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Original Article

Health-related quality of life of tuberculosis patients in the Eastern Province, Saudi Arabia

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الملخص

أهداف البحث: تهدف هذه الدراسة إلى مقارنة جودة الحياة بين مرضى السل المقاوم للأدوية، وغير المقاوم للأدوية، واستكشاف أي ارتباط محتمل بين مجالات جودة الحياة، والمتغيرات الديموغرافية والسريرية، وتحديد عوامل التنبؤ لمؤشر جودة الحياة.

طرق البحث: أجريت هذه الدراسة المستعرضة في مركز مكافحة السل (٧٤ مريضا بالسل المقاوم للأدوية و ٩٩ بالسل غير المقاوم للأدوية). تم جمع البيانات الديموغرافية والسريرية من السجلات الطبية للفترة بين ٢٠٠٨م-٢٠١٣م. استخدم مقياس جودة الحياة لمنظمة الصحة العالمية لقياس جودة الحياة. واستخدم الإحصاء الوصفي، وتحليل الانحدار وحيد المتغير ومتعدد المتغيرات.

النتائج: كان متوسط العمر ٣٣.٣ ± ٩.٥ و ٣٦.٣ ± ١٠.٢ عاما لمرضى السل المقاوم للأدوية، وغير المقاوم للأدوية على التوالي. وشكلت نسبة الذكور الأغلبية في كلا المجموعتين (٦٦% من مرضى السل المقاوم للأدوية، و ٨٢% من غير المقاوم للأدوية) وكان الفرق ذا دلالة إحصائية (P=٠.٠١٩). شكلت نسبة غير السعوديين الأغلبية في كلا المجموعتين (٨٠% من مرضى السل المقاوم للأدوية، و ٩٢% من غير المقاوم للأدوية) وكان الفرق ذا دلالة إحصائية (P=٠.٠١٩). وكانت نسبة التدخين عند مرضى السل المقاوم للأدوية أعلى من عند غير المقاوم للأدوية (٥٧% و ٣٨ % على التوالي)، وكان الفرق ذا دلالة إحصائية (P=٠.٠١٦). ووجدت فروق ذات دلالة إحصائية بين مرضى السل المقاوم للأدوية، وغير المقاوم للأدوية في كلا من جودة الحياة العامة، والصحة العامة، والمجالين النفسي والبيئي٠.٠٢٩، (P=.٠٠٠ ٠.٠٠١،٠.٠٠٥، على التوالي). وكانت العلاقات بين مجالات جودة الحياة مع المتغيرات الديموغرافية والسريرية ذات دلالة إحصائية عند مرضى السل المقاوم للأدوية فقط. وكان للجنسية، والعمر، ومستوى التعليم، والوضع الوظيفي، والحالة الاجتماعية، وداء السكري وتعاطي المخدرات تأثير كبير على مجالات جودة الحياة.

الاستنتاجات: كان متوسط درجات مرضى السل المقاوم للأدوية أقل من غير المقاوم للأدوية في كلا من جودة الحياة العامة، والصحة العامة، والمجالين النفسي والبيئي. بينما كانت أهم عوامل التنبؤ لمؤشرات جودة الحياة لدى مرضى السل هي الوضع الوظيفي، والحالة الاجتماعية، وتقدم السن، ومستوى التعليم، وعدم وجود داء السكري، وعدم تعاطي المخدرات.

الكلمات المفتاحية: السل; مقاومة الأدوية; جودة الحياة; المملكة العربية السعودية

Abstract

Objectives: The study aims to compare the quality of life (QOL) of patients with drug-resistant tuberculosis (DR-TB) with non-DR-TB, explore any possible association between QOL domains and demographic and clinical variables, and determine the predictors of QOL.

Methods: It was a cross-sectional study conducted in an anti-tuberculosis centre (74 DR-TB and 99 non-DR-TB patients). Demographic and clinical data were collected from medical records from 2008–2013. The World Health Organization Quality Of Life survey was used to measure QOL. Descriptive, univariate, and multivariate regression analyses were performed.

Results: The mean age was 33.3 ± 9.5 and 36.3 ± 10.2 for DR-TB and non-DR-TB respectively. Males formed a majority in both groups (DR-TB 66% and non-DR-TB 82%) and difference was significant (P = .019). Non-Saudis formed the majority in both groups (DR-TB 80% and non-DR-TB 92%) and difference was

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significant ($P = .019$). Smoking was higher in DR-TB than non-DR-TB (57% and 38% respectively) and difference was significant ($P = .016$). Significant differences between DR-TB and non-DR-TB in global QOL, global health, psychological, and environmental domains ($P = .000$, .029, .001, .005 respectively). Correlations between OOL domains with demographic and clinical variables were significant for DR-TB only. Nationality, age, level of education, working and marital status, diabetes and drug abuse status had significant effect on OOL domains.

