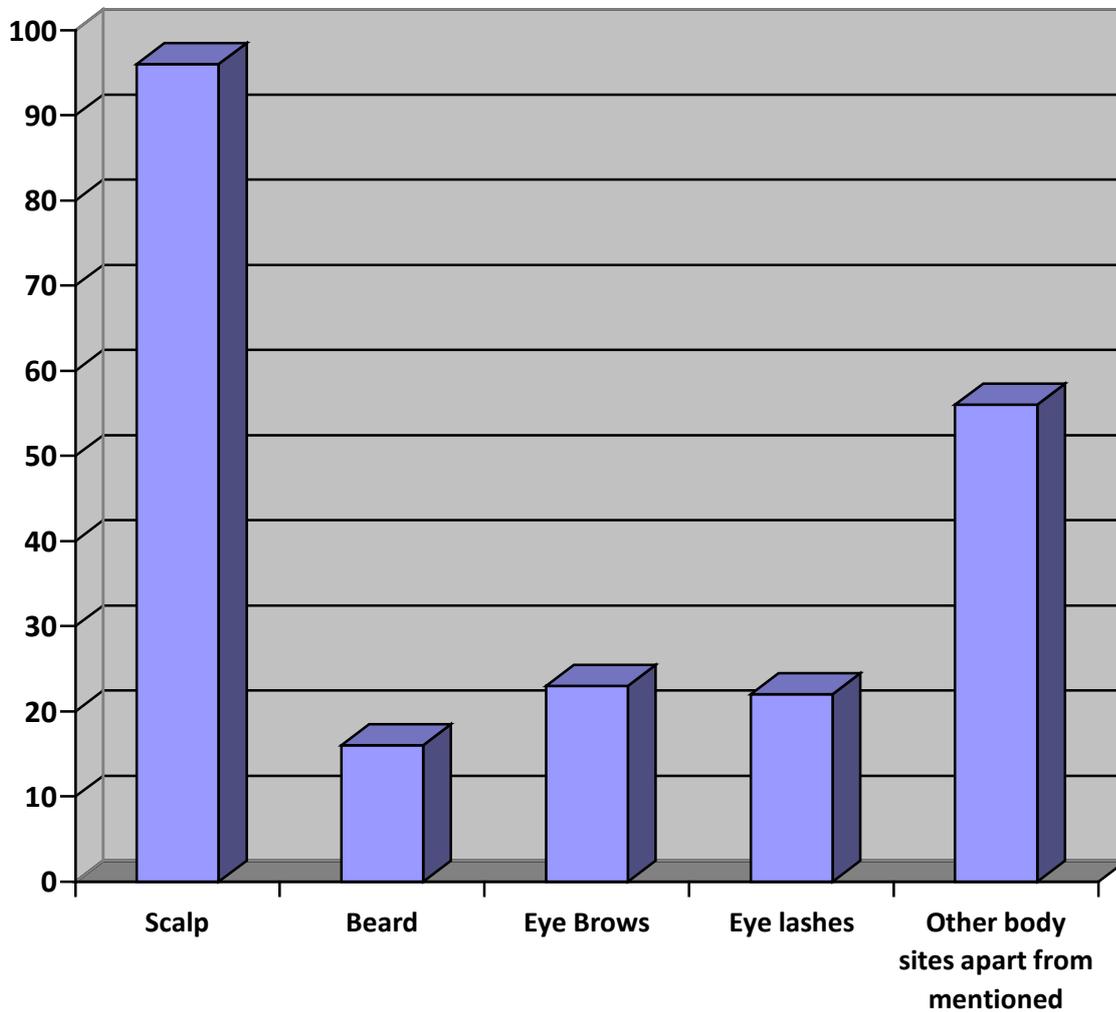


Fig 6 :Distribution of patients according to site of lesion.

