



BACKGROUND

Understanding how nontuberculous mycobacterial lung disease (NTMLD) can affect a patient remains under investigated. The information about the factors which may be associated with the burden of symptoms can be used for future development of interventions for NTMLD patients.

OBJECTIVE

We hypothesize that among patients who report NTMLD, those currently on medication report a higher symptom burden and quality of life impairment than those not currently on medication.

METHODS

The COPD Foundation developed the website BronchandNTM360social based on their COPD360 social community. The “Burden of NTM Survey” was developed by the COPD Foundation and posted on the website from September 12, 2016 through January 11, 2017. The analysis was limited to those patients reporting a diagnosis of NTMLD and compared those not on therapy to those currently on therapy. The survey participants were asked about experiencing different symptoms during the past two weeks (yes/no), taking any medication to treat their NTMLD (yes/no), their gender, duration of living with NTMLD (less than 1 year, 1 to less than 2 years, 2 to 5 years, more than 5 years), experiencing other lung illnesses or infection such as bronchiectasis, COPD/emphysema, cystic fibrosis, or asthma. The survey participants were divided into two age categories (<50 or ≥50).

The analysis was carried out using SAS 9.4. Based on the fact of being on or off medication to treat NTMLD, bivariate analyses, such as Pearson χ^2 tests, were conducted to identify differences in the number of individuals having reported such symptoms as cough, fatigue or lack of energy, sleep problems, feelings of sadness or depression related to illness, difficulty in walking 500 meters without stopping, difficulty in interacting with others. The multivariable logistic regression models were carried out with seven symptoms as separate outcomes of interest, and taking any medication to treat NTMLD as the main predictor.

RESULTS

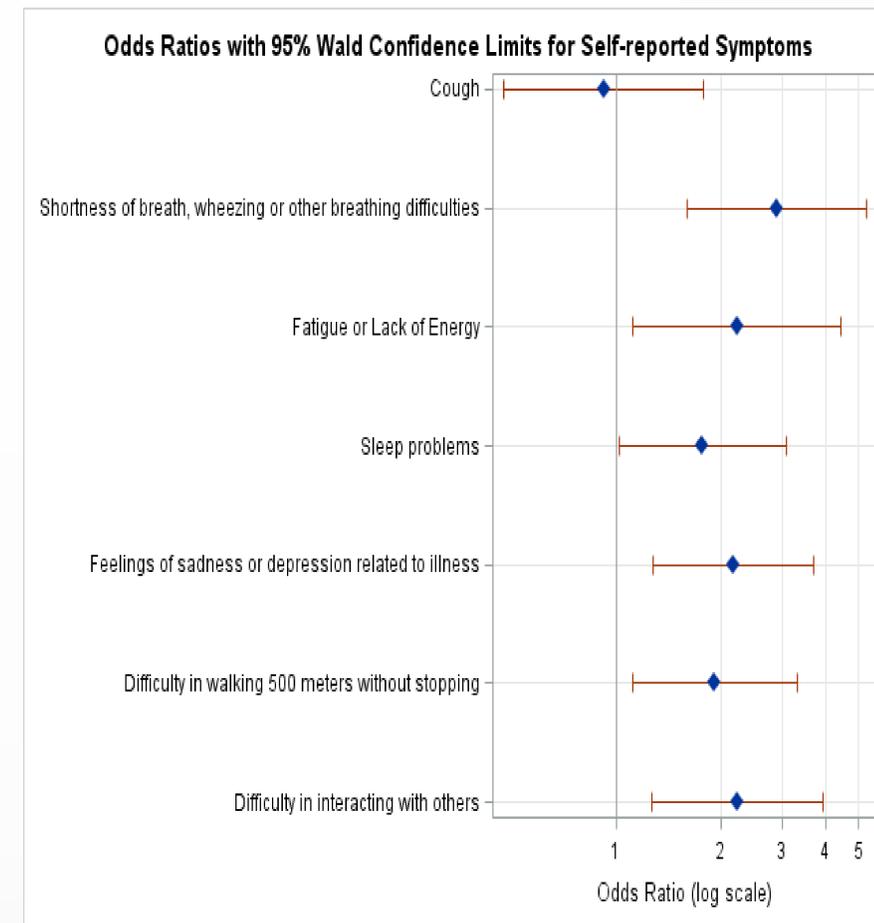
Of the 266 patients reporting NTMLD, 129 were currently on medication and 129 were not on medication (8 did not answer this question). Table 1 presents the results from Pearson χ^2 tests, which were carried out to identify differences in the number of individuals having reported different symptoms.

Table 1. Comparison of symptoms of the respondents who are currently taking any medication to treat their NTM lung disease.

Symptoms during the past 2 weeks	Off medication (n, column %)		On medication (n, column %)		p-value
Cough	101	80.16	102	81.60	0.8727
Shortness of breath, wheezing or other breathing difficulties	72	57.60	100	80.00	0.0002
Fatigue or lack of energy	93	74.4	109	87.9	0.0091
Sleep problems	70	56.45	81	66.39	0.1177
Feelings of sadness or depression related to illness	56	45.16	80	65.57	0.0014
Difficulty in walking 500 meters without stopping	40	32.26	60	48.78	0.0096
Difficulty in interacting with others	39	31.45	58	47.93	0.0092

After adjusting for age, gender, duration of living with NTMLD, and comorbidities, patients on medication had statistically significantly larger odds of reporting of shortness of breath, wheezing or other difficulties (OR=2.9, 95% CI: 1.6-5.3), fatigue or lack of energy (OR=2.2, 95% CI: 1.1-4.5), sleep problems (OR=1.8, 95% CI: 1.01-3.1), feelings of sadness or depression related to illness (OR=2.2, 95% CI: 1.3-3.7), difficulty in walking 500 meter without stopping (OR=1.9, 95% CI: 1.1-3.3), and difficulty in interacting with others (OR=2.2, 95% CI: 1.3-3.9), as compared to those who were off medication (Figure 1). Cough was similar in the two groups.

Figure 1. The odds of reporting symptoms when comparing patients on medication to those not on medication, adjusting for covariates.



CONCLUSION

In this database, patient currently on medication reported more symptoms, probably reflecting a higher disease severity among those requiring therapy.

FUNDING SOURCE

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