



International Journal of Homoeopathic Sciences

E-ISSN: 2616-4493

P-ISSN: 2616-4485

www.homoeopathicjournal.com

IJHS 2023; 7(3): 225-229

Received: 07-06-2023

Accepted: 08-07-2023

Dr. Sarika ES

Assistant Professor,
Department of Pathology and
Microbiology, Government
Homoeopathic Medical
College, Thiruvananthapuram,
Kerala, India

A comparative study to determine the efficacy of 50 millesimal and centesimal scale potencies in the management of acute bronchitis in paediatric age group

Dr. Sarika ES

DOI: <https://doi.org/10.33545/26164485.2023.v7.i3d.914>

Abstract

Aim: This study was aimed to determine which scale (centesimal or 50 millesimal) is more effective in the management of acute bronchitis in the age group of 1 to 15 yrs and also to assess the efficacy of different potencies in two scales.

Methodology: The selection of 60 cases of 1 to 15 yrs of age group suffering from acute bronchitis from the outpatient / inpatient and rural centers of Sarada Krishna HMC. The patients were included into 2 groups, each with 30 patients. For group-I, indicated medicines were administered in centesimal (30, 200, 1M.....) potencies. For group-II, indicated medicines were administered in 50 millesimal (0/3, 0/6, 0/9, 0/12) potencies. The cases were confirmed based on clinical symptoms and followed up for 3 weeks. Observation score before treatment were compared with the scores of after treatment and to find out the effectiveness of both centesimal scale potency and fifty millesimal scale potencies, paired t test was done separately and for comparison between centesimal potency and fifty millesimal scale potencies unpaired 't' test was applied.

Result: Among 30 cases in centesimal scale potencies, 13 (43%) patients with marked improvement; 16 (54%) with moderate improvement and 1 (3%) had mild improvement. In the 30 cases with 50 millesimal scale potencies, 2 (6.67%) patients had marked improvement; 15 (50%) with moderate improvement and 13 (43%) with mild improvement. In analysis, the calculated t value (9.36) is greater than the tabled t value (2.048) at 5% level of significance with n-2 degrees of freedom, which suggests that the test is significant statistically. This shows that centesimal scale potencies was found to be more effective than 50 millesimal scale potencies in the management of acute bronchitis in this age group of 1 to 15 yrs.

Keywords: Acute bronchitis, fifty millesimal scale, centesimal scale

Introduction

Infections of the respiratory system are perhaps the most common suffering of pediatric age group. Lower respiratory infections account for around 10% of the world-wide pediatric morbidity and mortality. Among lower respiratory infections, acute bronchitis occupies 40%, which ranks the top. Infants, young children and elderly persons having more risk for acute bronchitis than other age group people^[20].

Acute bronchitis is mainly viral in origin, and being cough as the most important feature. Bronchitis means the inflammation of larger airway, which follows after a viral upper respiratory infection. It is more seen in the winter when respiratory viral complaints occurs^[18]. It is considered as a self-limiting illness. The entire illness lasts for nearly 2 weeks and sometimes more than 3 weeks. Early diagnosis of bronchitis is important for early treatment and recovery^[19]. If untreated, the condition is likely to lead to damaged airways, and can progress to pneumonia and chronic bronchitis and may be a precursor to bronchiectasis^[17].

The occurrence of acute bronchitis is day by day increasing and treating with antibiotics deteriorates the immune system and the child tends to become less immune to other forms of infections, which increase morbidity and mortality.

Homoeopathy having more efficacy in managing bronchitis due to its individualistic approach to treat the diseased with dynamically potentised medicines according to symptom similarity. There are no specifics for acute bronchitis. According to totality of symptoms various medicines act as remedy for acute bronchitis. The most similar remedy, however, does not become the simillimum until the selection of proper potency.

Corresponding Author:

Dr. Sarika ES

Assistant Professor,
Department of Pathology and
Microbiology, Government
Homoeopathic Medical
College, Thiruvananthapuram,
Kerala, India

Selection of the exact potency is a debated question. Master Hahnemann says “it is just as impossible as to tabulate in advance all imaginable cases; pure experiment, careful observation of the sensitiveness of each patient and accurate experience can alone help to select potency in each individual case.”

