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## A cross sectional study evaluating physical activity its relationship with functional status and quality of life in newly diagnosed patients with thoracic cancer

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**Introduction:** In lung cancer, physical activity may help to manage treatment-related side effect thus improving treatment tolerance. However, a cancer diagnosis often triggers behavioral shifts that may contribute to increase the sedentary habits and reduce physical activity. This study explored physical activity levels, nutritional and sarcopenia risk, and cardiorespiratory fitness (CRF) in patients recently diagnosed with thoracic cancer, and to analyze their relationship with quality of life (QoL).

**Methods:** This cross-sectional study was conducted at the Oncology Unit of the University of Verona. Patients with a recent thoracic cancer diagnosis were invited to complete a questionnaire evaluating physical activity, using the Godin-Shephard Questionnaire, CRF (FitMáx tool), nutritional risk (Nutrition Risk Screening - NRS-2002), sarcopenia risk (SARC-F), body mass index (BMI) and QoL through the Functional Assessment of Cancer Therapy –Lung (FACT-L). Descriptive statistics, absolute frequencies, and Pearson correlation analyses were performed.

**Results:** A total of 96 patients (52 males and 44 females; mean age: 68.8 years). The most common subtype was non small-cell lung cancer (90%), and 65% with an advanced stage of disease. At the time of diagnosis, 91% of patients were physically inactive, 42% were at nutritional risk, and 67% exhibited low CRF. An inverse correlation was observed between BMI with nutritional risk ( $r_s = -0.313$ ,  $p = 0.003$ ) and CRF ( $r_s = -0.402$ ,  $p = 0.001$ ). CRF showed a moderate correlation with FACT-TOI ( $r_s = 0.267$ ,  $p = 0.029$ ), FACT-L ( $r_s = 0.273$ ,  $p = 0.025$ ), BMI ( $r_s = -0.402$ ,  $p = 0.001$ ), and sarcopenia risk. Sarcopenia, was also negatively related to FACT-TOI ( $r_s = -0.369$ ,  $p = 0.002$ ), FACT-G ( $r_s = -0.292$ ,  $p = 0.013$ ), FACT-L ( $r_s = -0.333$ ,  $p = 0.005$ ).

**Conclusion:** In newly diagnosed patients with thoracic cancer, low physical activity, CRF, and high nutritional risk were common, and are associated with QoL.

### Keywords

Thoracic Cancer; Physical activity; Lifestyle; Quality of Life;

### Conflict of Interest & Ethical Approval

yes

### Abstract submitters declaration

yes

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