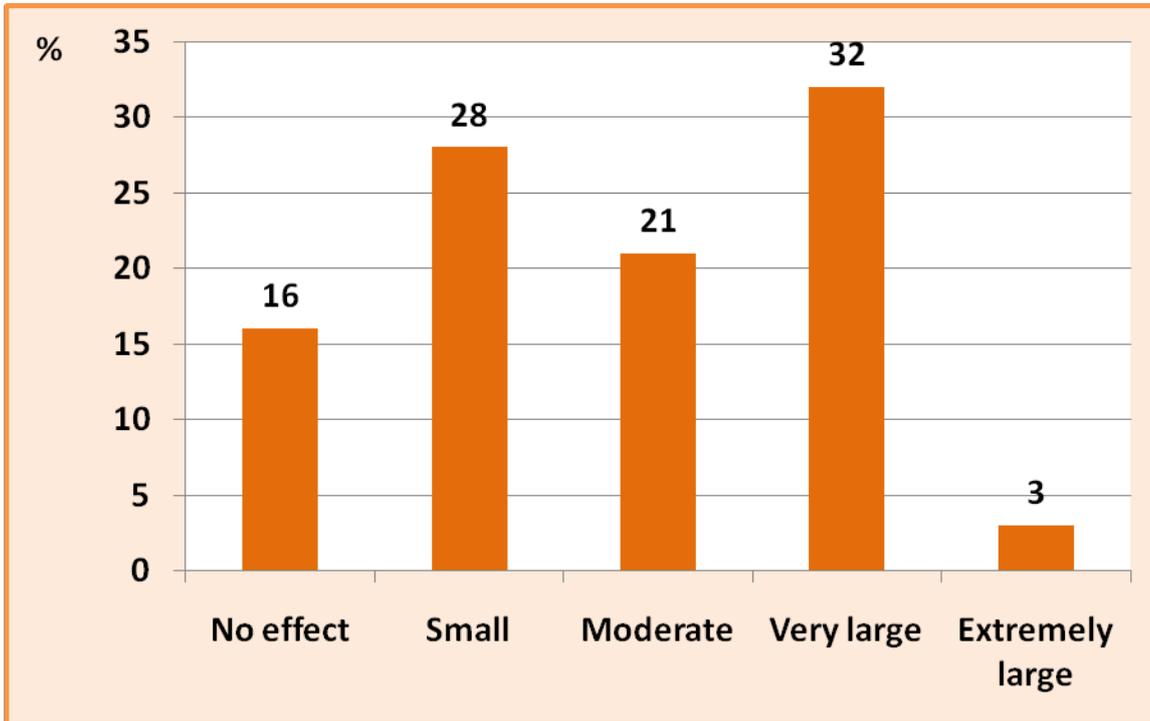
**Table 5: Distribution of patients according to progression.**

<b>Progression</b>	<b>No.</b>	<b>%</b>
<b>Stationary</b>	<b>20</b>	<b>20</b>
<b>Slow progression</b>	<b>44</b>	<b>44</b>
<b>Fast progression</b>	<b>36</b>	<b>36</b>
<b>Total</b>	<b>100</b>	<b>100</b>

**Table 6: Distribution of patients according to type of treatment**

Type of treatment	No.	%
No treatment	13	13
Topical steroid	76	76
Intra lesional steroids	42	42
Tincture iodine	25	25
Dithranol	2	2
Calcipotriol	2	2
Minoxidil 2%	47	47
Minoxidil 5%	18	18
Systemic steroid	30	30
Others	25	25

Fig.7: Distribution of patients according to dermatological life quality index (DLQI) .



Mean= 8.1. Std.Deviation = 6.3. Median=7. Minimum = 0. Maximum = 26.Upper quartile = 13.8. Lower quartile =3. 16<sup>th</sup> percentile=1.2. 84<sup>th</sup> percentile= 15

Male : Mean = 8.71. Std.Deviation = 6.89.

Female :Mean = 7.69 . Std.Deviation = 5.99

t-test = 0.778. p = 0.204

confidence limits( – 1.576, 3.609)

Pearson correlation coefficient = 0.027 ,95% p= 0.792

Table 7: Comparison of individual Dermatology Life Index question scores in men and women.

question	attribute	Men		Women		p- value*
Question n	Attribute	Mean	Median	Mean n	Median	p- value*
1	Physical symptoms	0.63	0.0	0.95	1	0.240
2	Feelings	1.6	2	1.5	1.5	0.852
3	Daily routines	0.66	0.0	0.68	0.0	0.985
4	Clothing	1.1	1	0.90	1	0.450
5	Social and leisure	0.87	0.0	0.52	0.0	0.61
6	Sport, exercise	0.39	0.0	0.23	0.0	0.068
7	Work ,study	0.71	0.0	0.58	0.0	0.442
8	Personal relationships	0.92	0.0	0.97	0.0	0.431
9	Sexual relationships	0.53	0.0	0.39	0.0	0.302
10	Treatment	1.1	1	0.84	0.0	0.609

\*Independent t- test ;All were non-significant.

