Tuberculosis among immigrants: risk factors associated with a delayed diagnosis in Portugal

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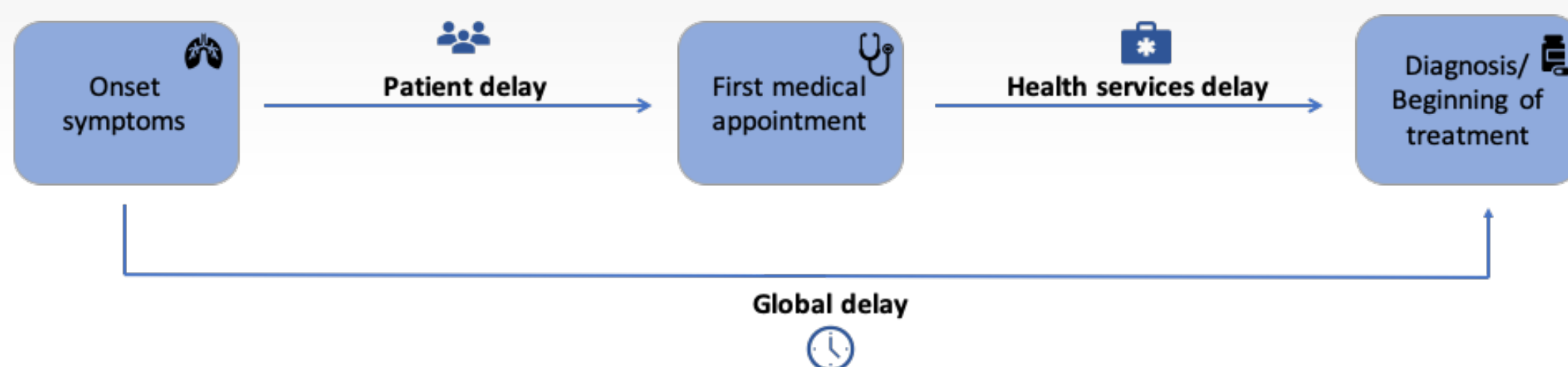UNIVERSIDADE NOVA DE LISBOA

Main messages

1. Different risk factors were identified for the patient and healthcare services delay among immigrants and nationals, which highlight the importance to analyse each component of TB diagnosis delay.

2. Immigrants have higher patient delay compared to nationals, hence tailored interventions should be implemented to facilitate access to healthcare services in this population.

Background

• A timely diagnosis is a key factor to TB control, since delayed diagnosis increases transmission, severity and mortality rates.
• Immigrants have a higher risk of delay also due to difficulties in the access to the healthcare services.
• This study aimed to identify risk factors associated with delays in immigrants and compare the results with the national population.

Methods

• Retrospective study.
• Pulmonary TB cases notified in Portugal having a passive case finding (2008-2017).
• Stratified analysis by country of origin: immigrants (born outside of Portugal) and nationals (Portuguese population).
• Descriptive analysis and Cox regression to identify the factors associated with each delay.
• The outcomes of this study correspond to the delays presented in the figure below.

Onset symptoms → Patient delay → First medical appointment → Health services delay → Diagnosis/ Beginning of treatment

Global delay

Results

• Immigrants had higher patient delay (44 vs. 36 days) compared to nationals.
• Different risk factors were associated with the delay in immigrants and nationals.
• Alcohol addiction was the only significant variable in both populations and was associated with lower delay in health services.
• Table shows the results for the multivariable Cox regression model, adjusted for sex and age.

Variables	HR (IC95%)		HR (IC95%)		HR (IC95%)	
	NT (0.529+)	IMM (0.501+)	NT (0.570+)	IMM (0.559+)	NT (0.547+)	IMM (0.530+)
Unemployment > 24 months*	0.93 (0.87;0.98)	----	1.08 (1.02;1.14)	----	----	----
Homelessness*	----	----	----	----	1.30 (1.09;1.54)	----
Community residence*	----	----	1.23 (1.10;1.39)	----		
Alcohol addiction*	0.90 (0.84;0.95)	----	1.20 (1.13;1.27)	1.34 (1.17;1.53)	----	----
Drug addiction*		----	----	----	0.93 (0.87;1.00)	----
HIV*	1.24 (1.15;1.33)	----	----	----	1.30 (1.21;1.41)	
Comorbidities*						
Non-respiratory***	----	----	0.92 (0.87;0.97)	----	----	----
Respiratory****	----	----	0.90 (0.83;0.98)	----	----	----

Notes: NT – Nationals (born in Portugal); **IMM** – Immigrants; HR (IC95%) – Hazard ratio with 95% confidence interval; HIV – human immunodeficiency virus; +Concordance; *reference class "no"; ***kidney failure on dialysis, cancer, diabetes, liver disease; ****includes chronic obstructive pulmonary disease, silicosis, interstitial pulmonary/lung disease.

Shorter delays | Longer delays

Conclusions

•Immigrants have higher global delay, attributable to a higher patient delay.
•The risk factors related to TB diagnosis delay have an heterogeneous association in immigrant and nationals.
•Tailored interventions should be implemented to decrease the delay among immigrants.