

## **Streptococcus pyrogens: A Short Review**

**N. Lakshmi, S. Swathi, N. Saraswathi**

Siddhartha women's Degree and Pg College, Kukatpally, Hyderabad

**Corresponding author:** N. Lakshmi, Siddhartha women's Degree and Pg College, Kukatpally, Hyderabad, Email:

### **Abstract:**

Streptococcus pyrogens (commonly called as "group A streptococcus") is a pathogen infecting 18.1 million people and resulting in death of 5,00,000 people every year worldwide. The pathogens causing group A streptococcus (GAS) are commonly transmission through respiratory droplets, touching skin sore caused by GAS or through contaminated Material Streptococcus pyrogens is majorly found in children and elderly people. Preventing and controlling measures should be implemented to & reduce the risk of S. pyrogens by improving living Conditions and personal hygiene. GAS diseases are widely found in developing countries and low socioeconomic areas of developed countries.

### **Review Literature:**

Streptococcus also a pyrogen also known as group A streptococcus, is a Gram-positive bacteria pathogen that may spread and damage the tissue (or) not spread and may not damage the tissues and they do not form any pus. These symptoms include sore throat, causing fever and scarlet rash, an infectious bacterial disease in children, impetigo, inflammation of subcutaneous Connective tissue (cellulitis), streptococcal toxic shock syndrome, acute rheumatic fever and post-streptococcal glomerulonephritis.

In South Africa, a study was carried out that showed that there were similarities in strain diversity were also reported with similar living conditions including indigenous populations in developed countries. Socially disadvantaged Communities due to their low socioeconomic status i.e., poor housing conditions, inability to afford medical care had heavily burdened by these diseases. High GAS strain diversity was reported by low-income settings Compared to high-income settings.

GAS infections have been reported as notifiable diseases in tropical regions of northern Queensland and Northern Territory states. This disease in developed Countries, in low- and middle-income countries had remained relatively more important and also remained endemic in high-income countries. A limitation in finding the areas of highest prevalence is the fact that GAS diseases are not always notifiable. Specific GAS diseases have been reported by few countries like England, Japan, Norway, China and United States. In few countries the disease is notifiable only in specific regions; example In Australia GAS is notifiable in Northern Territory and Queensland.

In developing countries, during 20th century there was a decrease in the GAS diseases leading to an improvement in living Conditions but the genetic changes in GAS strain in hast Leads to the drastic increase in the rates of specific diseases. Increased diseases rates have been associated with emergence of new GAS strains with increased disease-Causing Capability. In developed Countries re-emergence of these diseases have been shown by Epidemiological studies.

Each year approximately 18.1 million people are Suffering from GAS diseases with 1-78 million new cases and 50,0000 deaths. From 2003 to 2012 the studies of united of states have shown that IGAS infections remained steady with 3:8 Cases/ 1000000 persons resulting in 1116 deaths per year. But by the year 2015, the United States reported more than 15,000 cases of iGAS diseases and 1600 deaths.

GAS infections are more prevalent in socioeconomically disadvantaged populations within developed countries and in developing counties. The natural reservoir for GAS is humans and is commonly found in state on the anus, Vagina, pharynx and skin of human hast without causing disease. The transmission of GAS primarily occurs through respiratory droplets, skin contact with broken skin that has section from infected sores on it. The transmission is also favoured by environmental factors like contaminated equipment, surfaces, dust and formiles.

GAS infections Commonly spread in schools, nurseries and kinder gardens, hospitals, care homes, military camps and homeless shelters. In Vulnerable population to prevent the transmission of GAS diseases, there is a need to improve public health strategies. The spread of GAS diseases can be reduced by identifying the factors increasing the risks of transmission and informing to public health policy.

Risk factors for GAS infections included are Alcohol abuse and intravenous drug users. But in England an investigation was carried out that showed that spread of these infections was not associated with alcohol (or) drug user. In low resource settings, strategies should be developed in such a way that they should be feasible, accessible and affordable to prevent (or) to treat GAS infections.

The present public health, strategies mainly focus on reducing the Spread and to protect the people from the GAS infections. Shaving of water bottles, drinking glasses, utensils etc., should be avoided as those may be contaminated with saliva. In areas that are considered as risky zones should be ever environmentally Sanitized, including the cleaning and sanitation of surfaces and common touch areas. In high-risk areas such as hospitals curtains should be changed regularly. To prevent GAS infections in hospitals and health care Settings appropriate infection control practice was identified as Critical Patients infected with GAS should be isolated in order to prevent the further spread of this infections.

Along with children, people with underlying medical Conditions, pregnant and postpartum women groups were also at the risk of being infected with GAS diseases. The major risk factor for GAS diseases was inadequate housing that includes homelessness, household overcrowding, poor Ventilation and house temperature The highlighted risk factor for GAS infections were poor personal and hand hygiene and exposure to asymptomatic persons. Overcrowding also leads to the transmission of this GAS diseases.

There are number of factors that determined the transmission of GAS infections. Exposures to tobacco smoke and other air pollutant are risk factors for GAS infections. The transmission influenced even by Seasonal Variations. According to many studies an effective way to prevent and control GAS infections and Complications from mild infections were early diagnosis and treatment. Other method Such as Vaccination and Screening for GAS during pregnancy which are not currently used can also reduce the transmission of GAS infections.

Diseases caused by GAS Such as cellulitis, impetigo, pharyngitis can be transmitted directly from person to person: Compared to women, men showed the higher incidence rates of GAS infections. These bacteria can survive on dry surfaces and materials for up to 65 months hence, there is an increase in the likelihood in the transmission of this diseases in overcrowd. Coughing (or) Sneezing from an infected person in an over crowd Can easily spread the GAS diseases to another person.

### **Conclusion:**

Globally GAS infections is a significant public health issue that is most prevalent in developing countries and among indigenous population and low socioeconomic areas in developed Countries. Mode of transmission is a risk of respiratory droplets and contact with infected persons and surfaces, contaminated food. So, public health policy should focus on transmission of GAS. In a simple way of keeping hand hygiene, improved quality of housing, Improved surveillance, primary prevention strategies can prevent from Causing the GAS diseases. Common Environments for GAS infections include schools, kinder gardens, and Care homes-etc.

To reduce the impact of this diseases GAS diseases should be made modifiable at the national level. Effective infection Control procedures were identified as being Crucial for the prevention of GAS infections. In order to reduce the risk of Communicable diseases like GAS infections and also to improve the living standards Government need to consider a greater equity in the distribution of resources. This review also recommends for the proper Management of co-infections, such as influenza. To prevent and Control the GAS diseases in both the Community and clinical settings future strategies must use a multi-disciplinary approach. For the prevention of GAS infections health education is a key for the health care providers, patients and Communities.

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