Table 8: Distribution of patients according to Degree (Severity of QLI and sex).

Degree (Severity)of QLI	Sex				Total	
	Male		Female		No.	%
	No.	%	No.	%		
No effect on patients life	6	15.8	10	16.2	16	16
Small effect on patients life	9	23.7	19	30.6	28	28
Moderate effect on patients life	8	21.1	13	21	21	21
Very large effect on patients life	14	36.8	18	29	32	32
Extremely effect on patients life	1	2.6	2	3.2	3	3
<b>Total</b>	<b>38</b>	<b>100</b>	<b>62</b>	<b>100</b>	<b>100</b>	<b>100</b>

$X^2 = 0.886$   $df = 4$   $p = 0.927$  ( Non significant )

Table 9: Distribution of patients according to Degree (Severity of QLI and age).

Degree (Severity)of QLI	Age									
	≤ 20		21 – 30		31 -40		41- 50		51 -60	
	N o.	%	N o.	%	N o.	%	N o.	%	N o.	%
No effect on patients life	5	21 .8	5	13 .8	5	18. 5	0	0	1	16 .7
Small effect on patients life	6	26 .1	1 0	27 .8	1 0	37 0	2	25	0	0
Moderate effect on patients life	3	13	1 1	30 .6	5	18. 5	1	12 .5	1	16 .7
Very large effect on patients life	9	39 .1	8	22 .2	7	26	4	50	4	66 .6
Extremely effect on patients life	0	0	2	5. 6	0	0	1	12 .5	0	0
Total	23	10 0	3 6	10 0	2 7	10 0	8	10 0	6	10 0

$X^2 = 16.839$   $df = 16$   $p = 0.396$  ( Non significant )

Table 10: Distribution of patients according to Degree (Severity)of QLI and clinical diagnosis.

Degree	Clinical diagnosis							
(Severity)of QLI	Alopecia areata		Alopecia totalis		Alopecia universalis		Ophiasis	
	No.	%	No.	%	No.	%	No.	%
No effect on patients life	13	17.8	0	0	2	11.8	1	25
Small effect on patients life	20	27.4	3	50	3	17.6	2	50
Moderate effect on patients life	15	20.5	2	33.3	4	23.5	0	0
Very large effect on patients life	22	30.1	1	16.7	8	47.1	1	25
Extremely effect on patients life	3	4.1	0	0	0	0	0	0
<b>Total</b>	<b>73</b>	<b>100</b>	<b>6</b>	<b>100</b>	<b>17</b>	<b>100</b>	<b>4</b>	<b>100</b>

**Table 11: Distribution of patients according to dermatological life quality index (DLQI)**

DLQI	No.	%
No effect	16	16
Small	28	28
Moderate	21	21
Very large	32	32
Extremely large	3	3
Total	100	100

Mean= 8.1. Std.Deviation = 6.3. Median=7. Minimum = 0. Maximum = 26.Upper quartile = 13.8. Lower quartile =3. 16<sup>th</sup> percentile=1.2. 84<sup>th</sup> percentile= 15

Male : Mean = 8.71. Std.Deviation = 6.89.

Female :Mean = 7.69 . Std.Deviation = 5.99

t-test = 0.778. p = 0.204

confidence limits( – 1.576, 3.609)

Pearson correlation coefficient = 0.027 ,95% p= 0.792



Figure 8: Patchy alopecia areata



Figure 9: Patchy alopecia areata



**Figure 10: Ophiasis with leucotrichia**



**Figure 11 : Ophiasis and patches**



**Figure12: Alopecia totalis**

# Discussion

## 7-Discussion

Alopecia areata is a chronic inflammatory disease which affects the hair follicles and sometimes the nails. The onset may be at any age and there is no known race or sex preponderance. Alopecia areata usually presents as patches of hair loss in the scalp but any hair bearing skin can be involved.

Sex incidence in alopecia areata has been reported as almost equal. But in our study more than half of the patients were female (62%), while in study by Amer E. et al found that, male constitute to 72% and female 28%<sup>22</sup>, although in other reported series by Seyrafi H, Tan E, and Kavak A, reported that in Asian patients sex incidence is equal.<sup>12,1, 23</sup>

Mean age of the patients was  $30.4 \pm 10.9$  years, with range equal to 47 years.

Majority of patients were below 40 years (86%), age group 21-30 years consist of 36%, other study by Amer E, Tan E and Shellow, found that most of the patients were in 20-40 years age groups<sup>22,25,26</sup>. Sharma VK found the majority of patients (88%) were below 40 years of age.<sup>27</sup>

Concerning marital status, out of total cases, 66% of them were single and 30% were married. House wife and students constitute to 60%. Seventy three (73%) of patients had level of education secondary school and above.

According to clinical type of alopecia, majority of our patients were alopecia areata seen in 73%, followed by alopecia universalis in 17%.

Mean duration of disease was ( $3.8 \pm 5.5$ ) years, were 50% of them had duration less than one year, where in 10% the disease was persistent more than 10 years, while

the longest duration was 30 years, price VH reported that 20% patients of alopecia areata had long term disease .<sup>24</sup> also Amer E. et al found that (21.6%) patients, had duration of disease greater than one year while in six patients it was greater than 5 years.<sup>22</sup>

Family history of alopecia was recorded in 17% of our patients and personnel or family history of atopy were recorded in 43% of cases , where personnel or family history of hypertension (essential hypertension ) were recorded in 12% of cases, which is similar to the observation of other researchers, Amer E. et al and Goh C et al .<sup>22,15</sup>

In a Chinese study by Yang S et al ,the incidence of family history was found in 8.4% of their patients <sup>28</sup>, which is a lower than in our study. In other study by Sharma VK reveled that , Patients with family members having vitiligo (recorded in 5.9% of patients), were more frequently affected with severe alopecia ( $P < 0.001$ ).<sup>27</sup>

According to the number of patches of alopecia, 1-3 patches were observed in 46 % of our cases, where 4-10 patches were observed in 38% of cases.

Regarding the size of lesion, more than 5cm seen in 51% of cases and 3-5 cm seen in 33% of cases .Concerning presentation of patients according to site of lesion are 40% whole area of scalp, 4 % beard, 2% eyelashes and other areas in 54%.

Stresses were observed to be aggravating factor in 64% of cases and disease showed slow progression in 44% of cases.

Association of alopecia areata with autoimmune disease is well established. <sup>11,12,62</sup>

In our study clinical thyroid disease or vitiligo were recorded as associated disease in 3% and 5% respectively, these findings had been shown by many other researchers.<sup>12,27,15,76</sup>

Nail changes (pitting) were observed in 62% of our cases, In Amer E. et al study nail change observed only in 20.7% ,<sup>22</sup>.Ahmed I, also found a significant association of nail changes with disease severity.<sup>76</sup>

Sharma VK found that, nail changes were seen in 162 patients (20%) and were more frequent in 76(47%) with the sever form of AA(  $p < 0.001$ ).<sup>27</sup>

Majority of patients used topical steroids (76%), Minoxidil (65%) and Intralesional steroids 42%.

Response to treatment were noticed either to be no response 40%, mild in 39% , moderate in 17% and marked in 4%.

In our study DQLI were affected in 84% of cases of alopecia areata. More than half of patients (56%) the effect were ranging from moderate to extremely large effect .The mean  $\pm$  SD of DLQI score was ( $8.1 \pm 6.3$ ), in males was ( $8.71 \pm 6.89$ ) and in females(  $7.69 \pm 5.99$ ), although there were no statistical significant difference between them (  $p$ .value 0.778), where confidence limit (-1.576, 3.609) and Pearson correlation coefficient was 0.027 at 95% and (  $p$ .value 0.792), this results is similar to D.Harlow,et al study.<sup>83</sup>

The relation of individual DQLI score mean to feeling, clothing, treatment and personnel relation in men were 1.6%, 1.1%, 1.1% and 0.92 respectively, whereas mean score in women regarding feeling, personnel relation, physical symptoms and clothing were 1.5%, 0.97%, 0.95% and 0.9% respectively and there were no statistical significant differences between male and female. Regarding relation of DQLI to sex, there were no statistical significant differences in the effect of the disease on patient life in both sex, only in very large effect male were higher than female 36.8% against 29%.

Degree of severity in relation to age, very large effect on patients life was highest in age group 51-60years 66.6% and 50% in age group 41-50years, but there was no statistical significant difference between the age groups in the degree of severity ( $p=0.396$ ), this result is similar to other study by D.Harlow.<sup>83</sup>

Fifty three(53%) percent of patients with alopecia universalis had moderate to very large effect on patients life and there is no statistical difference between the male and female.

Very large effect on patients life was 47.1% with alopecia universalis while extremely effect on patients life was 4.1% in alopecia areata.

Sixty percent (60%) of patients had moderate to very large effect on patients life

# Conclusions

## 8- Conclusions

\* Alopecia areata in AL-Jomhoria hospital Benghazi –Libya, showed a preponderance in female (F: M = 1.6:1) and the majority of patients (86%) were below 40 years of age. Association of AA with autoimmune diseases is well established, clinical thyroid disease and vitiligo were recorded as associated disease in 3% and 5% respectively.

\* The result of life quality index (LQI) in our patients and the effect of alopecia on the life of our patients(DQLI were affected in 84% of cases of AA).More than half of patients 56% the effect were ranging from moderate to extremely large effect . The mean  $\pm$  SD of DLQI score was (8.1  $\pm$ 6.3). in males was (8.71  $\pm$  6.69) and in females (7.69  $\pm$  5.99). although there were no statistical significant difference between them (p.value0.778).

\* The DLQI score proved easy to use in outpatient clinic and completing the DLQI allows patients to express their problems and feelings in a structured manner , which help the dermatologists to be more aware of patients problems .<sup>83</sup>

\* The questionnaire can be helpful both for the physician and for the patient.

It can help the doctors to comprehend the impact of alopecia areata on patients feelings and daily life, thereby improving in this way the doctor / patient relationship which underlies the therapeutic success.

# Recommendations

## 9-Recommendations

- \* Health education about the disease nature psychotherapy and support groups are essential to help patients and their family, their fore cooperation with psychologist at the clinic is important to increase self-esteem and adaptation to the disease .
- \* The application of DLQI for all patient with AA is recommended to know the impact of the disease in patient life and to improve management effect in these patients .
- \* Further larger scale studies to be carried in order to know more about the impact of the disease on patient ,HLA typing in Libyan patient and screening for other associated disease.

## Proforma 1

### Quality of life index in Alopecia areata in Libyan patients in Benghazi

#### History, clinical examination and treatment .

Patient No:..... Date ..... Name:..... Age:.....

Sex : ..... Nationality :..... Profession:

.....Type of work: .....

Marital state: Unmarried ( ) Married ( ) Divorced ( )

Education: illiterate ( ) Primary school ( ) Secondary school ( ) University( )

Clinical diagnosis:-.....

Duration:.....

Clinical Presentation : Hair loss ( ) Erythema ( ) Scaling ( ) Exclamation mark ( ) .

White hair ( )

Others:.....

Site : Scalp (Parietal / Occipital / Frontal / Temporal ) eyebrows( ) Eyelashes ( )

Beard ( ) Moustache ( ) Axilla ( ) Groin ( ) Other site

No. of patches : Single ( ) 2-3 ( ) 3-5 ( ) 5- 10( ) > 10 ( ) All scalp ( ) .

Size of lesions : 1 cm ( ) 1 – 2cm( ) 3-5cm ( ) >5cm ( )

Aggravating factors : Stress ( ) Infection ( ) Drug history ( ) .

Family history of same disease : .....

Atopy ( Personal/Family ) : .....

Hypertension( Personal/Family )others : .....

No. of attacks : Once ( ) Twice ( ) 3times ( ) 4 or more ( )

Duration of remission : 1-3 months ( ) 4-6 months( ) 7-12 months( ) > 1yr( )

Progression : Stationary ( ) Slow progression ( ) Fast progression ( )

Associated diseases : Thyroid :( ) Vitiligo: ( ) Down syndrome: ( )

Others.....

