Introduction

The clinical verification in Homoeopathy is one of the important steps for confirming the symptomatology of the drug generated during the proving of the drug on healthy human beings. The clinical confirmation of signs and symptoms, observed during proving is essential for validation of symptoms of the drug and its therapeutic application.

The Council had undertaken Clinical Verification study of Mentha piperita in order to validate its symptoms and signs mentioned in the literature. A partial proving of Mentha piperita was conducted by Demeures, who took a single drop of the tincture, the effect of which lasted till third month. The remarkable symptom of the drug is cough, which is generally dry, excited by air entering larynx, reading aloud, exposure to cold and shocks of any kind. Demeures also used this drug in every case of influenza that came under his care in the winter of 1847 – 1848. He even advocates this medicine for the cough of consumptives. Hansen recommends it in bilious colic with great accumulation of gas, severe pain in herpes and as an external remedy in pruritus vulvae. Clarke J. H.2 mentions its use in dry cough, headache, hoarseness, influenza, pruritus, sore throat and weakness of voice.

In our clinical verification programme, an effort has been made to explore its therapeutic utility by way of verification of the fragmentarily available data which formed the basis of prescribing the medicine.
The Plant

*Mentha piperita* is a small herb and is cultivated in Indian gardens. Apart from India, it is distributed over Europe, Africa, North America and Japan. Its botanical name is *Mentha piperita* Linn and its synonyms are *Mentha hircine* and *Mentha officinalis*. This plant belongs to natural order *Labiatae*, and its vernacular names are –

- English – Peppermint
- French – Menthe poivree
- German – Pfefferminze

The essential oil of plant is known for its antiseptic, stimulant and carminative properties. Its monoterpene content determined by gas chromatography is 1, 8-cineole (6-14%), limonene (1-5%), menthone (14-32%), menthofuran (1-9%), isomenthone (2-10%), menthol acetate (3-5%), menthol (30-55%), pulegone (not more than 4.0%) and carvone (not more than 1.0%). The ratio of 1, 8-cineole to limonene should be greater than 2.0.

Pharmacological study of *Mentha piperita* reveals its antimicrobial activity inhibiting the growth of *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Bacillus subtilis*, *Enterococcus faecalis* and *Escherichia coli*. However, Menthe piperita did not affect the growth of *Bacillus cereus*, *Penicillium cyclopium* and *Aspergillus aegyptiacus*. The essential oil inhibited the growth of *Trichophyton equinum* and *T. rubrum* (at a concentration of 0.4 ug/ml).

Some Randomized Controlled Trials (RCT) in the past with *Mentha piperita* herbal extract reveals its effectiveness in Irritable Bowel Syndrome (IBS), Dyspepsia and as an Analgesic. In clinical pharmacology, its antispasmodic activity has been reported in IBS and dyspepsia. Its analgesic activity is indicated by its efficacy in induced muscular and mental relaxation. The clinical data shows its efficacy internally for symptomatic treatment of IBS and digestive disorders such as flatulence and gastritis and externally for the treatment of myalgia and headache. Its use described in Pharmacopoeias and traditional system of medicine indicate its efficacy for the symptomatic treatment of catarrh and coughs. Uses described in folk medicine but not supported by any experimental or clinical data indicate its ability to treat dysentery, diabetes, dysmenorrhoea, fevers, jaundice and urinary infections.

In Homoeopathy, the whole plant excluding the root is used for the preparation of mother tincture.

Methodology

Patients for the study were drawn from the OPDs of respective Institutes / Units of the Council. Their presenting symptoms and signs were recorded in the predefined case recording proforma to prescribe a medicine from the list of medicines assigned for clinical verification study. The medicine, which was found suitable for the patient on the basis of similarity was prescribed either in potency or in mother tincture and the changes in presenting symptoms and signs were recorded during the follow-up visits. If there was no change in symptoms and signs for a significant period, next higher potencies like 6c, 30c and 200c were prescribed and in case, no change was observed, even after change of potencies, the case was closed.

