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Research Article

**BRONCHIOLITIS OUTCOME WITH AND WITHOUT  
ANTIBIOTIC****Dr Arika Waqar, Dr Iqra Hafeez, Dr Shamsila Waqar**  
Services Hospital Lahore**Article Received:** February 2019**Accepted:** March 2019**Published:** April 2019**Abstract:**

**Objective:** The aim of this study is to evaluate the bronchiolitis consequence with the use or without use of antibiotic to validate the prevention of antibiotic.

**Methodology:** This research work was conducted in Services Hospital Lahore and the duration of this research work was from July 2018 to December 2018. Children having less than 2 year of age who got admission in the hospital because of bronchiolitis were the part of this study. The division of the patients carried out into three groups; one group with no antibiotic, second group with oral antibiotic & 3<sup>rd</sup> group with parenteral antibiotic. The follow up of the available symptoms carried out 3 times in a day to find out the disease progress. The improvement level was describing the outcome of treatment.

**Results:** Total 75 children suffering from bronchiolitis were the part of this study. Majority of the patients (80.0%) were of less than 6 month of age. Bronchiolitis has an association with the same disorder in the siblings (46.70%), defiance to feeding from breasts (38.30%) & past history of the asthma in family (36.70%). The signs as difficulty in sleeping & impatience developed little earlier in the group of no antibiotic. The signs as chest in drawing & hepatomegaly recovered fast in the group of parental antibiotic but the disparity was not significant. We found the patchy opacities 45.0% patients diagnosed with the help of X-ray of chest. No study patient met death but special intervention was the requirement in 3 patients. The stay at the hospital was very less in the group of no antibiotic ( $6.20 \pm 1.40$ ) as compared to the group of oral antibiotic ( $6.70 \pm 1.10$ ).

**Conclusion:** The most effective treatment against bronchiolitis is general supportive treatment & antibiotic has no impact on the complications of this disease.

**KEY WORDS:** Bronchiolitis Antibiotic, Treatment, Symptoms, Respiration, Bronchospasm, Infection.

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**INTRODUCTION:**

Bronchiolitis is the infection of the lower tract of respiration because of the viruses in children of less than 2 year of age. Characterization of these diseases carried from inflammation, necrosis, edemas, high formation of the mucus & bronchospasm [1]. The very frequent appearance of this disease is cough & distress in respiration followed by coryza & the medical results are tachypnea, retraction of chest, crepitation & rhonci [2]. There is an estimation that 120000 children were getting treatment in the hospitals for bronchiolitis every year in USA [3]. The occurrence of this disease was very high at the time of winter season and in the start of spring & this rate of occurrence reaches at zero value in the end of summer & autumn seasons. In most of the children suffering from bronchiolitis, this complication is not severe but from 4% to 5% patients needed hospital admissions and among them, the failure of the respiratory system develops in 5 to 7 percent patients & 1% patients meet their deaths [4]. RSV is responsible for 40.0% patients of bronchiolitis & influenza & adenovirus are the other viruses [5]. Some of the treatments of bronchiolitis are bronchodilator, clearance of the nasal cavity and ribavirin [6]. Different research works have displayed the various treatment methods for the treatment of this disease in Netherland, USA & Canada [7]. In 2002, in Bangladesh 50.0% patients were available for antibody of RSV & discovered that use of antibiotics was very common in all the patients [8]. Kupperman displayed in his work that no patient among one hundred and fifty-six patients of this disease found with [9]. Levine stated that there is a requirement of antibiotic where there is a suspicion of pneumonia due to bacteria [10]. The improper utilization of the antibiotic promotes the advancement of the resistant organisms according to various case works.

**METHODOLOGY:**

This research work was conducted in Services Hospital Lahore and the duration of this research work was from July 2018 to December 2018. All the children with less than 2 year of age who were getting

treatment of bronchiolitis in hospital were the art of this case study.

The standards of inclusion the participants were:

1. Children with < 2 year of age,
2. Patients with indrawing in lower chest,
3. Patients with high production of mucus
4. Patient did not get any treatment.

The standard of the exclusion was:

1. Children available with atopic conditions
2. Patients suffering from any heart diseases
3. Patients present with immune deficiency.

