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THE COMMONEST RESPIRATORY INFECTIONS THAT INDICATE HOSPITAL ADMISSION AMONG CHILDREN IN MOSUL

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ABSTRACT

Introduction: Acute Respiratory Infections are the most common causes of illness and mortality among under five children. Its severity is greater in developing countries, resulting in a higher case-fatality rate. **Aim:** The present study is aiming for enumerating the commonest ARIs that indicate hospital admission among children in Mosul, at the north of Iraq. **Subjects and method:** Administrative agreement was obtained from Nineveh Health Directorate. A design of case series study was achieved over the period from 1st of November 2012 to 30th of March 2013. Inclusion criteria of the studied sample "children between 1-24 months old who were admitted to the pediatric clinics and words in Mosul city. **Results:** Two hundreds children were studied.More than half of cases (52.0%) were classified as upper ARIs. Among such group, common cold was the most frequent cause of hospital admission (34.5%). While pneumonia was the commonest cause (28.5%) among lower ARIs. **Conclusion:** Common cold and pneumonia are the commonest ARIs occurring among young in Mosul in order. **Recommendation:** All capabilities including health education is needed to be harnessed in order to minimize occurrence of ARIs.

KEYWORDS: ARI, pneumonia, case series, Mosul.

INTRODUCTION

Acute Respiratory Infections (ARIs) are the most common causes of illness and mortality among under five children. On average three to six episodes of ARIs per child are reported annually regardless of where they live or what their economic situation is. However, the severity is greater in developing countries, resulting in a higher case-fatality rate.[1]

About 10.8 million children die each year. Estimates indicate that in 2000, 1.9 million of them died because of ARIs. 70 percent of them in Africa and Southeast Asia. The World Health Organization (WHO) estimates that 2 million children under five die of pneumonia each year.[2]

Respiratory tract infection are usually classified into upper that include rhinitis, sinusitis, tonsillitis, pharyngitis, epiglottitis, laryngotreachiobronchitis (croup), otitis media, and treachitis; and lower respiratory tract infections as bronchitis, bronchiolitis, and pneumonia[3] which is a significant cause of child's mortality worldwide, particularly in developing countries.[3,4]

Most upper ARIs are self-limiting, their complications are more important than the infections. Acute viral infections predispose children to bacterial infections of the sinuses and middle ear, and aspiration of infected secretions and cells can result in lower ARIs.[5]

The present study is aiming for enumerating the commonest ARIs that indicate hospital admission among children in Mosul, at the north of Iraq.

SUBJECTS AND METHOD

Before beginning of data collection, administrative agreement was obtained from Nineveh Health Directorate. A design of case series study was adopted to achieve the aim of the current study over a period of five months lasted from 1st of November 2012 to 30th of March 2013.

Inclusion criteria of the studied sample "children between 1-24 months old who were admitted to the

pediatric clinics and words in Al-Khansaa and Ibin-Sena Teaching Hospitals". These hospitals were selected since they deliver services to the left and right banks of Mosul city respectively.

RESULTS

During the period of data collection, 200 children aged 24 months or younger were studied among those have been diagnosed as ARIs and needed hospital admission.

Male to female ratio was found to be (128:72 = 9:5). Almost two thirds of them (61.0%) were older than 12 months of age.

More than half of cases (52.0%) were classified as upper ARIs. Among such group, common cold was the most frequent cause of hospital admission (34.5%). While pneumonia was the commonest cause (28.5%) among lower ARIs. Figure 1.

