

ID: 680058

## **Estimating the effect of life-styles on the individuals' health status: Updated evidence from Portugal**

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### **Objetivos (Objectives):**

Determinants of health beyond health care have long been recognised; among these are lifestyles. Primary prevention has consequently been identified as a priority area of intervention by governments, in particular, after the WHO report 2002- Reducing risks, promoting healthy life. Interventions to reduce health risks are diverse but given limited resources it is necessary to determine the health gains, and costs, of each possible intervention. This type of cost-effectiveness analysis thus requires evidence on the impact of interventions on lifestyle choices, on the one hand, and evidence on the impact of lifestyles on health, on the other. Our objective is to provide evidence (for the Portuguese population) precisely regarding the relationship between lifestyles and individual health status. In sum, the purpose of this work is to estimate the effect of several life-styles, e.g. physical activity, smoking, alcohol consumption, among others, on the health status of the individuals.

### **Metodologia (Methodology):**

We adopt an econometric approach relying mainly on two types of models. The first one, standard in this type of literature, is a one-equation specification, which regresses a health measure, either health status or health related quality of life, on a set of variables reflecting life-styles, plus a group of control variables. In what concerns the second type of econometric specification, we adopt a systems of equations model, known in the literature as a simultaneous equations probit model. This second model intends to overcome the shortcomings of the one-equation model, which does not account for the potential endogeneity of individuals' life styles choices. Thus, one equation models the individuals' health status, while the others are specified to determine the life-styles. The equations are linked through a vector of correlated unobserved disturbances.

The data used comes from the most recent wave of the National Health Survey, 2005/2006. We use two alternative observed measures of health status: an ordered variable reflecting self-assessed health; an ordered measure of health related quality of life. Both measured in a five category scale.

### **Resultados (Results):**

The results are yet preliminary, as we should run alternative specifications and perform more hypothesis tests. Therefore this should be seen with caution.

The main results, consistent among all models estimated, are that the individual's life styles activities (tobacco, alcohol, physical activity) present an effect in both measures of health considered in this application. Moreover, the results are in line with the literature, as tobacco and alcohol present negative effects, and physical activity is a good practice, promoting health.

**Conclusões (Conclusions):**

The preliminary status of the results does not allow us to draw definitive conclusions. However our estimates are consistent with the idea that health promotion activities might be a cost-effective to improve the population's health.