Related Risk Factors for Benign Laryngeal Lesions in Community-Dwelling Korean Adults: A Cross Sectional Study

Haewon Byeon1,2

1 Dept. of Speech Language Pathology & Audiology, Nambu University, Gwangju, Korea
2 Speech-Language Pathology Center, Nambu University, Gwangju, South Korea, Byeon@nambu.ac.kr

Abstract. This study explores potential risk factors of benign laryngeal lesions for 1,480 adults who completed Korea National Health and Nutrition Examination Survey 2012. In the Poisson regression analysis, adjusting for factors (age, gender, education level, occupation, smoking, drinking, self-reported voice problem), Subjective voice problem (RR= 3.93 95% CI: 1.62-9.59) was significantly associated with benign laryngeal lesions. These findings might be used as basic material for the prevention of benign laryngeal lesions.

Keywords: Dysphonia, Benign Laryngeal Lesions, Risk factors, Prevention

1 Introduction

The benign laryngeal lesions such as vocal nodules, laryngeal polyps, vocal fold cysts are dysphonia most frequently contracted by adults [1], so far studies on risk factors for benign laryngeal lesions in Koreans have been insufficient.

This study investigated potential risk factors of benign laryngeal lesions using laryngeal examination data from Korea National Health and Nutrition Examination Survey in 2012.

2 Materials and Methods

2.1 Data Source and subjects

The source of data for this study from 2012 Korea National Health and Nutrition Examination Survey (KNHANES) conducted by Korea Centers for Disease Control [2]. This study selected as subjects 1,127 adults (553 males and 782 females) who completed both questionnaire survey on health and endoscopic laryngeal examination.
2.2 Measurement

While a variety of definitions of the term benign laryngeal lesions have been suggested [3], this study used the definition suggested by Rosen et al. (2013) [4]. Benign laryngeal lesions in this study were defined as vocal nodules, laryngeal polyps, vocal fold cysts. Potential factors included age, gender, education level, occupation, smoking, drinking, self-reported voice problem. Levels of education were classified as elementary school graduates and lower, middle school graduates, high school graduates and university graduates and over. Ages were classified as 19–39, 40–59 and 60 and over. Occupations were classified into economically-inactive, non-manual and manual. Smoking was classified into current smokers, past smokers and non-smokers. Frequency of drinking (≤1 time per weeks, 2-3 times per weeks, ≥4 times per weeks) and binge drinking were examined.

2.3 Statistical Analysis

In order to identify potential risk factors for benign laryngeal lesions, risks ratio (RR) and 95% confidence interval were presented by using Poisson regression.

3 Results

3.1 General characteristics of subjects with benign laryngeal lesions

As the result of Chi-square test, there was a significant difference between the healthy group and the group with benign laryngeal lesions in the recognition of voice problems (p<0.001). The prevalence rate of benign laryngeal lesions for the group who recognized their voice problems was 8.9%, which is some 3.6 times higher than that of the group who didn’t recognize their voice problems.

3.2 Factors related to benign laryngeal lesions

Adjusting for all factors (age, gender, level of education, income level, occupation, subjective recognition of voice problem, smoking, frequency of drinking and binge), self-reported voice problem associated independently with benign laryngeal lesions. The risk ratio with benign laryngeal lesions of those who subjectively recognized their own voice problems was 3.9 times (RR=3.93, 95% CI: 1.62-9.59) higher than those who did not recognize their voice problems (p=0.003).
4 Discussion

In this study, self-reported voice problem has significant risk factor with benign laryngeal lesions. Those who recognized their voice problem in this study ran 3.9 times more risk of getting benign laryngeal lesions. The discomfort while using voice proved to be one of major precursors of voice disorder [5]. In addition, it is known that vocal tract discomfort has relationship with symptoms of early vocal disorders [6].

Prospective studies are required to prove causality between self-reported voice problem and benign laryngeal lesions in the future.

References