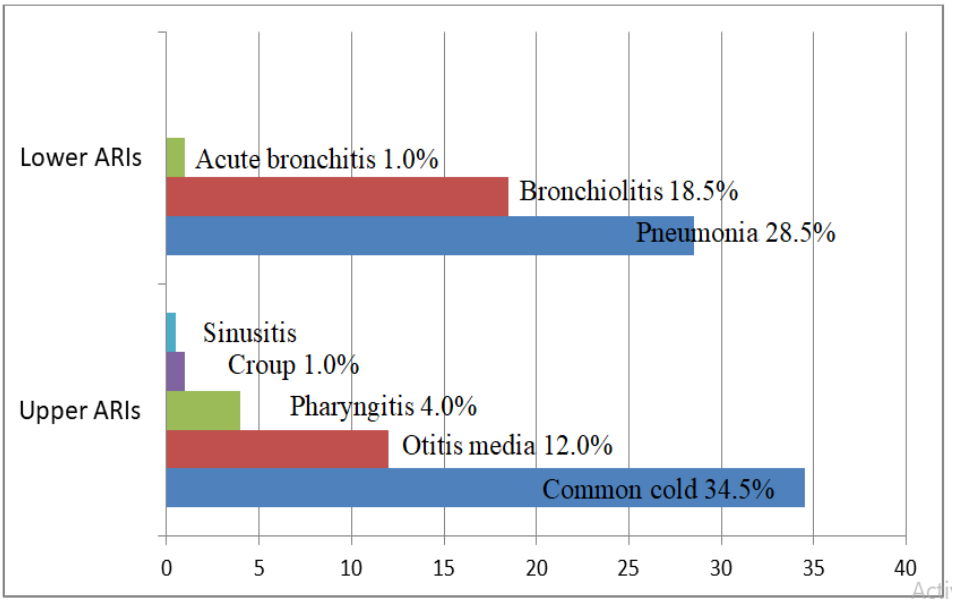

Figure 1: Frequency of ARIs among the studied child.

Table 1 shows that no sex-discrimination in frequency of the reported cases of ARIs that indicated hospital admission.

Table 1: Frequency of ARIs among the studied sample by child's gender.

Categories of Acute Respiratory Tract Infections (ARI)	Male n=128		Female n=72		Total (N=200)	P-value*
	No.	%	No.	%		
Upper ARIs						
Common cold	41	59.4	28	40.6	69	0.327
Otitis media	18	75.0	6	25.0	24	0.231
Pharyngitis	5	62.5	3	37.5	8	0.928
Croupe	0	0	2	100.0	2	NA**
Sinusitis	0	0	1	100.0	1	NA
Lower ARIs						
Pneumonia	41	72.0	16	28.0	57	0.140
Bronchiolitis	21	56.8	16	43.2	37	0.309
Acute bronchitis	2	100.0	0	0	2	NA

* z-test of two proportions was used
** NA=not applicable

Table 2 shows that the most frequent ARIs that indicated hospital admission among infants were common cold (42 cases) and pneumonia (20 cases).

Table (2): Frequency of ARIs among the studied sample by child's age.

Categories of Acute Respiratory Tract Infections (ARI)	Child's age (months)							
	1-6 (n=21)		7-12 (n=57)		13-18 (n=63)		19-24 (n=59)	
	No.	%	No.	%	No.	%	No.	%
Upper ARIs								
Common cold	11	52.4	31	54.0	17	27.0	10	17.0
Otitis media	0	0.0	5	9.0	12	19.0	7	11.9
Pharyngitis	0	0.0	0	0.0	0	0.0	8	13.5
Croup	0	0.0	0	0.0	1	1.5	1	1.7
Sinusitis	0	0.0	0	0.0	0	0.0	1	1.7
Lower ARIs								
Pneumonia	8	38.1	12	21.0	23	36.5	14	23.8
Bronchiolitis	2	9.5	9	16.0	10	16.0	16	27.0
Acute bronchitis	0	0.0	0	0.0	0	0.0	2	3.4

DISCUSSION

Respiratory infections are responsible for almost 20% of all under-five deaths worldwide.[6] The present study shows that 12% of the studied children had otitis media, this result comes with result of Al-Maroof.[7] study which shows that 10.6% of the study sample have otitis media.

The present study revealed that 28% of the study sample have pneumonia, and this value similar to the result of Al-Maroof study which shows that 32.6% of the study sample have pneumonia.[7]

On the other hand the present shows that 18.5% of the study sample have bronchiolitis, and this result differ from Al-Maroof study which shows that 32.6% of the study sample have bronchiolitis.[7] This difference may be due to our large sample comparing to the mentioned study and time of collection of sample.