There is a definite qualitative as well as a quantitative difference between the two potency scales. Their similarities and differences become more apparent on the constitutions, sensitivities, and conditions for which they are most suitable. Every homoeopath has its own understanding according to results he achieved in individual cases and experience. So the potency problem has become a subject of controversy and a headache to the aspiring students. So research in this line may help to overcome certain obstacles which we face at present. This research study aims to find out the usefulness of homoeopathic medicines in acute bronchitis, also the study has been taken up to find a probable solution to one of the potency problem, that is, which scale potencies, centesimal or 50 millesimal can be used with better effect compare to the other.

Aims and Objectives

1. To compare the effectiveness of centesimal scale & fifty millesimal scale potencies in the management of acute bronchitis in children.
2. To assess different potencies used in two scales.
3. To evolve a group of suitable homoeopathic medicines used for the treatment of acute bronchitis in paediatric age group.

Materials and Methods

Sources of data

A sample of 60 pediatric cases of acute bronchitis patients attending the outpatient, inpatient department and peripheral centres of Sarada Krishna H M C Hospital.

Method of data collection

Sample-Size: Two groups (centesimal, 50 millesimal), each with thirty cases.

Sampling method: Random, Sampling

Design of study: Two group experimental study design

Categorization: The patients were included into two groups randomly, For Group I - medicines were administered in centesimal (30,200, & 1M.) potencies for 30 patients.; Group II - Indicated medicines were administered in 50 millesimal (0/3, 0/6, 0/9, 0/12.....) potencies for 30 patients.

Methodology

The data by random sampling technique was collected as per the criteria and processed in a standard case record format. Thereafter analysis of cases and totality was done. Medicines were prescribed based on the totality of each individual case. The selection of potency and the dose repetition were done based on the demand of each case. Follow up was planned for three weeks. During follow up, each individual case was evaluated according to the scoring criteria, which included the level of intensity of the symptoms before and after treatment of each case and the time taken for cure.

Inclusion criteria: Patients of paediatric age group – 1 - 15 years; Both sexes

Exclusion criteria

Patients below 1 yr and above 15 yrs of age; those patients suffering from other respiratory diseases; Patients suffering from other severe systemic illness and under medication.

Assessment of effectiveness

Effectiveness of the treatment was evaluated on the basis of the decrease in the severity of symptoms or disappearance of the symptoms when the patient came for the follow up. These cases were followed for a time period of three weeks. To find out the efficacy of each scales of potency, score before treatment was compared with score after treatment and unpaired t test was used for the comparison between the effectiveness of centesimal and 50 millesimal potency and observations were made and final results were generated.

Statistical analysis for comparison between centesimal and 50 millesimal scale potencies

Table 1: Statistical analysis for centesimal and 50 millesimal scale potencies

Group I (CM Potency)			Group II (LM Potency)		
SL. No.	Before score	After Score	SL. No.	Before score	After Score
1.	7	1	1	8	1
2	8	0	2	9	2
3	9	2	3	9	3
4	9	1	4	10	4
5	7	0	5	8	2
6	7	1	6	9	4
7	9	3	7	9	2
8	8	0	8	8	3
9	7	0	9	10	4
10	9	1	10	10	3
11	7	0	11	9	4
12	9	2	12	8	2
13	9	1	13	8	3
14	6	0	14	9	4
15	8	1	15	8	0
16	6	0	16	10	4
17	7	1	17	9	3
18	7	1	18	8	4
19	7	0	19	8	0
20	8	1	20	10	4
21	9	2	21	9	3
22	9	1	22	10	4
23	7	0	23	10	3
24	7	1	24	9	4
25	6	0	25	9	3
26	6	0	26	9	4
27	8	1	27	10	4
28	7	0	28	9	3
29	8	0	29	10	4
30	7	1	30	9	4
Critical ratio, t = 49.07			Critical ratio, $t = 35.12$		

The test statistics is independent two sample t test: unpaired t test = 9.36

t-test:- Two-sample assuming unequal variances

Table 2: t-Test: Two-Sample Assuming Unequal Variances

	CM	LM
Mean	0.733333	3.066667
Variance	0.616092	1.374713
Observations	30	30
Mean Difference	0	
Df	51	
t stat	-9.05781	
one-tail P (T<=t)	1.68E-12	
one-tail t critical value	1.675285	
two-tail P(T<=t)	3.37E-12	
two-tail t critical value	2.007584	

Here the calculated t value (9.36) is more than the tabled t value (2.048) at 5% level of significance with n-2 df. So the null hypothesis has to be rejected.