Study settings:

- Regional Research Institute (H), New Delhi
- Homoeopathic Drug Research Institute, Lucknow (U.P.)
- Homoeopathic Research Institute, Jaipur (Rajasthan)
- Clinical Research Unit, Jammu (J & K)
- Clinical Research Unit, Ghaziabad (U.P.)
- Clinical Verification Unit, Patna (Bihar)
- Clinical Verification Unit, Vrindaban (U.P.)

In this multicentric trial of the medicine, 6372 cases (3493 males and 2879 females) were prescribed *Mentha piperita* during the period April 1980 - March 2004. The medicine was procured from the licensed pharmacy in various potencies viz. Q, 6c, 30c and 200c.
Results

The data of all the cases were collected, compiled and analyzed. The clinically verified symptoms are given in Table-1 along with the number of patients prescribed on the basis of available symptoms and number of patients who got relieved. The symptoms superscripted with ‘1’, ‘2’ & ‘3’ are in confirmation with the literature mentioned under reference.

Table 1: Clinically verified symptoms observed during the study

<table>
<thead>
<tr>
<th>Location</th>
<th>Symptom(s)</th>
<th>Improvement Observed (% in brackets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head</td>
<td>Headache, frontal(^2,3) from one temple to other (^2,3)</td>
<td>83/ 66 (79.51%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45/ 45 (100%)</td>
</tr>
<tr>
<td>Throat</td>
<td>Throat dry and painful on swallowing(^2,3)</td>
<td>25/ 189 (73.25%)</td>
</tr>
<tr>
<td></td>
<td>Soreness of throat (^1)</td>
<td>98/ 59 (60.20%)</td>
</tr>
<tr>
<td></td>
<td>Throat painful to touch(^2,3)</td>
<td>49/ 43 (87.75%)</td>
</tr>
<tr>
<td></td>
<td>Pain in throat(^2,3)</td>
<td>1512/ 376 (73.43%)</td>
</tr>
<tr>
<td></td>
<td>agg. on swallowing(^2,3)</td>
<td>400/ 299 (74.75%)</td>
</tr>
<tr>
<td>Abdomen</td>
<td>Infantile colic with flatulence(^1)</td>
<td>48/ 31 (64.58%)</td>
</tr>
<tr>
<td></td>
<td>Flatulence with bloated abdomen (^1)</td>
<td>90/ 64 (71.11%)</td>
</tr>
<tr>
<td>Female genitalia</td>
<td>Pruritus vulvae(^1,2)</td>
<td>7/ 4 (57.14%)</td>
</tr>
<tr>
<td>Respiratory system</td>
<td>Dry cough(^1,2,3)</td>
<td>1782/ 1255 (70.42%)</td>
</tr>
<tr>
<td></td>
<td>agg. from cold air(^1,2)</td>
<td>613/ 524 (85.48%)</td>
</tr>
<tr>
<td></td>
<td>agg. from smoking(^1,2)</td>
<td>10/ 10 (100%)</td>
</tr>
<tr>
<td></td>
<td>agg. from speaking(^1,2,3)</td>
<td>407/ 296 (72.72%)</td>
</tr>
<tr>
<td></td>
<td>agg. inhaling cold air(^1,2,3)</td>
<td>87/ 58 (66.66%)</td>
</tr>
<tr>
<td></td>
<td>with irritation in suprasternal fossa(^1,2)</td>
<td>6/ 3 (50%)</td>
</tr>
<tr>
<td></td>
<td>agg. at night</td>
<td>260/ 141 (54.23%)</td>
</tr>
<tr>
<td></td>
<td>agg. in evening</td>
<td>14/ 14 (100%)</td>
</tr>
<tr>
<td></td>
<td>agg. in morning</td>
<td>73/ 28 (38.35%)</td>
</tr>
<tr>
<td></td>
<td>agg. on laughing</td>
<td>94/ 65 (69.14%)</td>
</tr>
<tr>
<td></td>
<td>agg. on lying down</td>
<td>7/ 7 (100%)</td>
</tr>
<tr>
<td></td>
<td>with lachrymation</td>
<td>2/ 2 (100%)</td>
</tr>
<tr>
<td></td>
<td>with irritation in suprasternal fossa worse at night</td>
<td>6/ 3 (50%)</td>
</tr>
<tr>
<td></td>
<td>with tickling in throat worse at night</td>
<td>639/ 551 (86.22%)</td>
</tr>
<tr>
<td></td>
<td>with irritation in throat</td>
<td>135/ 131 (97.03%)</td>
</tr>
<tr>
<td></td>
<td>Spasmodic dry cough(^2)</td>
<td>557/ 389 (69.83%)</td>
</tr>
<tr>
<td></td>
<td>agg. on talking</td>
<td>7/ 4 (57.14%)</td>
</tr>
<tr>
<td></td>
<td>with hoarseness a voice(^2)</td>
<td>22/ 3 (13.63%)</td>
</tr>
<tr>
<td></td>
<td>Cough, productive, expectoration-thick white (^2)</td>
<td>753/ 466 (61.88%)</td>
</tr>
<tr>
<td></td>
<td>agg. from cold</td>
<td>95/ 61 (64.21%)</td>
</tr>
<tr>
<td></td>
<td>agg. from change of weather</td>
<td>3/ 1 (33.33%)</td>
</tr>
<tr>
<td></td>
<td>agg. by lying down</td>
<td>1/ 1 (100%)</td>
</tr>
<tr>
<td></td>
<td>Hoarseness of voice(^2)</td>
<td>454/ 328 (72.24%)</td>
</tr>
<tr>
<td></td>
<td>Husky voice(^1,2,3)</td>
<td>384/ 233 (60.67%)</td>
</tr>
<tr>
<td></td>
<td>agg. from cold food</td>
<td>24/ 16 (66.66%)</td>
</tr>
<tr>
<td>Back</td>
<td>Pain around neck(^2,3)</td>
<td>38/ 34 (89.47%)</td>
</tr>
<tr>
<td>Skin</td>
<td>Every scratch becomes a sore(^1,2,3)</td>
<td>12/ 12 (100%)</td>
</tr>
<tr>
<td></td>
<td>Small pimpls on face (^2) with itching on left cheek</td>
<td>49/ 31 (63.26%)</td>
</tr>
<tr>
<td></td>
<td>with heat sensation</td>
<td>1/ 1 (100%)</td>
</tr>
<tr>
<td></td>
<td>Herpes zoster(^1)</td>
<td>1/ 1 (100%)</td>
</tr>
<tr>
<td></td>
<td>with intense pain agg. from touch</td>
<td>47/ 34 (72.34%)</td>
</tr>
<tr>
<td></td>
<td>with soreness of affected part after recovery</td>
<td>3/ 2 (66.66%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2/ 2 (100%)</td>
</tr>
</tbody>
</table>
Clinically verified symptoms of literature observed during the study

Following are the symptoms (Table-1) mentioned in the literature and verified clinically. These are superscripted with reference source. Moreover, during clinical verification, part of main symptom (modalities etc.) are also observed which are not mentioned in literature but relieved. These are mentioned in italics.

Table 2: Clinical symptoms

<table>
<thead>
<tr>
<th>Symptom(s)</th>
<th>Improvement Observed (% in bracket)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritability in infants</td>
<td>1/1 (100%)</td>
</tr>
<tr>
<td>Vertigo</td>
<td>45/45 (100%)</td>
</tr>
<tr>
<td>Burning pain in head with heaviness, worse in evening</td>
<td>10/6 (60%)</td>
</tr>
<tr>
<td>Pain in eyes with itching agg. from cold, better by warmth</td>
<td>5/5 (100%)</td>
</tr>
<tr>
<td>Thin watery discharge from nose</td>
<td></td>
</tr>
<tr>
<td>– with blockage of nose</td>
<td>331/209 (63.14%)</td>
</tr>
<tr>
<td>– with itching and irritation in nose and throat</td>
<td>8/1 (12.5%)</td>
</tr>
<tr>
<td>– worse from change of air</td>
<td>43/25 (58.13%)</td>
</tr>
<tr>
<td>– agg. from cold, at night and in winter</td>
<td>32/26 (81.25%)</td>
</tr>
<tr>
<td>– with redness of nostrils</td>
<td>10/10 (100%)</td>
</tr>
<tr>
<td>Throat painful, agg. on swallowing liquid</td>
<td>2/2 (100%)</td>
</tr>
<tr>
<td>Irritability in throat</td>
<td>9/5 (55.55%)</td>
</tr>
<tr>
<td>Stiffing pain in throat</td>
<td>59/28 (47.45%)</td>
</tr>
<tr>
<td>– agg. on taking cold water and on coughing</td>
<td>125/116 (92.8%)</td>
</tr>
<tr>
<td>Pharyngitis</td>
<td>44/42 (95.45%)</td>
</tr>
<tr>
<td>Hoarseness of voice, worse in morning</td>
<td>8/4 (50%)</td>
</tr>
<tr>
<td>– worse from cold</td>
<td>83/56 (67.46%)</td>
</tr>
<tr>
<td>– with sore throat</td>
<td>17/11 (64.70%)</td>
</tr>
<tr>
<td>– with cough</td>
<td>34/33 (97.05%)</td>
</tr>
<tr>
<td>Pain in epigastrium</td>
<td>84/54 (64.28%)</td>
</tr>
<tr>
<td>– agg. from cold</td>
<td>9/9 (100%)</td>
</tr>
<tr>
<td>– with distension of abdomen</td>
<td>40/23 (57.5%)</td>
</tr>
<tr>
<td>– worse after eating</td>
<td>10/5 (50%)</td>
</tr>
<tr>
<td>– with flatulence</td>
<td>76/48 (63.15%)</td>
</tr>
<tr>
<td>Colicky pain in abdomen in infants, worse after eating</td>
<td>10/5 (50%)</td>
</tr>
<tr>
<td>Pain in abdomen</td>
<td>29/15 (51.72%)</td>
</tr>
<tr>
<td>Flatulence with constipation</td>
<td>15/12 (80%)</td>
</tr>
<tr>
<td>Pain in abdomen with nausea and vomiting, agg. from cold, better from warmth</td>
<td>25/25 (100%)</td>
</tr>
<tr>
<td>Constipation with unsatisfactory stool and pain in epigastrium</td>
<td>16/9 (56.25%)</td>
</tr>
<tr>
<td>Itching in anus</td>
<td>4/4 (100%)</td>
</tr>
<tr>
<td>Dry cough with suffocative feeling and frontal headache, agg. at night, on sitting and from dust</td>
<td>133/130 (97.74%)</td>
</tr>
</tbody>
</table>

Clinical symptoms

The following symptoms in Table-2, (totally new and not found in source literature) are the additional symptoms that were relieved either fully or partially. These, therefore, emerged as clinical symptoms not mentioned in the Homoeopathic Materia Medica on Mentha piperita.
The sphere of action of *Mentha piperita* is primarily on respiratory system. Its main indication is dry cough, agg. from cold air and the same symptom was verified in our study too in 85% of patients (Table-1). The other modalities mentioned for cough like agg. morning, smoking, talking, with irritation in throat and suprasternal fossa were also verified. Apart from the various modalities related to cough as mentioned above, ‘cough aggravated at night, evening, morning, laughing, lying down’ are also observed as additional modalities relating to cough during the process of clinical verification.

In the Homoeopathic Materia Medica, *Mentha piperita* is mentioned for dry cough but in this study, 466 patients suffering from cough with white expectoration were relieved in various degrees, indicating its role in productive cough (Table-1).

The medicine relieved colicky pain in abdomen with flatulence (64.58%) and in adults, flatulence with bloated abdomen (71.11%) as mentioned in
homeopathic literature\textsuperscript{1} which are thus verified. In 12 patients out of 15, constipation accompanied with flatulence was also relieved by this medicine indicating the scope of its action on intestinal complaints.

Design of study, i.e. to know the respective roles of experimental and observational studies in clinical verification, is still a topic of debate. However, this is an observational study which cannot be without bias\textsuperscript{5}.

As large number of patients participated in this study and many symptoms were observed by more than one investigator and relieved in more than 30\% of patients, thereby producing the reliability of the symptoms, especially so, when these symptoms were also observed during proving. So, it is rightly mentioned that clinical verification of drug pathogenesis is the much needed evidence based study for the homoeopathic therapy\textsuperscript{6,7}.

A medicine has many symptoms and signs. These can occur in different combinations in many clinical conditions. So it was practically difficult to carry out laboratory investigations for such a large number of patients which is a limitation of this study.

**REPERTORY**

A concise repertory of the verified symptoms, according to Jost Kunzli Von Fimmelsberg Kent’s Repertorium Generale, has been compiled for the purpose of quick reference. Rubrics / sub rubrics in italics are new rubrics, i.e., not mentioned in the above referred repertory while rubrics / sub rubrics in Roman letters are the existing rubrics of the said repertory which were reconfirmed by this study.

Physicians may include these rubrics in their personal repertories for their day to day reference in practice.

**MIND**

- **IRRITABILITY**
  - children, in

**VERTIGO**

**HEAD**

- **ERUPTION**
  - **RED**
  - **ITCHING**

- **PAIN**
  - evening
  - **heaviness in head, with**
  - Forehead, in
  - **EXTENDING temples, to**
  - **BURNING**

**EYES**

- **ITCHING**
- **PAIN**
  - **cold application, agg.**
  - warmth, amel.

**NOSE**

- **DISCHARGES**
  - **WATERY**
    - **night**
    - **change of climate, from**
    - **cold, from**
    - **itching and irritation in nose and throat, with**
    - **redness of nostrils, with**
    - **weather**

- **OBSTRUCTION**
  - discharge, with

**FACE**

- **ERUPTIONS**
  - **PIMPLES**
  - cheek, left
  - **heat sensation, with**

**THROAT**

- **DRYNESS**
- **INFLAMATION**
  - Pharynx
- **IRRITATION**
- **PAIN**
  - coughing, on
  - swallowing, on
  - liquids
  - touched, when
  - **SORE**
  - **STITCHING**

**STOMACH**

- **PAIN**
  - cold after taking
  - **distension of abdomen, with**
  - **flatulence, with**

- **THIRST**
  - chill during

**ABDOMEN**

- **ERUPTIONS**
  - **URTICARIA**
    - Hypogastrium
    - nodular
    - **morning**
    - **evening**
    - **air cold, in**
    - bathing, after
    - **scratching agg**

- **FLATULENCE**
  - flatus, with
  - **constipation, during**
PAIN
- cold, from taking and as from taking cold inspiration, during deep
- nausea, with vomiting, with warmth, amel.
- CRAMPING, infants in flatulence, with eating, after

RECTUM
- CONSTIPATION insufficient, incomplete, unsatisfactory stools pain in epigastrium, with

ITCHING

GENITALIA- FEMALE
- ITCHING

LARYNX & TRACHEA
- VOICE, hoarseness morning
cold
cough, with soreness in throat, with husky
cold food, from

RESPIRATION
- DIFFICULT air in, cold
cough, with

COUGH
- AIR, cold LYING agg.
- WEATHER, change of DRY
- morning evening night
- air, from cold lying, while talking, on irritation, suprasternal fossa, in night
- irritation in larynx tickling in larynx, from night

SPASMOMATIC
- morning with sensation of cold air inside nostrils

ITCHING

EXPECTORATION
- THICK WHITE

CHEST
- PAIN cough, during

BACK
- PAIN cervical region

EXTREMITIES
- COLDNESS, Upper Limbs
- ERUPTIONS Lower Limbs
  - Thigh urticaria nodular
  - morning evening
  - air cold, in bathing, after scratching agg

ITCHING

CHILL
- CHILLINESS evening increased thirst, with pain, with
SKIN

ERUPTIONS
HERPETIC
burning
touch agg.
RED
URTICARIA
morning
evening
air cold, in
bathing, after
nodular
scratching , after
ITCHING
ERUPTION, without
SCRATCHING agg.
followed by bleeding
dryness of skin, with
SORE
of the affected part, herpis recovery after
SORE, becomes
scratch , after
GENERALITIES
COLD, tendency to take
PAIN
SENSITIVENESS
cold weather
sour things
WEAKNESS
cough, spasmodic from

Conclusion

Results obtained evidently prove that the sphere of action of Mentha piperita was more marked on respiratory system. A number of clinical symptoms also have been relieved by the medicine which were earlier not reported anywhere and shows its wider scope of therapeutic action. Further clinical trials with suitable study design are required to validate such conditions and to enhance the usefulness of this medicine.

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