ABSTRACT

Introduction: Tuberculosis continues to be a major public health problem throughout the world including Sri Lanka. The personal burden of illness cannot be described fully by clinical or laboratory indices and therefore, psychological factors, functional impairment, difficulty in fulfilling personal and family responsibilities, pain, physical weaknesses and financial strain should also be encompassed.

Objectives: To assess health-related quality of life, association of treatment success with health-related quality of life at the initiation of treatment and to assess household cost and quality adjusted life years saved during treatment among new pulmonary tuberculosis patients in the Colombo district and to compare health related quality of life and household cost of new pulmonary tuberculosis patients practising daily directly observed treatment undertaken at a health facility and weekly home based directly observed treatment undertaken at home by a family member with weekly visits at the health facility in the Colombo district.

Methods: The study consists of three components. Component I of the study included selection and cultural adaptation of functional assessment of chronic illness therapy-tuberculosis (FACIT-TB) tool to assess health-related quality of life (HRQOL) of pulmonary tuberculosis (PTB) patients in Sri Lankan setting. It was validated through the method of triangulation and the validation study to perform confirmatory factor analysis (CFA) and the reliability assessment was done on a sample of 225 new PTB patients in the Kandy district. Component II included a descriptive cross-sectional study carried out in the central chest clinic (CCC) Colombo district among 552 new PTB patients >18 years to assess HRQOL, quality-adjusted life years (QALYs) and household cost at three patient encounters; at the initiation of treatment, at the end of two month treatment period and at the end of six month treatment period. The FACIT-TB was used to assess HRQOL and the utilities for calculation of QALYs were assessed by using locally validated EQ-5D -3L tool. Component III of the study was a cross-sectional comparative study to compare HRQOL and household cost of new PTB patients practising daily Directly Observed Treatment (DOT) and weekly DOT in the Colombo district.

Results: The FACIT-TB was found to be valid and reliable in assessing HRQOL of PTB patients in the Sri Lankan setting. The model fit indices of confirmatory factor analysis revealed: Root Mean Square Error of Approximation =0.05, Standardized Root Mean Square Residual=0.07, Comparative Fit Index=0.94 and Non –Normal Fit Index=0.94 suggesting reasonable good fit between the FACIT-TB model and the observed data.

A total of 552 patients were enrolled in the study with 100% response rate. The mean age was 49.1 ± 16.2 years and 68.5 % were males. A majority were bacteriologically confirmed PTB [n=403 (73.0%)] patients. A total of 485 and 465 PTB patients completed the interview at the end of the two-month intensive phase and six month treatment period respectively with a final dropout rate of 15.7%.

The TB treatment had a significantly (p=0.000) positive impact on the overall HRQOL and all sub-scale scores of PTB patients during the treatment period. When adjusted for the effects of confounding, overall HRQOL at the initiation of treatment [adjusted OR =1.075 (CI: 1.049-1.102), p=0.000] was shown to increase the likelihood of treatment success in PTB patients. The PTB patients gained 0.05 ±0.07 QALYs during the six-month treatment period. The total household cost for treatment of a PTB patient was SLR 12332.94. The household cost of management of a PTB patient during the intensive phase was SLR 11295.80 and the household cost of management of a PTB patient during the continuous phase was SLR 1037.14. The direct cost constituted 43.5 % of the total cost while seeking clinic care and 52.5 % of the total cost while seeking DOT services during the intensive phase of treatment. The direct cost constituted 63.1% of the total cost during the continuous phase of the treatment and the transport cost constituted the major proportion of direct cost in all these instances.

Patients practising weekly DOT had a significantly higher (p=0.000) transport cost. It was found that majority of patients [n=66, (55.7%)] practising daily DOT were within less than one km distance to the DOT centre. There was no significant difference in HRQOL in patients practicing daily DOT and weekly DOT.

Conclusion and recommendations: The FACIT-TB is a valid and reliable tool to assess HRQOL of PTB patients in Sri Lankan setting. The anti-TB treatment has a positive impact on HRQOL of PTB patients. The PTB patients gained 0.05 ±0.07

QALYs during the six - month treatment period. The total household cost of a PTB patient while seeking treatment was SLR 12332.94. There was no significant difference of HRQOL in patients on daily DOT and weekly DOT. The PTB patients on daily DOT had lower transport cost as the DOT centres were within walking distance.

Keywords: Pulmonary tuberculosis/ FACIT-TB/ Health-related quality of life/ Quality-adjusted life years/ household cost