

ORIGINAL ARTICLES

PARENTAL AWARENESS OF CHILDREN ATTENDING CHILD CARE FACILITIES IN VARNA REGION REGARDING SCARLET FEVER

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ABSTRACT

INTRODUCTION: Scarlet fever is an extremely relevant issue in the field of public health due to its widespread distribution and the complications that can arise from untimely diagnosis and treatment. Parents' knowledge regarding the modes of transmission of the pathogen, possible complications, and prevention measures plays a key role in controlling the disease.

AIM: The aim of this article is to study the awareness of parents of children attending organized care facilities in the city of Varna regarding scarlet fever.

MATERIALS AND METHODS: An anonymous survey was conducted among 639 parents of children attending six child care facilities in the city of Varna. The survey contained 29 closed-ended and 1 open-ended question. Sociological, statistical and mathematical, and graphical methods were used.

RESULTS: From the conducted survey, we found that 92.6% of respondents knew the main symptoms of scarlet fever and 77.2% of them were informed about the transmission methods of the pathogen, but 43% of parents did not know about the complications from the infection. For main sources of information about the disease, the respondents indicated mainly the general practitioner (41.8%) and social networks (18.8%).

CONCLUSION: Targeted educational campaigns among parents are necessary to increase their awareness regarding the spread of infectious diseases in child care facilities.

Keywords: scarlet fever, parental awareness, child care facilities, Varna region

INTRODUCTION

Scarlet fever is an acute infectious disease caused by beta-hemolytic streptococcus from group A, *Streptococcus pyogenes* (1). This infection is categorized as an uncontrollable disease for which no vaccine has been developed, posing a significant public health concern due to its widespread prevalence and the risk of severe complications such as rheuma-

tism, myocarditis, or glomerulonephritis if not treated promptly (2). Over centuries, the clinical manifestations and severity of scarlet fever have fluctuated, ranging from severe cases to asymptomatic carriers. In the recent decades of the antibiotic era, the incidence of the disease has declined thanks to antibiotic treatment of infected individuals and the implementation of anti-epidemic measures, such as isolating patients and thorough disinfection in epidemic outbreaks (3).

Transmission of scarlet fever primarily occurs via airborne droplets, but contact transmission through contaminated hands or objects in the patient's surroundings is also possible (4). The disease is widespread globally, mainly affecting children aged 2 to 10 years (5). Scarlet fever outbreaks are most commonly observed in children's groups,

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such as kindergartens, daycare centers, and schools, due to close contact among children and shared use of objects that can be easily contaminated (6).

Timely diagnosis of scarlet fever is crucial to preventing epidemic outbreaks and late complications in affected individuals. Parental awareness of transmission methods, symptoms, and preventive measures plays a vital role in controlling the infection, especially among children attending group settings (7).

AIM

The aim of this article is to investigate the awareness of parents whose children attend organized groups in the city of Varna regarding scarlet fever.

MATERIALS AND METHODS

An anonymous survey was conducted among 639 parents of children from six child care institutions in Varna. The selection of these institutions was based on the high number of children aged 1 to 6 years and their geographical distribution across different neighborhoods in Varna. The survey was approved by the Ethics Committee of the Medical University of Varna, the Directorate of Education and Youth Activities of Varna Municipality, and the directors of the respective institutions.

Sociological, statistical and mathematical, and graphical methods were used to analyze the collected data.

RESULTS AND DISCUSSION

The survey was conducted from November 2023 to January 2024, involving 639 parents or guardians of children attending kindergartens in Varna. The majority of respondents were women (91.2%), all residing in Varna. The demographic characteristics of respondents are presented in Table 1.

Regarding employment, 89.7% of respondents were employed, 10.3% were on maternity leave, 3.4% were students, and 0.3% were retirees.

From the survey, 19.2% of respondents reported that their children had suffered from scarlet fever. The most commonly stated symptoms during illness were fever (92.6%), sore throat (87.3%), and skin rash (84.5%) (Fig. 1), aligning with findings from a similar study conducted in Korea (8).

Table 1. Demographic characteristics of the respondents.

