

# Drug profile activities for module 2

[Health & Medicine](#)



**ASSIGN  
BUSTER**

## Drug Profile Activities for Module 2 Drug Profile Activities for Module 2

Comparing Levosalbutamol and Racemic Salbutamol in the treatment of acute exacerbation asthma

(Punj, A., Prakash A., and Bhasin A. 2009. Levosalbutamol Vs Racemic Salbutamol in

Treatment of Acute Exacerbation of Asthma, Randomized Double blind clinical study. Indian Journal for Pediatrics. Vol. 76(11), pp. 1131-1135.)

Type of Study: randomized double blind clinical study.

Comparable agent: racemic salbutamol.

Sample size: 60 children suffering from exacerbation asthma.

Measures of effectiveness: levosalbutamol appears to be more effectual.

Than racemic salbutamol in terms of improving PEFr, SPO<sub>2</sub> and asthma score. In the racemic salbutamol, deleterious effect of tachycardia and a drop in serum K levels was observed (Pierce, Allen and Campbell, 1979; p. 46).

Overall indication: the clinical characteristics were noted prior and after administering three nebulizations at an interval of 20 minutes in exactly an hour of presentation viz-respiratory rate, heart rate, oxygen saturation in room air SPO<sub>2</sub>, PEFr, serum K<sup>+</sup> levels and the asthma score (Punj et al, 2009: p. 1131). The group 1 patients who received levosalbutamol presented an increment in SPO<sub>2</sub> and PEFr values with the drop in tachycardia and asthma score. No difference was seen in both pre and post treatment HR and serum K<sup>+</sup> levels. Group 2 patients who received racemic salbutamol recorded clinical improvements in terms of SPO<sub>2</sub> and PEFr, RR and asthma score, a decrease in tachycardia and serum K<sup>+</sup> levels was noted (Punj et al, 2009: p. 1132).

<https://assignbuster.com/drug-profile-activities-for-module-2/>

Critique: salbutamol is described as an efficient medicine in the management of acute exacerbation; however, the drug has its side effects and the search for a better drug is being conducted. Many as being inert during the treatment of acute exacerbation considered the racemic salbutamol (Punj et al, 2009: p. 1135). From the study, it is evident that the drug does possess some deleterious effect, and it is recommended for treatment of acute, severe asthma.

## 2. Role of Beta 2 Agonist in Acute Respiratory Defects

(McCauley, D. F., and Matthay, M. A. 2009. A Role of B2 Agonist in ARDS. Jcs Journal. Vol 10(3), pp. 172-173.)

Type of Study: Randomized, double blind placebo controlled phase 2 study.

Comparable Agent: Placebo.

Sample Size: 279 Patients.

Measures of Effectiveness: the continuous treatment of intravenous infusion of salbutamol in adult patients with ARDS for seven days improved surrogate, clinical outcomes, which include lung water and respiratory compliance (McCauley, and Matthay, 2009: p. 172). Overall Indication: this study prompted a phase 3 study investigating the effects of B2 agonists on ALI/ARD. Although effective in the initial study, the researchers concluded there was no difference compared to the main clinical outcomes. The study showed that the less severely ill patients with ALI did not benefit that much from salbutamol (McCauley, and Matthay, 2009: p. 173).

Critique: The study proved that the failure to administer salbutamol via the inhaled route could be the reason why the previous failure in the drug therapies studies (McCauley, and Matthay, 2009: p. 173). The study of Salbutamol on patients with ALI/ARDS was stopped based on ineffectuality

<https://assignbuster.com/drug-profile-activities-for-module-2/>

since a large number of patients were enrolled.

### 3. Intravenous Injection of Salbutamol in Asthma.

(Spiro, S. G., Johnson, A. J., May, C. S., and Paterson, J. W. 1975. Effect of Intravenous

Injection of Salbutamol in Asthma. Br. J. Clin. Pharma Journal. Vol. 2, pp. 495-501.)

Type of study: randomized double blind study

Comparative agent: aerosol Salbutamol

Sample size: 10 asthmatic patients

Measure of effectiveness: the study proved that Salbutamol is a highly useful addition for treatment of acute asthma through intravenous injection (Spiro et al, 1975: p. 496).

Overall indication: When the i. v Salbutamol was injected intravenously, there were palpitations, postural hypotension tremor over one minute.

However, this did not happen upon administration of aerosol salbutamol.

Nevertheless, there was no significant difference in bronchodilatation when the same dose of i. v Salbutamol or aerosol Salbutamol was administered intravenously (Spiro et al, 1975: p. 497).