Nail changes .....Precede ..... .or  
follow.....

Types of alopecia areata :Patchy ( ) Ophiasis ( ) Diffuse ( ) Sisapho ( ) Totalis ( )  
) Universalis ( ) .

Treatment received : No treatment ( ) Topical steroids ( )

Intra lesional steroids ( ) Tincture iodine ( ) Dithranol ( ) Calcipotriol ( )

Minoxidil 2 % ( ) 5 % ( )

Systemic steroids ( ) : ..... Dose ..... Duration : ..... Others :

.....

Response to treatment : No ( ) Mild ( ) Moderate ( ) Marked ( )

Regrowth of individual lesion occurs in ( self / treatment ) :

No regrowth ( ) 1-2 weeks ( ) 3-4 weeks ( ) 5-6 weeks ( ) >6 weeks ( )

## Proforma 2

DQLI questionnaires in Arabic .

----- الرقم

..... التاريخ

المستشفى

التشخيص

مجموع النقاط

الرجاء اختيار خلال هذه الأسئلة نسعى إلى قياس الحجم الحقيقي لمشكلتك الجلدية خلال الأسبوع الماضي .  
حقل واحد من الأجوبة لكل سؤال .

1. خلال الأسبوع الماضي ، ما مقدار الحكة، الألم بأشكاله المختلفة أو الإحساس بالوخز أو اللسع بسبب  
جلدك ؟

\*كثير جدا ، \*كثير ، \*قليل ، \*معدوم

2. خلال الأسبوع الماضي ، ما مقدار إحراجك أو ارتباكك بسبب جلدك ؟

\*كثير جدا ، \*كثير ، \*قليل ، \*معدوم

3. خلال الأسبوع الماضي ، ما مدى ما أعاقك جلدك في تأدية بعض أعمالك مثل التسوق أو العمل المنزلي أو  
العمل في حديقة الدار؟

\*كثير جدا ، \*كثير ، \*قليل ، \*معدوم ، \*ليس له أي صلة بالموضوع

4. خلال الأسبوع الماضي ما مدى تأثير جلدك على أسلوب اختيارك لملابسك التي ترتديها؟

\*كثير جدا ، \*كثير ، \*قليل ، \*معدوم ، \*ليس له أي صلة بالموضوع

5. خلال الأسبوع الماضي هل أثر جلدك على أي نشاط اجتماعي أو نشاط تقوم به في وقت فراغك ؟

\*كثير جدا ، \*كثير ، \*قليل ، \*معدوم ، \*ليس له أي صلة بالموضوع

6. خلال الأسبوع الماضي ما مدى صعوبة القيام بأي نشاط رياضي بسبب جلدك؟

\*كثير جدا ، \*كثير ، قليل ، \*معدوم ، \*ليس له أي صلة بالموضوع

7. خلال الأسبوع الماضي هل منعك جلدك من العمل أو الدراسة؟

\*نعم ، لا ، \*ليس له أي صلة بالموضوع

إذا كان الجواب بالنفي ، فخلال الأسبوع الماضي ما مقدار المشكلة التي سببها لك جلدك في العمل والدراسة؟

\*كثير ، قليل ، \*معدوم

8. خلال الأسبوع الماضي ، ما مقدار المشكلة التي سببها لك جلدك مع شريكك او مع أصدقاءك المقربين أو

أقاربك؟

\*كثير جدا ، \*كثير ، قليل ، \*معدوم ، \*ليس له أي صلة بالموضوع

9. خلال الأسبوع الماضي، ما مقدار الصعوبات الجنسية بسبب جلدك؟

\*ليس له أي صلة بالموضوع ، \*كثير جدا ، كثير، قليل ، \*معدوم

10. خلال الأسبوع الماضي ، ما مقدار ما سبب لك العلاج الجلدي من مشاكل على سبيل المثال كم كان مقدار

الفوضى التي حدثت في منزلك أو كم من الوقت استهلكت؟

\*كثير جدا ، \*كثير ، قليل ، \*معدوم ، \*ليس له أي صلة بالموضوع

## Proforma 3

### DQLI questionnaires in English

1. Over the last week, how itchy, sore, painful or stinging has been your skin? .

Very much  A lot  A little  Not at all

2. Over the last week, how embarrassed or self conscious have you been because of your skin?

Very much  A lot  A little  Not at all

3. Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden?