Conclusion: Patients with DR-TB had lower mean scores than non-DR-TB for overall QOL, global health, psychological and environmental domains. Employment status, marital status, older age, level of education, no diabetes mellitus, and no history of drug abuse were important predictors of OOL for TB patients.

Keywords: Drug resistance; Quality of life; Saudi Arabia; Tuberculosis

Introduction

Quality of life (QOL) is defined as a person's perception of his or her physical and mental health, and covers broad domains including physical, psychological, economic, spiritual, and social well-being.[1] The effect of disease on a particular domain can be assessed using either generic or specific instruments.[2] Many instruments used in measuring QOL can identify the ways in which disease affects people. It is important to look into all the domains of health in order to treat the patient comprehensively. In 2005, a study of the relationship between QOL and the characteristics of patients hospitalized with tuberculosis (TB) was conducted in Turkey.[3] The findings indicated that patients with low levels of education, no social insurance coverage and substandard housing had lower QOL scores. Patients who experienced negative changes in family life and social environment had lower QOL levels.[3] Also a study was conducted in South India in 2005 to examine the perceptions of TB patients of their physical, mental and social well-being using a modified SF36 questionnaire. The reaction of patients to the disclosure of the diagnosis was as follows: worry: 50%, suicidal thoughts: 9%. Initially less than 7% of patients perceived their health status as "good", compared to the status at the onset of illness, but there was significant improvement after treatment. Only 54% of patients perceived themselves with 'happy mental status' at the end of treatment, and there was no change in the perception of social stigma in both men and women.[4] The findings of a study conducted in 2009, to measure health-related QOL in TB showed that TB had a substantial and encompassing impact on patients' QOL. Overall, the anti-TB treatment had a positive effect on improving patients' QOL; their physical health tended to recover more quickly than the mental well-being.[5] Another study of the impact of TB on the QOL and the effect after treatment with DOTS conducted in Delhi in 2009 using a questionnaire to assess the QOL showed that patients with TB had significantly lower mean scores than controls for overall QOL. The most affected domains were the physical and the psychological. Women scored significantly better than men in the physical and environmental domains. The DOTS regimen improved the QOL and its domains; however, they remained significantly affected compared to the healthy controls.[6] In 2010, a study done to assess the impact of TB and its treatment on patients' health status showed that TB patients suffered from significantly diminished health-related QOL at diagnosis. Although treatment significantly improved the status of patients' health within two months, scores for many domains remained below the United Kingdom norm scores. This emphasizes the importance of a holistic approach to care and should inform the evaluation of future interventions.[7]

Gap in knowledge

It is tragic that there is very little appreciation of the impact of drug resistance on QOL of TB patients. As no assessment of the QOL has officially been conducted on TB patients in the Eastern Province of Saudi Arabia, it is not possible to work out a health care plan that may be crucial for the reduction of DR-TB.

Objectives: the study aimed to

1. Compare QOL of DR-TB patients with TB patients without drug resistance.
2. Explore any possible association between QOL domains and demographic and clinical variables.
3. Determine the predictors of QOL of DR and Non-DR-TB patients.

Material and Methods

- **Study setting:** This study was conducted in an anti-TB centre in Al-Dammam Central Hospital, Saudi Arabia.
- **Study design:** It was a case control study to identify risk factors associated with developing DR-TB (reported in a previous paper).[8] Cases were patients with positive drug susceptibility test results while controls were patients with negative drug susceptibility test results. A cross-sectional study was then conducted to compare QOL of DR-TB patients with TB patients without drug resistance. (This paper will report the result of QOL survey only).
- **Data collection methods and techniques:** Two data collection tools were used:

First, a data collection sheet of clinical variables associated with DR-TB was designed based on an extensive review of related national and international literature.[9–11] It included patients' demographic variables such as age, gender, marital status, nationality, level of education, work status, and occupation. It also included such clinical variables as the history of smoking, drug abuse, diabetes, and alcohol intake. All these variables were extracted from patients' medical records. Secondly, the World Health Organization Quality Of Life survey (WHOQOL-BREF)