Total 75 children were the part of this research work. The name of the group was available on the cards of every patient. There were twenty-five children in every group. The patients of the no antibiotic group were forming the control group. The filling of special designed questionnaire carried out after collecting detail description and checkup of every child. The provision of the supportive treatment made to every patient according to the standard treatment for the administration of the bronchiolitis. Every patient provided with the o and nebulization & followed up 3 times in one day by our specialists. The exclusion of the children with life threatening condition from this research work carried out for further investigations. The improvement for the monitoring of every patient was under monitoring during treatment. The ethical committee of the hospital gave his approval for this case study. The parents of the children gave their consent for the participation of their children. SPSS statistical software was in use for the analysis of the information.

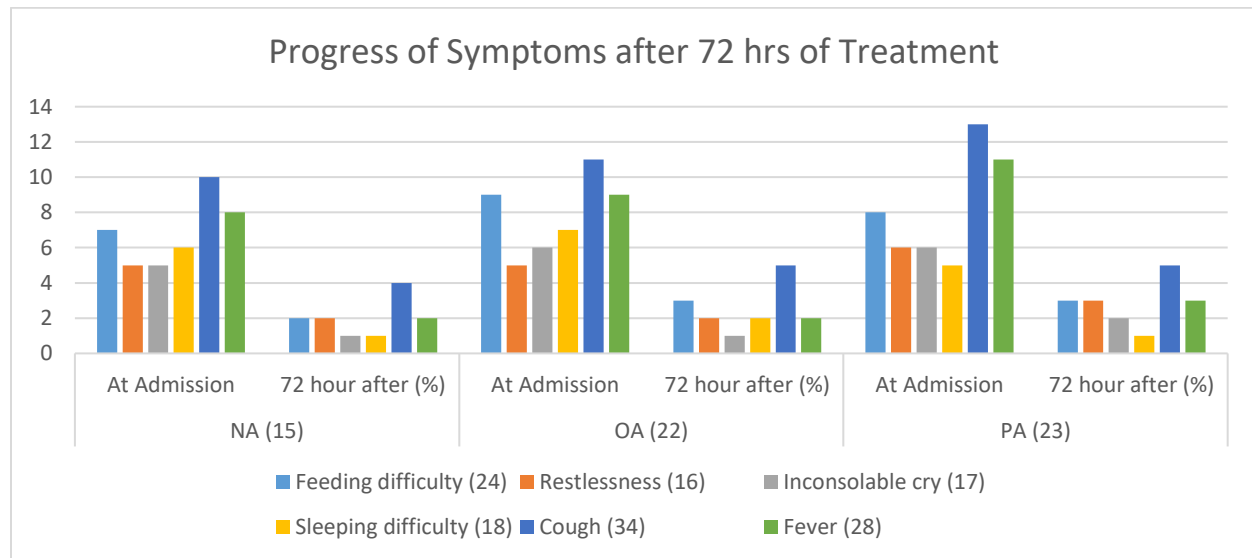
**RESULTS:**

Majority of patients (80.0%) were having the age of less than 6 months. Male patients were larger in quantity as compared to the female patients. The evaluation of the cause factors among every child carried out. Total 46.70% children found with bronchiolitis in the sibs. Nonfulfillment to feeding through breasts (38.30%) & family background of asthma (36.70%) were available the important factors of risks. Cough & high temperature were the most common symptoms of this infection (Table-1).