Inference

This study indicates significant decrease in the disease intensity scores after treating with homoeopathic medicines in centesimal scale potencies than 50 millesimal scale potencies. Therefore, centesimal scale potencies are more effective than 50 millesimal scale potencies in the management of acute bronchitis in paediatric age group (mean value of group 1 is less than group 2).

Discussion

Age: Out of 60 cases, the numbers of patients in the age of 1-4yrs were 22 (36.67%), 5-9yrs were 24 (40%), and 10-15yrs were 14 (23.33%). In my study it was found out that the age group below 9 yrs was more prone to get acute bronchitis. It can be correlated with existing data that acute bronchitis is more commonly diagnosed among children under age 5 than any other age group [15].

Precipitating Factors: The major precipitating factor was from cold exposure 36.67% (22) followed by drenching in rain 21.67% (13) and cold drinks with 13.33% (8). Other major precipitating factors reported were cold bathing 10% (6); head sweating and ice cream 8.33% (5) each and climatic change with 1.67% (1). So it can be concluded that there could be numerous precipitating factors to cause acute bronchitis. In my study drenching in rain was the major disposing factor for acute bronchitis. Medical review says that acute bronchitis can occur anytime from any cause but occurs more frequent during the month of winter [16].

Medicine: Here in this study, 13 remedies were used for managing Acute bronchitis, out of that Arsenicum album was given to large number of patients 35% (21) which is followed by Pulsatilla 16.67% (10), Rhus tox to 6 cases (10%), Ant tart to 5 cases (8.33%), Bryonia to 4 case (6.67%), Kali carb to 3 cases (5%), Hepar sulph, Ipecac, Nux vom, Silicea to 2 cases each (3.33%) and Gelsemium, Kali sulph, Spongia in 1 case each (3.33%).

Potency: In my study, in Group I, 200 potency was used frequently; in 27 (90%) cases. Next was 1M, i.e., in 2 (6.67%) cases, and by potency 30, i.e., in 1 (3.33%) case. In my study, in Group II, 0/3 potency was used frequently in 16 (56.33%) cases. Next one was 0/6, in 14 (46.67%) cases.

Time taken for response: Among the 30 cases in group I, 13 (43.33%) cases responded within 7 days duration and 17

(56.67%) cases took time to respond with the duration of 8 - 14 days. Among the 30 cases in group II, the time taken for response by 15 (50%) cases were found to be 15-22 days, 13(43.33%) cases took time to respond within 8-14 days and 2 (6.67%) cases took time to respond with less than 7 days duration. The time taken for response in the group II is significantly lower compared to the group I.

Status of improvement

In the 60 cases, 13 (43.33%) patients with marked improvement; 16 (53.34%) with moderate and 1(3.33%) had mild improvement by using medicines in centesimal scale potencies; 2 (6.67%) patients with marked improvement; 15 (50%) had moderate and 13 (43%) had mild improvement by using medicines in 50 millesimal scale potencies. Majority cases in my study having marked & moderate improvement, that concludes Homoeopathic medicines can assure better results in acute bronchitis.

Results obtained from these two scales (centesimal and 50 millesimal) were processed for reliability test through unpaired t test. On referring to the unpaired 't' test with n-2 degree of freedom, the value of 't' for probability of 0.05 is 2.048. Since the calculated t value (9.36) is greater than the tabled t value (2.048), I conclude that the null hypothesis can be rejected and the result is significant and this study shows significant decrease in the intensity scores after homoeopathic medicinal management in centesimal scale potencies than 50 millesimal scale potencies. Therefore, centesimal scale potencies are more effective than 50 millesimal scale potencies in the management of acute bronchitis in the paediatric age group.

Table 3: Distribution of cases according to Remedies

Remedies	Cases in group I	%	Cases in group II	%
Antim tart	5	16.67%	0	0%
Ars alb	4	13.33%	17	56.67%
Bryonia	3	10%	1	3.33%
Gelsemium	0	0	1	3.33%
Hepar sulph	2	6.67%	0	0
Ipecac	0	0	2	6.67%
Kali carb	2	6.67%	1	3.33%
Kali sulph	1	3.33%	0	0
Nux vom	2	6.67%	0	0
Pulsatilla	5	16.67%	5	16.67%
Rhus tox	5	16.67%	1	3.33%
Silicea	0	0	2	6.67%
Spongia	1	3.33%	0	0
Total	30	100%	30	100%

