Introduction
Laryngeal cancer (LC) is the 21st most common type of cancer globally with around 160,000 new cases diagnosed each year (1.1% of the total). (1)(2) It is encountered with increasing age, with the highest occurrence in 5th – 7th decade.

Tobacco smoking is considered one of the leading risk factors for cancer of the larynx. Although the proportion of smokers decreases worldwide, the mortality rate of LC remains steady. (3) The purpose of this study is to assess the exposure to cigarette smoke in patients diagnosed with laryngeal cancer at the University Hospital in Varna, Bulgaria.

Methods
A retrospective cohort study was conducted using data from medical records of 366 patients (335 men and 31 women), diagnosed with cancer of the larynx in the period 2006 to 2017. Information about age, gender, stage of LC, histology and differentiation, smoking habits, pack-years, years of active smoking, years since cessation and different risk factors (alcohol consumption and inhalation hazards) was gathered and analyzed. The average age at which smokers were first diagnosed with laryngeal carcinoma was compared to those of non-smokers with the same condition.

Results
A total of 366 patients aged between 26 and 88 years were included in the study. Data about the exposure to tobacco smoke were available for 254 (69.4%) of them. For the remaining 112 patients, no information on smoking habits was found in the medical records. The number of smokers amounted to 246 (69.9%) patients with an average exposure of 41.57 ± 16.26 (4 - 100) pack-years.

Mean age at which they started smoking was 18.44 ± 5.36 (8 - 40). There were no cigarette-consumers among them. Only one confirmed using pipes. Forty-five of the subjects reported ceasing smoking 11.75 ± 8.87 (1-42) years before the diagnosis. Only 8 (3.1%) of the patients denied any tobacco consumption. Mean age at which smokers were first diagnosed with cancer of the larynx was 60.2 ± 8.81 in comparison with 79.12 ± 5.14 years for non-smokers (p<0.00001).

Discussion
In the studied population of patients with carcinoma of the larynx, high incidence of tobacco exposure was noticed. Although there was no information about the cigarette exposure for 112 of them, data are representative for our study group.

Alcohol and tobacco use are the two leading risk factors for head and neck cancers, especially cancers of the oral cavity, pharynx and larynx. (4) People who consume both products are at greater risk of developing cancer than those using either tobacco or alcohol alone.

In the past decades there has been increasing evidence suggesting a possible role of HPV infection in laryngeal carcinogenesis. (5)(6) New studies determine the carcinogenic effect of HPV in up to 24% of laryngeal cancers. (7) Other risk factors for LC may include gastroesophageal reflux disease, poor oral hygiene and exposure to professional dust.

Despite all the studies, aimed at finding new risk factors for the genesis of laryngeal carcinoma, smoking is still considered a major self-acting provocative factor. For this reason, our study focuses on the tobacco exposure measured in pack-years. There is a proven dose-effect relationship between exposure to cigarette smoke and the development of LC - the risk elevates with the increase in exposure. Smokers tend to be about 25 times more likely to develop cancer of the larynx than non-smokers. (8)

Conclusion
Our study reveals high incidence of smoking in LC population group with average exposure of 41.57 ± 16.26 (4 - 100) pack-years. Although the number of smokers is decreasing globally, it still remains the major risk factor for laryngeal carcinogenesis. The results clearly demonstrate that smokers have a greater chance to develop head and neck cancers earlier in their life than their peers who are non-smokers.

References
1. Worldwide data | World Cancer Research Fund International. Available at: http://www.wcrf.org/en/cancer-facts-figures/worldwide-data. 2. Globaldata. (2017) Tobacco industry. Available at: https://www.tobaccocontrol.org/about/tobacco.html. 3. Author(s). (2015) Posteraro J, Pietrysiak P, Maksymidlo, et al. National Programme for Prevention and Early Detection of Head and Neck Cancer. Oncodocz Pitol Otolaryngol. 2015;60(4):7–13. 4. Laryngeal Cancer - Cancer Stat Facts. Available at: https://www.cancer.gov/aboutcancer/types/larynx/hp/larynx.cfm. 5. Autori4s. (2015) Nakakuki M, Golusiński M, Cosponsored By Cancer. Prevention. 6. Ashley A, Lorusso A, Vitale A. LC, Laryngeal Cancer. Med. Oncol. 2006;23:2404-2412. 7. Author(s). (2015) Nakakuki M, Golusiński M, Cosponsored By Cancer. Prevention. 8. Ashley A, Lorusso A, Vitale A. LC, Laryngeal Cancer. Med. Oncol. 2006;23:2404-2412. 9. Author(s). (2015) Nakakuki M, Golusiński M, Cosponsored By Cancer. Prevention. 10. Author(s). (2015) Nakakuki M, Golusiński M, Cosponsored By Cancer. Prevention.