**Table-I: Progress of Symptoms After 72 Hours of Treatment**

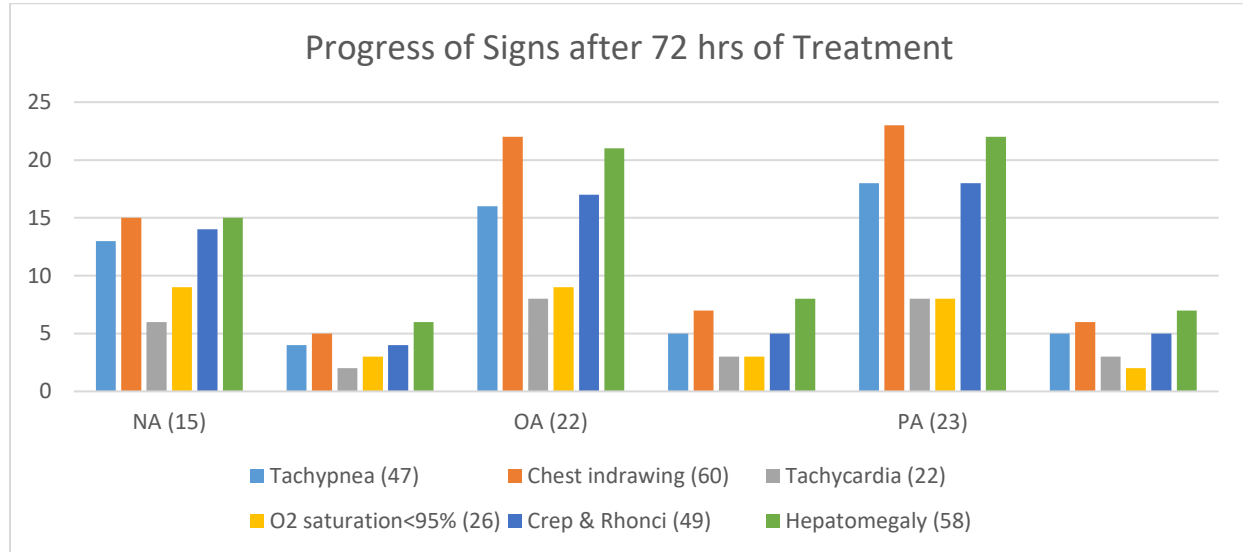
Symptoms (No. of patients)	NA (15)		OA (22)		PA (23)	
	At Admission	72 hour after (%)	At Admission	72 hour after (%)	At Admission	72 hour after (%)
Feeding difficulty	7.0	2 (28.60)	9.0	3 (33.30)	8.0	3 (33.30)
Restlessness (16)	5.0	2 (40.00)	5.0	2 (40.00)	6.0	3 (50.00)
Inconsolable cry (17)	5.0	1 (20.00)	6.0	1 (16.70)	6.0	2 (33.30)
Sleeping difficulty	6.0	1 (16.70)	7.0	2 (28.60)	5.0	1(20.00)
Cough (34)	10.0	4 (40.00)	11.0	5 (45.50)	13.0	5 (38.40)
Fever (28)	8.0	2 (25.00)	9.0	2 (22.20)	11.0	3 (27.30)

(NA-No Antibiotic, OA-Oral Antibiotic, PA-Parenteral Antibiotic)

**Table-II: Progress of Signs After 72 Hours of Treatment**

Signs (No. of patients)	NA (15)		OA (22)		PA (23)	
	At Admission	72 hour after (%)	At Admission	72 hour after (%)	At Admission	72 hour after (%)
Tachypnea (47)	13.0	4 (30.80)	16.0	5 (31.30)	18.0	5 (27.80)
Chest indrawing (60)	15.0	5 (33.30)	22.0	7 (31.80)	23.0	6 (26.10)
Tachycardia (22)	6.0	2 (33.30)	8.0	3 (37.50)	8.0	3 (37.50)
O <sub>2</sub> saturation<95% (26)	9.0	3 (33.30)	9.0	3 (33.30)	8.0	2 (25.00)
Crep & Rhonci (49)	14.0	4 (28.60)	17.0	5 (29.40)	18.0	5 (27.80)
Hepatomegaly (58)	15.0	6 (40.00)	21.0	8 (38.10)	22.0	7 (31.80)

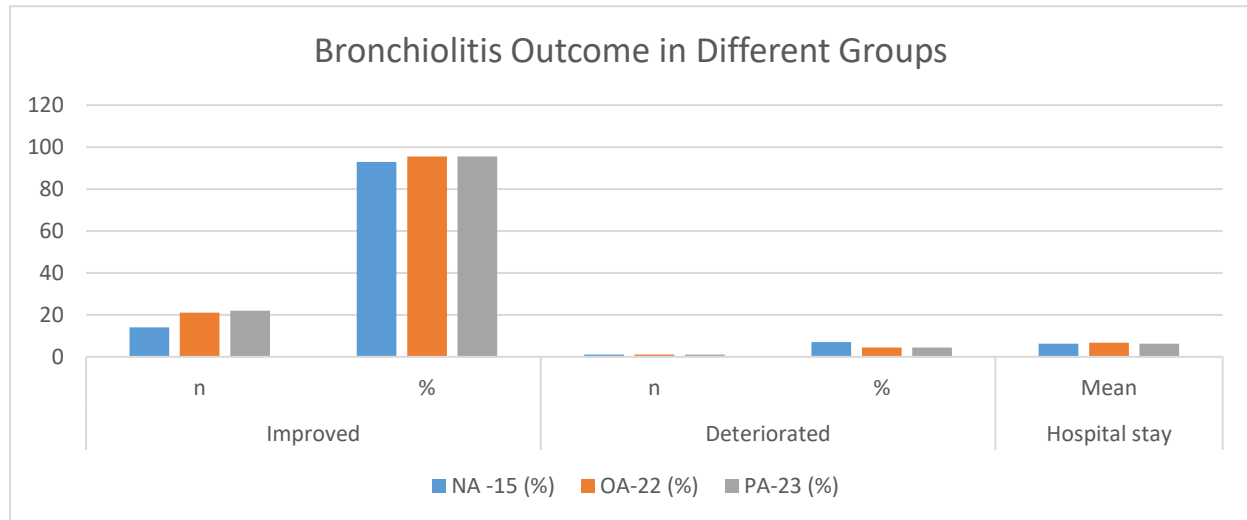
(NA-No Antibiotic, OA-Oral Antibiotic, PA-Parenteral Antibiotic)