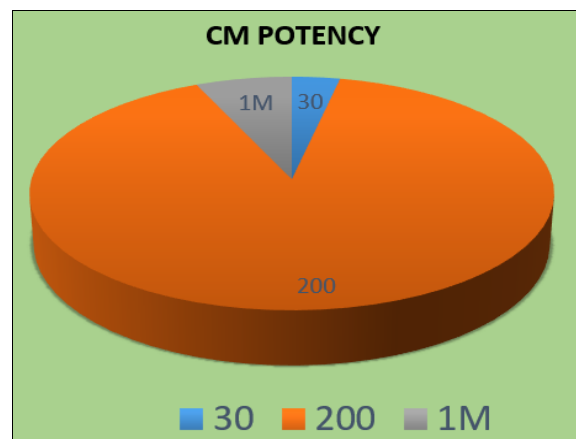


Fig 1: Distribution of cases based on CM potencies

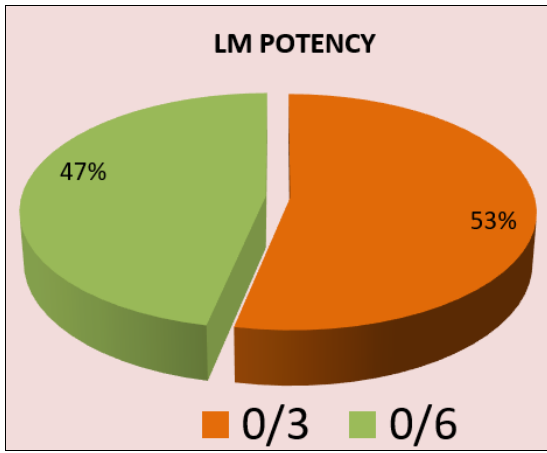


Fig 2: Distribution of cases based on LM potencies

Table 4: Comparison of status of improvement between group I and group II

Improvement status	No. of cases in group I	%	No. of cases in group II	%
Marked improvement	13	43.33%	2	6.67%
Moderate improvement	16	53.34%	15	50%
Mild improvement	1	3.33%	13	43.33%
Total	30	100%	30	100%

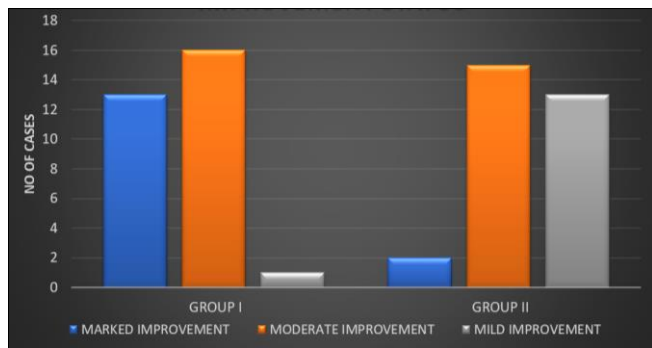


Fig 3: Distribution of cases based on improvement status

Table 5: scoring criteria for the assessment of improvement in acute bronchitis

Sl. No	Symptoms	Scoring
1	Cough	Severe 3
		Moderate 2
		Mild 1
		Absent 0
2	Expectoration	Purulent 3
		Whitish 2
		Scanty 1
		Absent 0
3	Shortness of breath	Present 1
		Absent 0
4	URTI	Present 1
		Absent 0
5	Fever	Present 1
		Absent 0
6	Associated symptoms	Present 1
		Absent 0
7	Auscultation findings	Present 1
		Absent 0

Conclusion

- The prevalence of acute bronchitis is more in males

than females.

- Majority of patients belong to age groups 5-9yrs (40%) and 1-4yrs (36.67%).
- Acute bronchitis has more preponderance to occur in urban area but my study had more patients from the rural areas.
- The precipitating factors significantly observed in cases were cold exposure and drenching in rain.
- The common complaints associated with acute bronchitis are shortness of breath and upper respiratory tract infection.
- The time taken for response in the group I is significantly lower compared to the group II.
- The medicines that are found to be more effective include Ars.alb, Pulsatilla, Rhustox, Antim.tart, Bryonia, Kali carb etc
- Most commonly used centesimal scale potencies are: 200, 1M and 30.
- Most frequently used 50 millesimal scale potencies are: 0/3 and 0/6.
- Homoeopathic medicines have efficacy in combating acute bronchitis in paediatric age group.
- The results of the study indicate that the group prescribed with centesimal scale potencies showed better results than with 50 millesimal scale potencies.