Very much  A lot  A little  Not at all  Not relevant

4. Over the last week, how much has your skin influenced the clothes you wear?

Very much  A lot  A little  Not at all  Not relevant

5. Over the last week, how much has your skin affected any social or leisure activities?

Very much  A lot  A little  Not at all  Not relevant

6. Over the last week, how much has your skin made it difficult for you to do any sport?

Very much  A lot  A little  Not at all  Not relevant

7. Over the last week, has your skin prevented you from working or studying?

Yes  No  Not relevant

If "No", over the last week how much has your skin been a problem at work or studying?

A lot  A little  Not at all

8. Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives?

Very much  A lot  A little  Not at all  Not relevant

9. Over the last week, how much has your skin caused any sexual difficulties?

Very much  A lot  A little  Not at all  Not relevant

1. Over the last week, how much of a problem has the treatment for your skin been, for example by making your home messy, or by taking up time?

Very much  A lot  A little  Not at all  Not relevant

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# Summary in Arabic

## 11-Summary in Arabic

الحاصة البقاعية (الثعلبة) هو مرض التهاب مزمن في جميع أنحاء العالم له علاقة بهصيلات الشعر وايضاً الأظافر في بعض الأحيان. داء الثعلبة الذي يؤثر على 0.1-0.2% من البشر، والذي يحدث لكل من الذكور والإناث. العرض الأولي الأكثر شيوعاً يحدث في سنوات المراهقة المتأخرة، مرحلة الطفولة المبكرة، أو مرحلة الشباب، ولكن من الممكن أن يحدث للناس في جميع الأعمار.

في هذه الدراسة، تم التركيز على دراسة نوعية الحياة لدى مرضى الحاصة البقاعية (الثعلبة) باستخدام المقياس الجلدي لجودة الحياة

**الأهداف:** لتحديد نوعية الحياة (QOL) في داء الثعلبة، لتقييم المظاهر السريرية لمرضى داء الثعلبة

في العيادات الخارجية الأمراض الجلدية و أمراض الشعر في مستشفى الجمهورية في بنغازي ولتأثيرها على حياتهم. وشملت الدراسة المقطعية 100 مريض ليبي.

**النتائج:** أكثر من نصف المرضى من الإناث (62%). وكان متوسط عمر المرضى  $10.9 \pm 30.4$  سنة، و عمر 47 عاماً كقيمة متوسطة للعمر. مدة المرض كان  $(SD \pm 3.8)$  متوسط 5.5 سنة. تأثرت DQLI في 84% من حالات داء الثعلبة. أكثر من نصف المرضى (56%) من الاصابات بالمرض وتتراوح ما بين معتدلة إلى تأثير كبير للغاية. كان يعني  $(SD \pm 8.1 \pm 6.3)$  DLQI، وكان في الذكور (8.71  $\pm 6.89$ ) وعند الإناث (7.69  $\pm 5.99$ )، على الرغم من عدم وجود فروق دالة إحصائية بينهما (ص قيمة 0.204).

**الاستنتاجات:** هذه الدراسة أظهرت ان الاكثرية في المرضى من الإناث (F: M = 1.6:1) وأغلبية

المرضى (86%) أقل من 40 سنة من العمر. وكان ايضاً تأثير المرض على حياة المرضى. ومن هذه الدراسة ايضاً أثبتت نقاط DLQI انها سهلة الاستخدام في العيادة الخارجية.

**التوصيات:** هناك حاجة أكبر لفهم و دراسة عمليات و تطبيقات المرض على عدد كبير من المرضى ودراسة الامراض الداخليه الاخرى المصاحبه للثعلبه و تطبيق مقياس جودت الحياة على المرضى بالثعلبه يساعد الطبيب في المعالجه ويظهر تحسن في حالة المريض من خلال معرفة تاثيرات المرض على حياة المريض واختيار العلاج النفسي المناسب.