The analysis of the improvement was under notice after three days. We noticed that difficulty in sleeping improved in the no antibiotic group. Impatience persisted in 50.0% patients in the group of PA after complete 3 days which was much bad as compared to other groups. Six other medical symptoms are available in Table-2. Indrawing of chest & hepatomegaly were the most frequent symptoms while the least frequent were the tachycardia & hypoxia. The improvement of the frequent symptoms was quick in the group of PA in comparison with the group of OA. On the day of admission, X-ray of every patient discovered the lungs hyperinflation present in every patient. Table-3 displays the results of the bronchiolitis in various groups of treatment. Improvement was present in every patient except 3 patients. It was amazing that 1 patient from each group was in need of intervention. There was no death in the treatment course. The average stay in the hospital by the patients of group of OA was  $6.70 \pm 1.10$  days and for the patients of group of NA, it was  $6.20 \pm 1.40$  days.

**Table-III: Bronchiolitis in Various Treatment Cases**

Outcome	Improved		Deteriorated		Hospital stay	
	n	%	n	%	Mean	$\pm$ SD
NA -15 (%)	14	92.9	1	7.1	6.2	$\pm$ 1.4
OA-22 (%)	21	95.5	1	4.5	6.7	$\pm$ 1.1
PA-23 (%)	22	95.5	1	4.5	6.3	$\pm$ 1.5
P value	>0.5		>0.1		>0.1	



### DISCUSSION:

In Europe & Australia, 3.0% of the new births every year got admission in the hospital due to this disease at winter season of their infant age [11]. Most of the patients had less than 6 month of age with male dominancy in this case study which is similar to many other case works [8-10]. There are some children which are available with the high risk for development of this disease. The groups of children with great risk include birth before complete pregnancy period, no feeding through breasts, bronchiolitis present in sibs, cigarette smokers in family and the history of the family with asthma [12, 13]. We found that 46.70% infected children found with the past background of the bronchiolitis in sibs & no bread feeding in 38.30%. The outcome favors that feeding through breasts keep the children away from various infections [14]. Radhi concluded that fever is the most common symptom in the start of infection [15]. Difficulty in feeding & wretched weeping was improving in all 3 groups. Mulholland described the difficulty in feeding is the severe condition of the infection [16]. The most important medical signs of this disease are tachypnea, wheezing & subcostal refutations [17]. Hepatomegaly was available in all the patients which is because of push down impact as concluded by other case works [17, 18]. Pulse oximetry was largely in use since the year of 1980 & in recent time regarded as 5<sup>th</sup> important symptom [18]. Adversative cognition & behavior consequence was available at the level of SpO<sub>2</sub> from 90% to 94% which is in favor of the utilization of the O<sub>2</sub> in current case work [19]. About 25.0% children getting treatment in hospital will have radiographic proofs of atelectasis and there is a misinterpretation of infection due to bacteria for this disorder [20]. In recent times, therapy is supportive-O<sub>2</sub> treatment,

clearance of the nasal cavity & hydration treatment [7, 21]. There were positive impacts of antibiotics on those children who were from both bacterial infection as well as bronchiolitis [22]. There was a deficiency of the comparison of the factors of risk with the members of control group as well as short sample size which are the limitations of this case work.

### CONCLUSION:

The most effective treatments for the medical betterment of the patients of bronchiolitis are supportive therapy. The use of antibiotic has no impact on the complications of this disease.

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