Acknowledgement

I deeply acknowledges the contribution of following persons in various stages of the work. My guide D. P.R. Sisir, Dr. Sreevidhya J.S and Dr. Bencitha, dept of Paediatrics, SKHMC.

Conflict of Interest

Not available

Financial Support

Not available

References

1. Bhasme Arun, Bhasme Meena, Bhasme Amit. Management of acute bronchitis with homoeopathic medicines - An observational study. Homoeopathic Clinical Case Recorder. 2012 Feb;19(2):12-18.
2. Boericke William. Pocket manual of Homoeopathic Material Medica and Repertory. 9th ed. New Delhi: B Jain Publishers (p) Ltd; c2011. p. 42, 59, 81, 113, 134, 259, 538, 554, 656.
3. Clinical research studies series -3, central council for research in homoeopathy, New Delhi. p.1, 2, 3 & 8.
4. Colledge Nicki R. Walker Brian R. Ralston Stuart H. Davidson’s Principles & Practice of Medicine. 21st ed. New York: Churchill Livingstone Elsevier; chapter 13, Respiratory Diseases; c2010. p. 681.
5. Karthikeyan D, Sudhir, Samaran R. The potency selection. Asian Journal of Homoeopathy. 2010;4(2):48-54.
6. Goldman Lee, Ausiello Dennis. Cecil Medicine. 23rd ed. Saunder: Elsevier; chapter 96, Respiratory diseases. 2008;1:672-674.
7. Hahnemann Samuel. Organon of medicine. 5th & 6th ed. New Delhi; B. Jain Publishers (p) Limited; c2005. p. 53,166,167,351, 361.
8. Harrison TR. Harrison’s principles of internal medicine, New York, the McGraw-Hill Companies, 16th edition.

- 2005;2:1495.
9. Hockenberry, Wilson. Wong's Nursing care of infants & children. 8th ed. Elsevier. p. 1334.
 10. Parthasarathy A. IAP Text Book Of Paediatrics.5th ed. Jaypee & Brother Medical Publisher Private Limited; Chapter-12. 2013;6:576.
 11. Zanasi Alessandro, *et al.* Homeopathic medicine for acute cough in upper respiratory tract infections and acute bronchitis: A randomized, double-blind, placebo-controlled trial. *Pulmonary Pharmacology & Therapeutics.* 2014;27(1);102-108.
 12. Lower respiratory tract infections, *Homoeopathy for all* 2012;13(3):147, 40, 41, 42.
 13. Mandal, Mandal. A Text Book of Homoeopathic pharmacy.2nded. London: New central Book Agency(p)Ltd; Different scales of preparation of drugs; c2004, p.104, 14-143.
 14. Patel RP. My Experience with 50 Millesimal scale potencies.5th ed. Kkottayam:
 15. <http://bestpractice.bmj.com/monograph/135/basics/pathophysiology.html>
 16. Nash EB. Leaders in homoeopathic therapeutics, Reprint Edition, New Delhi, B. Jain Publishers (P) Ltd; c2001.
 17. Mcintosh Neil, Helms Peter, Smyth Rosalind. Logan Stuart. Forfar & Arneil's Textbook of Paediatrics. 7th ed. Churchill Livingstone Elsevier; c2008. p. 723.
 18. Kliegman, Behrman, Jenson, Stanton, Nelson. Nelson text book of Paediatrics. 18th ed. New Delhi: Elsevier; Chapter 388, Wheezing, Bronchiolitis, and Bronchitis. 2008;2:1777.
 19. Nayak SW. A Prospective Multicentre Observational Study to evolve the usefulness of Group of Homoeopathic Medicines in the Management of Acute Tracheobronchitis. *Indian Journal of Research in Homoeopathy.* 2011;5(3):20-25.
 20. Wright Elizabeth. A Brief Study Course In Homoeopathy. Reprint ed; c2009.

How to Cite This Article

Sarika ES. A comparative study to determine the efficacy of 50 millesimal and centesimal scale potencies in the management of acute bronchitis in paediatric age group. *International Journal of Homoeopathic Sciences.* 2023;7(3):225-229

Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms