

classified as MM genotype, while the most prevalent deficient alleles are designated as S and Z. AATD is one of the most prevalent genetic disorders in humans and the most diagnosed in adults, yet it remains an underdiagnosed condition. The majority (90%) of patients with AATD have the ZZ genotype, the form associated with disease development. The main clinical manifestations involve the lungs and liver and, less frequently, the skin. In the lung, AATD predisposes to early development of pulmonary emphysema, and severe AATD may also lead to the development of bronchiectasis. b

Objectives: Characterization of the AATD patient population and understanding of underlying complications and indications for treatment.

Methods: Retrospective study of patients seen in the pulmonology appointment at the Vila Franca de Xira Hospital with AATD. Statistical analysis with Microsoft Excel 2016® of the following variables: gender, age, weight, height and body mass index (BMI), smoking habits, forced expiratory volume in 1st second (FEV1), pulmonary complications and treatment.

Results: Sample of 26 patients, with a mean age of 57.6 years old and female predominance (n = 15; 57.7%), with a mean weight of 71.9 kg, with the majority (n = 10; 38.5%) presenting a normal BMI. Regarding smoking habits, only 4 patients (15.4%) were active smokers, 10 (38.5%) were former smokers, and 12 (46.2%) had never smoked. As for the respiratory functional study, the mean FEV1 of this population is 96.5%, with most (n = 22; 84.6%) presenting an FEV1 > 70% in the first evaluation, with the remaining 4 patients (15.4%) with FEV1 30-70%. In terms of diagnosis, 11 patients (42.3%) had AATD ≤ 57 and, qualitatively, there was a predominance of the MS phenotype in 11 patients (42.3%), followed by SZ (n = 5; 19.2%) and MS (n = 4; 15.4%). As for pulmonary complications, 11 patients (42.3%) have pulmonary emphysema, of which 5 patients (45.5%) have chronic obstructive pulmonary disease and 4 patients (36.4%) have bronchiectasis. No patient is on alpha-1-antitrypsin replacement therapy.

Conclusions: This sample of patients, although small, shows us a significant patient population with pulmonary pathology, with a mean age in the fifth decade of life. In the quantitative assessment, 42.3% of patients have an AATD ≤ 57, but only a minority, about 15.7%, have an FEV1 < 70%. In the qualitative assessment there is a predominance of the MS phenotype. Currently none of the patients present eligibility criteria for treatment. It is important to maintain a clinical and functional respiratory follow-up, avoiding smoking and possible extrapulmonary complications.

Keywords: *Alpha-1-antitrypsin. FEV1.*

PC 041. ARE INDOOR AND OUTDOOR OPPORTUNITIES FOR PHYSICAL ACTIVITY RELATED TO ACTIVE BEHAVIOURS IN PATIENTS WITH COPD?

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Introduction: Persistent respiratory symptoms at rest and during exertion (e.g., dyspnea, fatigue) play a role on the low physical activity (PA) levels found in people with chronic obstructive pulmonary disease (COPD), but other factors may also be involved. Environmental factors have been shown to impact PA levels in other patient populations, but evidence regarding people with COPD is still scarce. Investigations have been focused mostly on outdoor factors, such as air pollution or population density, disregarding the

patients' perception of their surroundings, both indoor and outdoor milieus.

Objectives: This study explored the relationship between self-reported indoor and outdoor physical environmental opportunities for PA and actual PA levels in patients with COPD.

Methods: Patients with COPD completed the Physical Activity Neighbourhood Environment Survey (PANES; total score 0-6, higher scores indicating a more supportive PA environment; 11 subscales: Residential Density, Land Use Mix, Access to Transportation, Infrastructure for Pedestrians, Infrastructure for Bicycles, Recreation Facilities, Street Connectivity, Security - Crimes, Security - Traffic, Security - Pedestrians, Aesthetics) and questions regarding their indoor and outdoor home environment (car ownership; having a dog, corridor, elevator, stairs and/or exercise equipment). An accelerometer was used for 7 days to assess daily PA: steps (steps/day); time in moderate and vigorous PA (MVPA; min/day); total PA (TPA; light PA+MVPA; min/day). Mann-Whitney-U and Spearman's correlations (ρ) tests were conducted.

Results: Ninety-four patients [78 males (83%), 67 ± 8 years, 48 ± 19 FEV1% predicted] participated in this study. PANES total score (n = 75) was 3 [1;4] (median [Q1;Q3]). Forty-three patients had a dog (13 walked it regularly); 63 had stairs, 12 had an elevator, 71 had a corridor, 45 had exercise equipment (stationary bicycle, n = 21) and 84 owned a car. Participants performed 4,428 [2,761;6,886] steps/day, 19 [9;41] min/day of MVPA and 144 [103;208] min/day of TPA. Patients walking the dog presented a significantly higher daily step count (4,895 [2,644;7,780] vs. 4,422 [2,850;6,775] steps/day, $p = 0.01$) and time in TPA (154 [100;256] vs. 144 [103;177] min/day, $p = .03$) than those not walking the dog. No other significant differences were observed in the indoor and outdoor home environment ($p > 0.05$). No significant correlations were found between any of the PANES subscales and the different PA outcomes ($-0.210 \leq \rho \leq 0.181$, $p > 0.05$).

Conclusions: A minimal influence of neighbourhood environmental factors on PA levels of patients with COPD was found in this observational study. Findings support previous research, as walking the dog impacted patients' daily step counts. Longitudinal research is needed to more definitely evaluate potential environmental opportunities to promote PA in people with COPD.

Keywords: *COPD. Physical activity. Physiotherapy. Environmental factors.*

PC 042. NIVO SCORE APPLICATION AS A MORTALITY PREDICTOR IN ACUTE COPD EXACERBATIONS WITH ACIDAEMIA

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Introduction: The Noninvasive Ventilation Outcomes (NIVO) score is a clinical prediction tool of mortality in acute (acidemic) exacerbations of chronic obstructive lung disease (AECOPD), requiring non-invasive ventilation (NIV). Ranging up to 9 points, it stratifies in-hospital and 90-day mortality. Until today no other study has demonstrated its use in the Portuguese population.

Objectives: To compare NIVO's score predictions with observed in-hospital and 90 days mortality.

Methods: Retrospective cohort of patients admitted in CHVNG/E with AECOPD, with acidemia, treated with NIV, between January 2019 and March 2022. Re-admissions of the same patient within 3 months were excluded. Each subject was stratified into risk groups according to NIVO Score. Mortality data was collected. The Binomial test with the Clopper-Pearson's 95% confidence interval was used to compare expected with observed frequencies.