Assessment of quality of life in asthmatics in Tunisia : A prospective study of 85 cases.

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RÉSUMÉ

Prérequis : L'asthme est une pathologie fréquente partout dans le monde. Le bien être de l'asthmatique est devenu un but à atteindre lors de la prise en charge d'un asthmatique. De ce fait, il devient nécessaire de connaitre les facteurs déterminant la qualité de vie (QDV) chez ces patients. De plus, comme la QDV est influencée par le contexte socioculturel et psychologique de chaque asthmatique celle-ci devrait être étudiée dans le pays où le patient vit.
But : Déterminer les facteurs influençant la QDV dans notre pays: la Tunisie: un pays méditerranéen, arabe et en voie de développement.
Méthodes: Quatre-vingt cinq patients asthmatiques ont été inclus de façon prospective. Le questionnaire d'altération de la QDV chez les asthmatiques Tunisiens a été utilisé.
Résultats: La QDV était modérément altérée. Le score ne différait pas entre hommes et femmes et n'était pas corrélé avec l'âge. Chez les étudiants la QDV était moins altérée que chez ceux qui n'étaient pas étudiants. Les patients ayant un asthme sévère présentaient une QDV plus altérée que ceux dont l'asthme était modéré. Par contre, il n'y avait pas de corrélation entre l'ancienneté de l'asthme et le score de QDV. De plus, les patients dont l'asthme était contrôlé et ceux qui ne l'étaient pas avaient des scores de QDV qui ne différaient pas.
Conclusion: Une bonne analyse des facteurs déterminant la QDV chez les asthmatiques devrait permettre une meilleure prise en charge de ces patients.

Mots-clés
Asthme, Contrôle, Qualité de vie, Questionnaire de qualité de vie.

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SUMMARY

Background : Asthma is a frequent pathology all over the world. The patient well-being becomes an aim to achieve in the management of a patient with asthma. Thus, the factors affecting quality of life (QOL) in these patients should be determined. Moreover, as QOL is affected by the socio-cultural and psychological context of each patient, QOL should be assessed in the country where the patient lives.
Aim: To determine the factors influencing QOL in our country: Tunisia: a Mediterranean, Arabic and developing country.
Methods: Eighty five adult patients with asthma were included prospectively. The questionnaire of the alteration of QOL in asthmatics in Tunisia (AQLAT) was used.
Results: QOL was moderately altered. The score didn't differ between men and women and was not correlated with age. In students, the QOL was less altered than in non students. Patients with severe asthma had a significantly more altered QOL than those with mild to moderate asthma. Nevertheless, there was no correlation between the oldness of asthma and the AQLAT. Besides, the QOL didn't differ in patients with controlled asthma and those with uncontrolled one.
Conclusion: A good analysis of the factors determining QOL is patients with asthma would allow a more efficient care of them.

Key-words
Asthma, Asthma quality of life questionnaire, Control, Quality of life.

Asthma is a chronic pathology of the respiratory airways that affects more than 8% of people in Europe (1) and almost 4% of the adults in Tunisia which is a Mediterranean, Arabic, Muslim and developing country. Up to now, the evaluation of asthma control doesn't consider many factors that have a considerable impact on the quality and life (QOL). On the other hand, asthma is a disease that can disturb QOL. The same, a patient presenting a well-controlled asthma is not always a person feeling a well-being (2). That's how the concept of the complementarity of the usually measured parameters for the evaluation of the clinical situation; and the appreciation of the QOL is born.

From just some years, authors have been interested in the QOL in asthma that they measured by scientifically validated scales, the most used ones being Juniper's scale based on the asthma quality of life questionnaire (AQLQ) (3).

As QOL is defined by the patient himself and depends on many factors such as life style, past experiences, expectations, future plans and ambitions (4); QOL depends in each person on the socio-cultural and psychological context in which he lives and should be therefore evaluated specifically in the country in which that person lives.