Characteristic	Count	Percentage
Gender		
Female	583	91.2%
Male	56	8.8%
Age group (years)		
18 - 24	2	0.3%
25 - 34	254	39.7%
34 - 44	356	55.7%
45 - 54	27	4.2%
Education		
Primary	3	0.5%
Secondary	136	21.3%
Higher	317	49.6%
Number of children in the family		
Parents with one child	240	38%
Parents with two children	366	57%
Parents with three and more children	33	5%

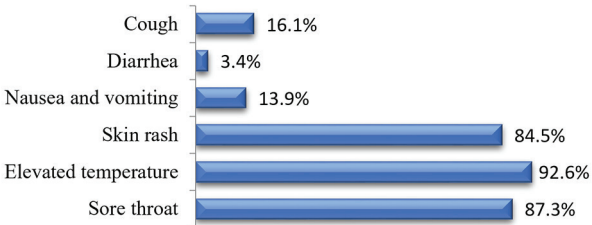


Fig. 1. Parents' knowledge about the clinical symptoms of scarlet fever.

Most parents demonstrated knowledge about the transmission of scarlet fever: 77.2% cited airborne droplets as the mode of transmission, and 11.6% mentioned contaminated hands (Fig. 2). For information on infectious diseases and vaccination in children, 41.8% of respondents primarily relied on general practitioners, highlighting their crucial role in raising parental health awareness, as corroborated by other studies (9). The internet ranked second

(18.8%), followed by official sources such as the Ministry of Health and the World Health Organization (10.8%) and the media (television, journals, newspapers) (10.6%) (Fig. 3).

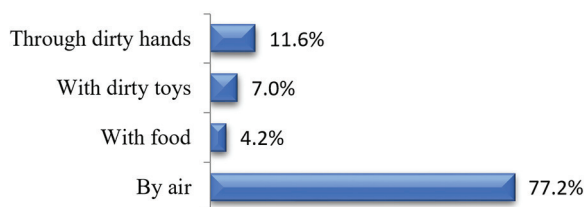


Fig. 2. Parents' opinions on the modes of transmission of scarlet fever.

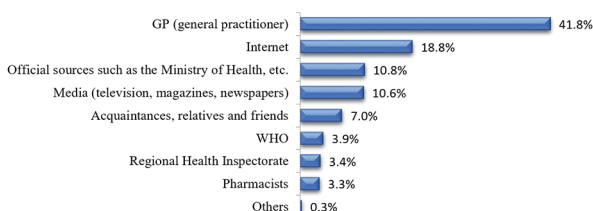


Fig. 3. Sources of information for parents regarding childhood diseases and vaccines.

Regarding the severity and complications of scarlet fever, 48% of parents showed low awareness or lack of knowledge (Fig. 4). Concerning prevention, over half of the parents (54.1%) were unsure about the existence of a vaccine against scarlet fever, while 9.5% mistakenly believed that one exists.

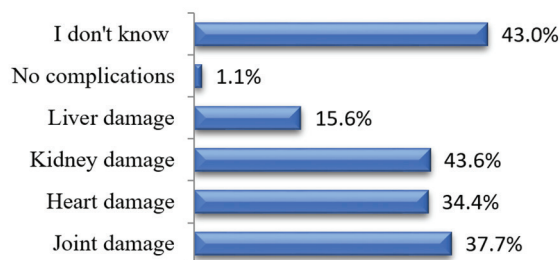


Fig. 4. Parents' knowledge of complications arising after having scarlet fever.

In our study, 33.5% of respondents reported that their children were tested for group A beta-hemolytic streptococcus carrier status, with positive results in one-third (28%) of these cases. Of these, 95.1% con-

firmed that antibiotic treatment had been administered. Studies in countries like Ethiopia, Yemen, and others show asymptomatic carrier rates of 10–20% among children (10,11). Such carrier states are crucial in spreading scarlet fever within organized children's groups.

CONCLUSION

Despite the respondents' good awareness of scarlet fever transmission modes and symptoms, significant gaps were noted in their knowledge of complications and prevention methods. Targeted educational campaigns for parents are essential to enhance their awareness of infectious diseases prevalent in children's groups, their symptoms, transmission methods, preventive measures, and the risks of complications.

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