

Sumaiya Mubarik A¹, Mahim Nasser A², Eman Elsayed A³

¹Directorate General Disease Surveillance and control, Muscat, Oman, ² Directorate General of Planning and Studies, Muscat, Oman, ³ Saudi Field Epidemiology Training Program, Riyadh, Saudi.

The Prevalence of DM-II among TB patients in Muscat governorate is *High (27%)*.

Old age ≥ 55 years and *Hypertension* are *predictors of DM among TB patients*.

Dual diagnosis will reduce the burden of TB-DM comorbidities.

BACKGROUND

- Diabetes mellitus (DM) and tuberculosis (TB) are leading causes of mortality and morbidity worldwide.
- The co-infection is known to complicate TB control and outcomes.
- In Oman, study regarding the prevalence of DM among TB patients is lacking.
- Objectives:**
 - To assess the prevalence of DM and its associated factors among TB patients in the Muscat governorate, Oman, 2017-2020.

METHODS

- An analytical cross-sectional study using secondary data from the electronic system of the Ministry of Health (Al-Shifa 3+).
- It includes all adult TB patients in Muscat governorate, from 2017-2020.
- Statistics:**
 - Frequencies and proportions.
 - Univariate and multiple logistic regression.
 - 95% CI and p-value ≤ 0.05 were considered significant.

RESULTS

- Of 426 TB cases, the prevalence of DM was 27.0%.
- Associated factors:**
 - Age group 40-54 years (OR = 9.08) and ≥ 55 years (OR = 11.35), male (OR = 2.35), married (OR = 13.18), employed (OR = 2.30), Bangladeshi (OR = 7.08) or Indian (OR = 6.14) nationalities.
 - Absence of Bacillus Calmette-Guérin scar (OR = 2.06), death (OR = 7.08), cured after TB treatment (OR = 3.02).
 - Also, smoking (OR = 2.93), drinking alcohol (OR = 1.79), hypertension (OR = 10.45), heart disease (OR = 8.50), and renal disease (OR = 4.84) contributed to the study's comorbidities.
- Old age (adjusted OR = 2.30, 95% CI: 1.72-3.06) and hypertension (adjusted OR = 5.21, 95% CI: 2.28-11.87) were found to be predictors of DM among TB patients.

RESULTS CONTINUED

Table 1: Multiple Logistic Regression of Associated Factors for DM Among TB Cases in Muscat Governorate, Oman, 2017-2020

Factors	Adjusted odds ratio (95%CI) *	P-value
Age	2.30 (1.72 - 3.06)	<.001***
Gender	.18 (.08 - .40)	<.001***
Marital Status	.38 (.20-.75)	.005**
Nationality	.91 (.76-1.09)	.318
Occupation	.62(.42-.91)	.015*
BCG scar	.81(.62-1.06)	.130
TB treatment Outcome	1.08 (.93- 1.24)	.276
Hypertension	5.21 (2.28-11.8)	<.001***
Heart Diseases	.38 (.06- 2.40)	.307
Renal Diseases	1.140(.30-4.20)	.844
Smoking status	1.51 (.96- 2.36)	.070
Alcohol drinking status	1.54(.90-2.61)	.108

Adjusted for Age, Gender, Marital Status, Nationality, Occupation, BCG, Outcome, HT, HD, RD, Smoking status, Alcohol drinking status.
*P<0.05; **P<0.01; ***P< 0.001.

CONCLUSIONS

- Prevalence of TB-DM in Muscat governorate is high
- Prevalent in non-Omani than Omani
- Prevalent in Aseeb and Bowsheer Provinces
- High prevalence may challenge the control of TB and DM
- Age and hypertension are predictors of DM among TB patients

RECOMMENDATIONS

- Bidirectional TB-DM screening.
- Latent TB screening among DM patients is important for early diagnosis.
- Attention is required for associated factors when managing TB-DM.
- Future research is needed to identify factors that affect the duration and outcome.

ACKNOWLEDGEMENTS

Figure 1: Prevalence of TB-DM Patients in Muscat Governorate from 2017-2020