We propose by this study to elucidate the factors determining the QOL in asthmatics in Tunisia. For the purpose of that, we used on a questionnaire of alteration of QOL in asthmatics in Tunisia (AQLAT) adapted to the Tunisian patients and validated by a preliminary study achieved in our department but not published yet. This questionnaire takes particularly into account the activities and the psycho-social context of Tunisian people and was done in the dialectal language of people.

METHODS

The study was achieved by a partially auto-administered questionnaire, during 2006 and concerned 85 consecutive adult persons presenting in our out patient clinic for asthma. Patients presenting pathology other than asthma were excluded from the study.

Questionnaire of the Alteration of the Quality of Life in Asthmatic patients in Tunisia (AQLAT): Annexe:

The questionnaire AQLAT was composed of two parts:

- The first part was written in French (the language in which medicine is studied and practised in Tunisia) filled in by the doctor, composed by 5 parts:
  - Patient identification
  - Characteristics of asthma
  - Socio-demographic data
  - Last prescribed drugs for asthma
  - Asthma control at the moment of the questionnaire

We have translated this part to English for this paper.

-The second part was written in the dialectal (Arabic) Tunisian language. This part involves 33 questions that we have deduced from the AQLQ of Juniper (3) and we have translated in Arabic. It concerned the QOL of our patients. This part was auto-administered.

It involved 4 domains:

- Symptoms domain evaluated by 13 items
- Emotional function domain evaluated by 9 items
- Exposure to the environment stimuli domain evaluated by 6 items
- Activity limitation domain evaluated by 5 items

The patient ticked by himself, in front of each item, the number that corresponded to the degree of his discomfort. These numbers were arranged according to a visual analogical scale (VAS) ranging from zero (no discomfort) to ten (very discomforting), before, then after the last adjustment of asthma treatment for each patient. The patient was informed that he was allowed, for each domain, to add more items related to this domain that he found related with his QOL. Some patients were illiterate. For these people we explained different items in dialectal Arabic and tried to make them appreciate by themselves their degrees of discomfort ranging from zero to ten before filling in the printed paper.

Data analysis:

-Asthma control analysis:

We considered that:

- The patient had controlled asthma if he presented less than two exacerbations per week, didn't need emergency visit since unless three weeks and no hospitalisation during the past year.
- The patient had worsening asthma, if the frequency of exacerbation of his asthma increased or if he needed one or more non planned hospitalizations or if he had symptoms between exacerbations.

-Quantitative analysis of the QOL:

QOL was analyzed domain by domain and element by element. The global score of the alteration of QOL which we have named AQLAT was calculated as the average of the degrees of discomfort of all the items.

As the degree of discomfort was evaluated by a crescent order ranging from zero to ten, the higher the AQLAT score was, the more altered the QOL was.

The benefit in QOL was calculated for each element and for the global score as follows: (initial value – final value) x 100.

After a global analysis, and because of the interference of the morbidity on the QOL, a differential analysis of two groups was realized. These groups are:

- Group of patients presenting a severe asthma
- Group of patients presenting a mild or moderate asthma

- Qualitative analysis of quality of life:

To express the results qualitatively, we have distinguished arbitrarily five states: no alteration of QOL or very slightly altered QOL (score ≤ 2), slightly altered QOL ($2 <$ score ≤ 4), moderately altered QOL ($4 <$ score ≤ 6), strongly altered QOL ($6 <$ score ≤ 8) and very strongly altered QOL (score > 8). This distinction between the different states of QOL was arbitrary but allowed a more qualitative approach of the results.

- Statistic study:

All the data were expressed by mean value ± standard deviation.The statistical study was carried out with statistic functions of the Microsoft Excell-Office 2000 software, notably the Student test for continuous variables and the Khideux test for discontinuous ones. A difference was considered to be

statistically significant if the probability H1(error ·) was inferior to 5% (p<0.05); and highly significant if · was inferior to 1‰ (p<0.001).

RESULTS

Description of the population

Eighty five patients were included with a mean age of 38 ± 14 years. There was a slight predominance of women (58%; n=49) (Fig.1). Half of the patients were married and 1 patient out of 10 was divorced (Fig.2). Most of the patients were Citizen (63%) and half of them were salaried employees (Fig 3). For the non salaried employees, there were as many students as unemployed.

Figure 1 : Patients distribution according to their age and sex

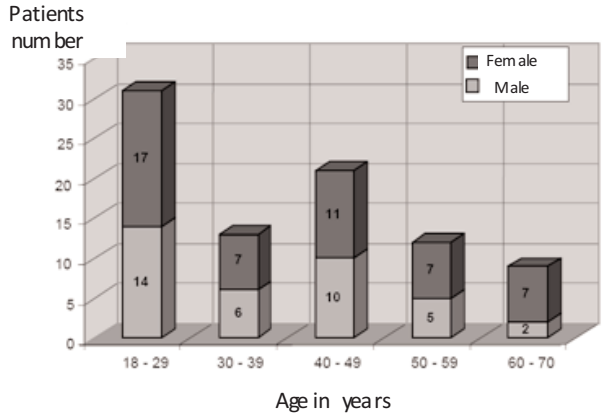


Figure 2 : Patients distribution according to their civil status

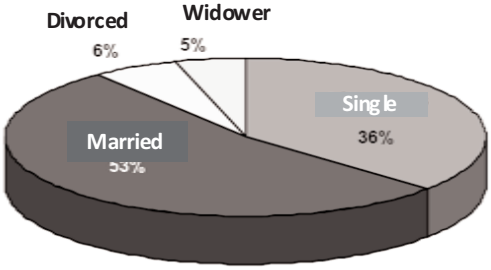
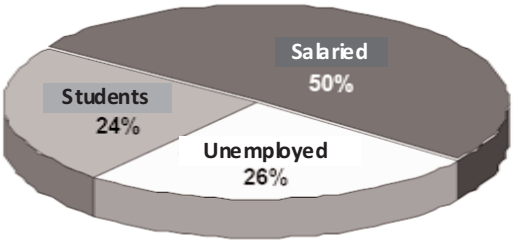


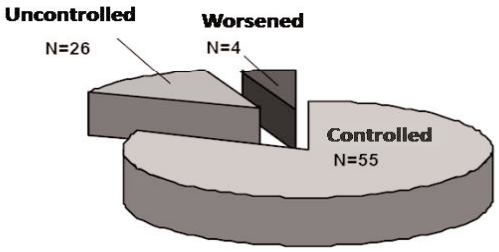
Figure 3 : Patients distribution according to their profession



Description of the characteristics of asthma in patients

The patients had 13 ± 8 years with asthma. Twenty six per cent of all the patients had severe asthma. At the time of the survey, asthma was controlled in 65% of the patients, uncontrolled in 30% and worsened in 5% of them (Fig.4). More than half of the patients haven't presented any asthma exacerbation since the last change of their treatment. However, 1 patient out of 4 had to present in the emergency ward for asthma.

Figure 4 : Asthma control



Allergic diseases were associated to asthma in 80% patients: rhinitis (71%), conjunctivitis (49%) and sinusitis (22%). For 12 patients (14%), these pathologies were associated.

Three quarters of our patients took inhaled corticosteroids, 40% also took theophyllin and 3% took inhaled corticosteroids, theophyllin and systemic corticosteroids.

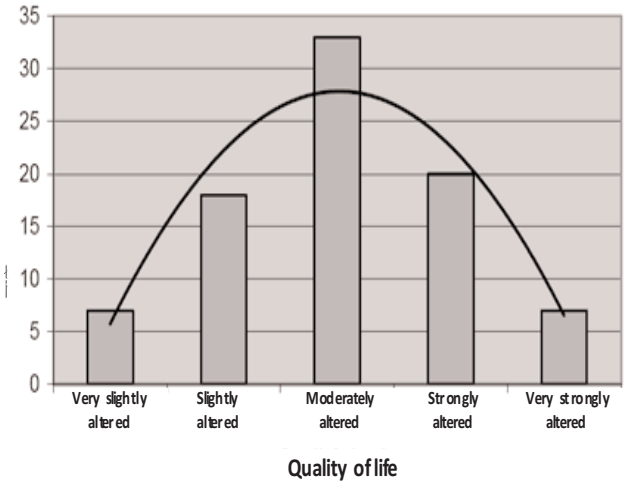
At the time of the survey, 54% patients were taking the same drugs since 2 years.

Quality of life description

Analysis of the global score of quality of life

In our study, for all the patients included, the QOL was moderately altered: AQLAT 5.04 ± 2. Before the last medical intervention, most of the patients (more than the third) had a moderately altered QOL (Fig.5).

Figure 5 : Patients distribution according to the qualitative classification of their QOL before the last medical intervention



Analysis of quality of life domains

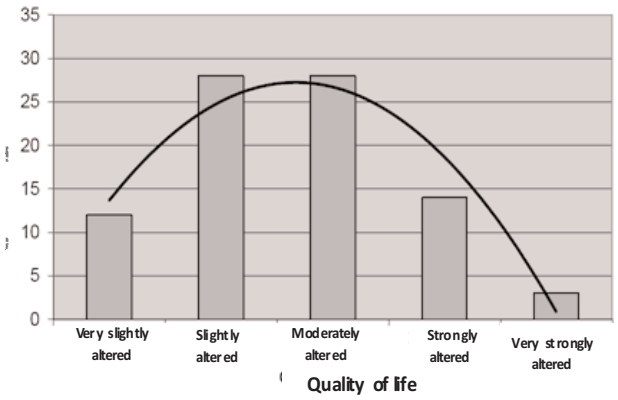
The most altered domain in our patients was that of the exposure to the environment stimuli (mean score: 6.56 ± 3.6) followed by those concerning the emotional function domain (mean score: 4.78 ± 3.8), then by the activity limitation domain (mean score: 4.74 ± 3.3) and symptoms domain (mean score: 4.61 ± 3.5).

Predictors of health-related quality of life factors

The AQLAT didn't differ between men and women (4.79 ± 1.6 vs 5.20 ± 2.2; p=0.34). Patients more than 30 years old had a better AQLAT score than younger ones, but the difference didn't reach statistical difference (4.81± 1.97 vs 5.64 ± 1.83; p=0.065). Students had a better score of QOL than non-students with a significant lower AQLAT score (3.89 ± 1.6 vs 5.39 ± 2.0; p<0.05). There was no significant difference in scores between employed and unemployed patients (5.79 ± 1.66 vs 5.52 ± 2.26; p<0.60). Married patients had a more altered AQLAT score compared to unmarried ones (single, widower or divorced) but the difference didn't reach the statistical difference (5.57± 1.77 vs 5.06 ± 2.06; p=0.25). Whether the patients lived in rural areas or were citizen didn't have any influence on the AQLAT score (5.20± 2.08 vs 5.74 ± 1.28; p=0.29). The patients who presented asthma less than 5 years ago had a less altered QOL than those who presented a more ancient asthma, but the difference was not statistically significant (4.93 ± 2.22 vs 5.41 ± 1.85; p<0.41). However, asthma severity had an impact on the QOL, which is statistically more altered in patients presenting severe asthma than in those presenting a mild to moderate asthma (AQLAT score: 6.35 ± 1.9 vs. 4.59 ± 1.9; p<0.05). Nevertheless, AQLAT score didn't differ in patients in whom asthma was well controlled compared to those in whom asthma was not controlled (5.00 ± 2.0 vs 5.00 ± 2.0; p=0.97).

After the last medical intervention in which treatment was modified, 3/4 of the patients reported an improvement of their QOL: AQLAT score changed from 5.04 ± 2.0 to 4.15 ± 2.0 (p<0.05), corresponding to a gain of 17 ± 27%. After the last treatment intervention, the proportion of the patients with moderately altered QOL diminished as that of the patients with slightly altered QOL increased (Fig.6).

Figure 6 : Patients distribution according to the qualitative classification of their QOL after the last medical intervention



DISCUSSION

To achieve our study we have been largely based on Juniper's AQLQ (3) which is among the most used ones. It was largely tested for its validity, its reliability, its sensitivity and its capacity to test many elements at the same time; notably in case of asthma (3, 5, 6). We have therefore adjusted it to the real life in our country. We have mainly obscured some physical activities rarely practised in Tunisia such as the dance, the ski or the swimming. We have also expressed the questions in dialectal Arabic to make them understandable by every patient as some of them don't understand the literary Arabic.

In our study and in that of Benzarti et al. (7), also realized in our country, there was no statistical difference of scores in men and in women. The reason for which a difference exists between genders in many studies is also obscure. Some authors think that this can be explained by the fact that women complain more than men (8) but this idea is not shared by others. However, many studies concluded that women had worse QOL scores than men (9-12).

Few studies analyzed QOL in elderly with asthma. Some demonstrated that advanced age was predictive of an altered QOL (11-14). Some authors explain this finding by the fact that in elderly asthma is more severe than in young people and they present more psychological troubles. However, in our series and in another one also from our country, age didn't show any affect on global QOL in patients with asthma (7, 15).

In the present study, students had a better AQLAT than those who were not. Other studies reported that the more educated the asthmatic is, the better his QOL is (13, 16).

Divorced patients or those who live apart showed a worse AQLQ than married, widower, or never married ones (11). This result was not found in our patients in whom marriage didn't affect the AQLAT.

Unemployment was a major factor of bad QOL in many studies (11, 12). That doesn't seem to be the case Tunisia. We think that this can be explained by the fact that in our Tunisian society, people are still attached to their family which plays an important psychological role in their lives especially when they are ill.

Many facts make us predict that QOL in patients with asthma would be different between rural inhabitants and citizen. These are for example: the quite different perception of well being between these populations (18), the difficulties faced by rural people to reach medical health care and the fact that they have less frequently security insurance (18). However, the difference in QOL in these patients was seldom studied. In our patients, the difference of scores was not statistically significant.

Our study revealed that the oldness of asthma is not a significant predictive factor of QOL. Our results are consistent with those of Benzarti et al. (7) and Malo et al. (19). This factor was rarely studied concerning its affect on asthma. However, asthma severity is among the most studied factors. In our patients, QOL was more altered in those in whom asthma was severe compared to those in whom it was mild to moderate.

Another Tunisian study found a positive and tight relationship between the severity of the disease and the alteration of QOL (7). The same result has been found by most of the studies (10,20).

One of the main goals of the Global Initiative for Asthma (GINA) is asthma control. This arises the question of whether this control improves or not the QOL of asthmatic patients. Chen (21), in a prospective study involving 987 adult patients with asthma, revealed that a bad control of asthma was predictive of a worse QOL score. This relationship between asthma control and severity was consistent with the results of other studies (11, 12). Nevertheless, we concluded that a good AQLAT score was not correlated to asthma control.

After the last medical intervention requiring treatment adjustment, QOL improved in 3/4 of our patients. This result is consistent with that of Moy et al. (23).

Nouwen et al. (24) didn't find any difference in terms of degree of anxiety or depression between patients who referred to the emergency room for asthma and who didn't. We can thus think that the bad control of asthma may in an intrinsic way worsen the QOL of patients with asthma independently of the depression and the anxiety which is likely to cause.

CONCULSION

In conclusion, the results of this study are consistent with those of other studies concerning some predictive factors of QOL in patients with asthma; but are different from other ones. In our asthmatic patients, living in Tunisia, an Arabic, Mediterranean and developing country, the factors that negatively affect QOL were: the intellectual level, asthma severity and the absence of treatment adjustment. Poorly educated people would necessitate explanations from their doctors which should be adapted to their educational level. We also suggest that doctors campaign to make the population see professionals for the least symptom of asthma before their disease becomes more severe and therefore their QOL worsens. Moreover, we find it mandatory that every doctor treating patients with asthma must know how to adjust treatment for each patient. Other studies are necessary to elucidate the role of factors that are insufficiently or not studied. We would like to emphasize on studies adapted on the social and cultural context of each society.

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