

Promotion of Quality of Life in School-aged Children with Allergic Rhinitis symptoms - A Survey of Symptom Severity Effect on Daily Life of Students in an Elementary School in Southern Taiwan



國立成功大學醫學院附設醫院
National Cheng Kung University Hospital

Pei-Chi Chen¹, Yung-Cheng Huang², Chien-Lang Chung³, Cheng-Chih Kao⁴
 1 Post graduate year, National Cheng Kung University Hospital, Tainan, Taiwan, Republic of China
 2 Department of Family Medicine, Pingtung Christian Hospital, Pingtung, Taiwan, Republic of China
 3 Health Center, Nurse, Pingtung Ren Ai Elementary School, Taiwan, Republic of China
 4 Senior manager, Pingtung Christian Hospital, Pingtung, Taiwan, Republic of China



Background

Allergic rhinitis is a prevalent problem and a bothersome among school-aged children. In Taiwan, an epidemiological survey conducted in northern regions indicated that the prevalence of allergic rhinitis is about 49.4% among elementary students. Previous studies have shown that allergic rhinitis had negative effects on the quality of life. In addition, air pollution is thought of as an aggravative factor. However, the lack of research studies of the correlation between allergic rhinitis symptoms and their implications on the daily life of children residing in southern Taiwan in which air quality index is usually high that necessitates investigation.

Methods

In December 2023, survey questionnaires was distributed among sixth-grade elementary school students in Pingtung County, Taiwan. The severity of symptoms associated with allergic rhinitis and their levels of influence on daily life were collected. By analyzing the acquired survey data, the researchers can develop a symptom-control strategy for promoting children's quality of life accordingly.

Results

A total of 204 questionnaires data were collected, comprising 117 males (57.4%) and 87 females (42.6%) students. Analysis revealed that 36.3% were previously diagnosed with allergic diseases such as allergic rhinitis, atopic dermatitis, or asthma [Fig. 1].

		Self-reported substance allergies		P-value Pearson test
		No (134,65.7%)	Yes (70,34.3%)	
Allergic rhinitis	No	115 (85.8%)	34 (48.6%)	.000
	Yes	19 (14.2%)	36 (51.4%)	
Atopic dermatitis	No	126 (94%)	56 (80%)	.013
	Yes	8 (6%)	14 (20%)	
Asthma	No	127 (94.8%)	55 (78.6%)	.002
	Yes	7 (5.2%)	15 (21.4%)	

Fig. 1. Association between self-reported substance allergies and allergic diseases. Students without self-reported substance allergies have significant lower possibility of allergic diseases diagnosis.

However, up to 78.4% of students suffered from symptoms associated with allergic rhinitis. The severity of sneezing affected all three fields including school performance, daily activity, and sleep and emotion. Runny nose, nasal congestion and itchy nose had notable significant effect on school performance, and sleep and emotion [Fig. 2]. It was also observed that the degree of severity of the symptoms appeared to be directly correlated to the experiencing of severe complications.

Conclusion

The severity of symptoms associated with allergic rhinitis had influenced daily life of school-aged children to some extent. The areas primarily affected were sleep and emotion, followed by school performance, while daily activities appeared as the least influenced. Obviously, mental health is of great importance in quality of life. For establishing a health promotion strategy, educate the public to recognize the symptoms of allergic diseases, promote seeking medical assistance as needed, and carry out prevention measures are essential to symptom control. Furthermore, providing accessible information about real-time air quality index allows the public to take precautions in avoiding exposure to harmful situations or substances that may worsen those symptoms and ensure better life quality.

Fig. 2. The severity of allergic rhinitis symptoms interfered with different fields of life quality. The higher scores of interfered severity with quality of life indicate the worse extent of allergic rhinitis symptoms to daily life.