The present study shows that male children constitute 64% of all ARIs cases and this come with the result of D.Chalalbi in his study of 232 children in Erbil at 2013.[8]

The present study shows that children who gave history of no breastfeeding more frequently had pneumonia (33.3%).

In this study 52% of children with age group 1- 6 months have common cold, moreover Al-Maroof study which shows that 47.6% of children aged below 6 months have common cold.[7]

Rehman and Ishaq[9] had stated that prevalence of (ARI) among infants in urban and rural areas of Matta, district Swat, was 40% with no significant difference between male and female children. Sharma et al. in South India had found that prevalence of ARI was found to be 27%. ARI was noticed more among low social class (79.3%), illiterate mothers (37.8%), those living in kutcha houses (52.6%), overcrowded houses (63.7%), use of smoky fuel for cooking (67.4%), inadequate cross ventilation (70.4%), history of parental smoking (55.6%), low birth weight children (54.8%), and malnourished children (57.8%). Rural children (62.2%) were more affected than urban children.[10]

Moreover this study shows that 38% of infants aged 1-6 months had pneumonia, this result come with the result of Al-Maroof study which shows that 32.6% of infants aged 1-6 months had pneumonia.[7]

Regarding children aged 18-24months (27%) of them had bronchiolitis this come with the result of Al-Maroof study which shows that 30.5% of the children aged 18-24 months have bronchiolitis.[7]

CONCLUSION

Common cold is the commonest ARIs occurring among young children, followed by pneumonia which was classified as the commonest lower ARIs.

RECOMMENDATION

All capabilities including health education is needed to be harnessed in order to minimize occurrence of ARIs.

REFERENCE

1. Jamison DT, B reman JG. Measham AR. editors. Disease Control Priorities in Developing Countries. 2nd edition. Washington (DC): World Bank, 2006.
2. Graham NM. The epidemiology of acute respiratory infections in children and adults: a global perspective. Epidemiol Rev., 1990; 12: 149-78.
3. Macfarlane, J.T., Thomson, A., Pneumonia and other acute respiratory infection. In: Gibson, G.J., Geddes, et al, eds. Text book of respiratory medicine. 3rd ed. Saunders Elsevier: London, 2003; 861-876.
4. Graber, M.A. & Beaty, L., Otolarygology. In: Graber, M.A., Toth, P.P., eds. The family practice handbook, 3rd ed, Mosby, Missouri, 1997; 701.
5. Barrett, T.G., et al, respiratory medicine, croup & strider: a paediatric vade-mecum, 14th ed. Arnold, London, 2003; 210.

6. Schellenberg JA, Victora CG, Mushi A, et al. Inequities among the very poor: health care for children in rural southern Tanzania. Lancet, 2003; 361: 561-66.
7. Al-Maroof S. Relationship between breastfeeding and ARIs in infants: A case series study in the child central teaching hospital in Baghdad. A thesis approved for to Scientific Council of pediatrics in partial fulfillment for the requirements of the degree of fellowship of the Iraqi Board for medical specialization in pediatrics, 2008.
8. Chalabi D. AK. Acute respiratory infection and malnutrition among children below 2 years of age in Erbil governorate, Iraq. *Eastern Mediterranean Health Journal*, 2013; 19(1): 66-70.
9. Rehman M.U, Ishaq M. Prevalence of acute respiratory infections (ARI) and risk factors in under five children in urban and rural areas of Matta, district Swat. International Journal of infectious diseases. International Society of infectious diseases, 2018; 9. Availale online on URL: https://doi.org/10.1016/j.ijid.2018.04.3937.
10. Sharma Dh., Kuppusamy K, Bhoorasamy A. Prevalence of acute respiratory infections (ARI) and their determinants in under five children in urban and rural areas of Kancheepuram district, South India, 2013; 6(5): 513-518.