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“Role of enteric microbes in RRTIs”

Dr. Jyotsna Ahir¹, Dr Varsha Mohite², Dr.Ranjit Shamrao Mohite³, Dr.Pradnya Suhas Rokade⁴,Dr.Amol Pawar⁵

1. Associate Professor, Department of Kaumarbhritya, LRP Ayurvedic Medical College, Islampur, Sangli, Maharashtra, India.
2. IInd PG Scholar, Department of Kaumarbhritya, LRP Ayurvedic Medical College, Islampur, Sangli, Maharashtra, India
3. H. O. D. &Professor, Department of Rachana Sharir, Loknete Rajarambapu Patil Ayurved Medical College, UrunIslampur, Tal-Walwa, Dist-Sangli
4. Associate Professor, Department of Rachana Sharir, Loknete Rajarambapu Patil Ayurved Medical College, UrunIslampur, Tal-Walwa, Dist-Sangli.
5. B.A.M.S,

Corresponding Email ID:

varshamohite248@gmail.com

Abstract:-

Respiratory tract infection remains on leading cause of global morbidity and mortality among children under different age groups. Respiratory tract infection is major parental concern and medical visits in preschool and elementary school children, leading to school absenteeism and hospitalization. Economic conditions, elementary conditions, eating habits are many things that impacts on respiratory health. Gut microbiota is one of the most important cause of many health issues, so here, the impact of gut microbiota on RTI remains to be fully elucidated.

Key words: RRTI , microbiota, gut, etc

Introduction:-

Recurrent RTI are one of the most common and most frequent disease in children and Adolescent.¹ According to Italian pediatric society the diagnostic criteria for RRTI in children are as follows: >6.respiratory tract infections in a year, >1. Upper respiratory tract infection in month between September and April , or >3 lower respiratory tract infections in year.² RRTI is a common disease in pediatrics, occurring in children under 5 years of age,and accounting 10% - 30% of all pediatric respiratory infections, an incidence rate that increases each year.³ In countries with high mortality rate such as Asia, South Africa, RRTI have a 23% mortality rate., and impact two million people.⁴

RRTIs are dangerous disease in pediatric patients with antibody defects, which can be treated with antibody replacement therapy but cost; estimated to be approximately 20,000 - 30000 per patient per year, is relatively high.⁵

If not properly treated, RRTI can lead to Asthma, myocarditis , nephritis and other disease, which may seriously affect child's growth and development; the pathogenesis of RRTIs has become the focus of clinicians to promote new approaches for the management and prevention of RRTIs ⁷

The purpose of this article is to enlighten the role of gut microbiota in RRTI and to prove the importance of healthy gut microbiota to avoid the RRTIs .

Material and methods:-

All the materials required for this study is obtained from literature, internet and pubmed, etc.

Aims and Objectives:-

1. To study the role of gut microbiota in RRTI.
2. To prove the importance of healthy gut microbiota to avoid the RRTIs .

What is gut microbiota :-

The human gut has huge number of microbes, which are collectively referred to as the microbiota.⁸ The gut microbiota constitutes approximately 70% of a person's entire microbiota.

Function of gut microbes:-

The normal gut microbiota imparts specific function in host nutrient metabolism, xenobiotic and drug metabolism, maintenance of structural integrity of the gut mucosal barrier, immunomodulation, and protection against pathogens.⁹

Host Protection and Immune-system Development :-

Many intestinal bacteria produce antimicrobial compounds and compete for nutrients and sites of attachment in the gut lining, thereby preventing colonization by

pathogens. This action is known as the barrier or competitive-exclusion effect.¹⁰

Relation between Respiratory and elementary systems :-

breathing provides oxygen to help your digestive tract function, and digestion provides nutrients to fuel your respiratory system, according to Texas A&M University.¹¹

Your lungs and intestines consist of the same types of tissue and glands which react to the same types of triggers. The World Journal of Gastroenterology states that intestinal disease often results in airway disease and vice versa.¹²

Conclusion:-

This review suggests that the respiratory mechanism and elementary mechanism are correlated with each other. So the various gut microbes are relatively affect the function of respiratory tract. Also the gut microbes are immune modulators and protect the host from pathogenesis. So it is important to prevent the disparity of gut microbes due to bad eating habits, unhygienic conditions, economical and environmental conditions.

References:

1. A. Lemanska-Perek, B. Polanska, D. Krzyzanowska-Golab, I. Katnik-Prastowska, Occurrence of soluble supra-molecular FN-fibrin complexes in the plasma of children with recurrent

respiratory infection, *Ann. Clin. Biochem.* 52 (2015) 441–447.

2. S. Esposito, G. Marseglia, A. Novelli, M. de Martino, G. Di Mauro, C. Gabiano, et al., [Acute, subacute and recurrent bacterial rhinosinusitis in pediatrics: guidelines of the study group of the Italian society for pediatric infectious diseases (SITIP)], *Minerva Pediatr.* 59 (2007) 474–475.

3. M.T. van den Aardweg, C.W. Boonacker, M.M. Rovers, A.W. Hoes, A.G. Schilder, Effectiveness of adenoidectomy in children with recurrent upper respiratory tract infections: open randomised controlled trial, *BMJ* 343 (2011) d5154.

4. J. Pasnik, Vaccines nonspecific – immune stimulation in patients with recurrent respiratory infections, *Otolaryngol. Pol.* 70 (2016) 31–39.

5. D.A. van Kessel, T.W. Hoffman, H. van Velzen-Blad, P. Zanen, J.C. Grutters, G.T. Rijkers, Long-term clinical outcome of antibody replacement therapy in humoral immune deficient adults with respiratory tract infections, *EBio Medicine* 18(2017) 254–260.

6. S. Mao, A. Zhang, S. Huang, Meta-analysis of Zn, Cu and Fe in the hair of Chinese children with recurrent respiratory tract infection, *Scand. J. Clin. Lab. Investig.* 74 (2014) 561–567.

7. X. Jiang, L. Sun, B. Wang, X. Yang, L. Shang, Y. Zhang, Health-related quality of life among children with recurrent respiratory tract infections in Xi'an, China, *PLoS One* 8 (2013) e56945.

8. C.Y. Lu, Y.H. Ni, Gut microbiota and the development of pediatric diseases, *J. Gastroenterol.* 50 (2015) 720–726

9. www.ncbi.nlm.nih.gov (Role of the normal gut microbiota.PMC

10. <https://pubmed.ncbi.nlm.nih.gov>>

11. <https://www.livestrong.com> ' How Does the digestive system work with the respiratory system?.'

12. [https:// www.livestrong.com](https://www.livestrong.com) ' How Does the digestive system work with the respiratory system?.'