Critique: From the study, the salbutamol has its side effects. For instance, when salbutamol was administered to patients in the study, the heart rate increased from 90 to 180 beats per minute leading to a reduction in blood pressure to 100/40 mmHg per minute (Spiro et al, 1975: p. 496). Thus, it is highly dangerous to conduct a study of this nature on patients.

### 4. The bronchodilator effects of Clemastine, ipratropium bromide, and salbutamol.

(Groggins, R. C., Milner, A. D., and Stokes, G. M. 1981. Bronchodilator effects

<https://assignbuster.com/drug-profile-activities-for-module-2/>

of

Clemastine, ipratropium bromide, and salbutamol in preschool children with asthma. Archives of Disease in Childhood. Vol. 56, pp. 342-344.)

Type of study: placebo controlled clinical trial

Comparative agent: ipratropium bromide and Clemastine,

Sample size: 14 asthmatic children aged between 3 to 5 years

Measure of effectiveness: ipratropium bromide a level of bronchodilatation similar to that of Salbutamol. However, Clemastine bronchodilator activity was much better than that of the placebo (Groggins et al, 1981: p. 343).

Overall indication: Although the response of ipratropium bromide after inhalation was quite slow, it improved lung function. Moreover, after the second inhalation with Salbutamol, there was an additional improvement, which showed that ipratropium bromide has a significant role in managing asthma in preschool children when combined with beta 2 adrenergic stimulants (Groggins et al, 1981: p. 344). The study proved that anticholinergic drugs were highly effective in reduce bronchoconstriction, in children under 5 years of age (Groggins et al, 1981: p. 345). However, treatment with Clemastine was quite disappointing because it did not appear to be better than the placebo.

Critique: Earlier in the study, researchers discovered that another antihistamine i. e. chlorpheniramine can also be used by asthmatic children (Groggins et al, 1981: p. 344). However, this study did not determine what age antihistamines work; hence, further research is required.

In conclusion, the four studies proved that Salbutamol is an effective drug in the treatment of asthma, and reducing bronchoconstriction. It is even more effective when combined with other drugs such as ipratropium bromide and <https://assignbuster.com/drug-profile-activities-for-module-2/>

Clemastine, but it can also be used alone (Timmis, Strak and Chamberlain, 1979: p. 1103). Moreover, Phillips et al (1980: p. 483) argues that Salbutamol can also be combined with Rimiterol for the intervention of muscular and cardiovascular-related problems.

### Bibliography

Groggins, R. C., Milner, A. D., and Stokes, G. M. 1981. Bronchodilator effects of

Clemastine, ipratropium bromide, and salbutamol in preschool children with asthma. *Archives of Disease in Childhood*. Vol. 56, pp. 342-344

Junejo, N. Mumtaz, F. and Unar, B. 2008. Comparison of Salbutamol and Nifedipine as a

Tocolytic Agent in the Treatment of Preterm Labour. Original article, pp. 115-119.

Lenney, W. and Milner A. 1978. At what age do bronchodilator drugs work? *Arch Dis Child*.

Vol. 53, pp. 532-535.

Mccauley, D. F., and Matthay, M. A. 2009. A Role of B2 Agonist in ARDS. *Jics Journal*. Vol 10(3), pp. 172-173.

Phillips, P., Vedig, A., Jones, P., Chapman, M., Collins, M., Edwards, J. Smeaton, T., and

Duncan, B. 1980. Metabolic and Cardiovascular Side Effects of The F2-Adrenoceptor Agonists Salbutamol And Rimiterol. *Br. J. clin. Pharmac.* Vol. 9. 483-491.

Pierce, R., Allen, C., and Campbell, A. 1979. A comparative study of atropine methonitrate,

<https://assignbuster.com/drug-profile-activities-for-module-2/>

salbutamol, and their combination in airways obstruction. *Thorax*. Vol. 34, pp. 45-50.

Punj A., Prakash A., and Bhasin A. 2009. Levosalbutamol Vs Racemic Salbutamol in The

Treatment of Acute Exacerbation of Asthma, Randomized Double blind clinical study. *Indian Journal for Pediatrics*. Vol. 76(11), pp. 1131-1135

Spiro, S. G., Johnson, A. J., May, C. S., and Paterson, J. W. 1975. Effect of Intravenous

Injection of Salbutamol in Asthma. *Br. J. Clin. Pharmacol*. Vol. 2, pp. 495-501.

Timmis, A., Strak, S. and Chamberlain, D. 1979. Haemodynamic effects of salbutamol in

patients with acute myocardial infarction and severe left ventricular dysfunction. *British Medical Journal*. Vol. 2, pp. 1101-1103.