

## A COMPARATIVE CLINICAL STUDY IN THE MANAGEMENT OF TYPHOID FEVER THROUGH *SHAMANAUSHADHI*

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### ABSTRACT

Typhoid fever is an acute illness associated with fever that is most often caused by the *Salmonella typhi* bacteria. Once the bacteria is ingested it quickly multiplies within the stomach, liver or gall bladder and finally enters the blood stream causing symptoms like fever, headache etc. these cases as of 2010 caused about 190000 deaths up from 137000 in 1990 in whole world, India, Pakistan and Egypt are also known high risk area for developing this disease. A comparative clinical study comprising of 30 subjects of either sex attending OPD clinic of AMVH Hubli and presenting with clinical manifestation of *Typhoid* confirmed by Widal test were selected randomly and divided into two groups with 15 subjects in each group. Group A received *Sanjivani vati* 2 tab. bid with *Kiratadisapta Kashaya* (20 ml) twice daily after food. It was given for 21 days and follow up period was of 1 month with weekly visit. Group B received *Sudarshana Ghana Vati* 2 tab. Bid with *Patoladi Kashaya* (20 ml) twice daily after food. It was given for 21 days and follow up period was of 1 month with weekly visit. From the result obtained we can conclude that therapy with *Virechana* treatment shown significant relief ( $p < 0.001$ ) in symptoms after 21 days of treatment.

**Key words:** *Typhoid fever, Sanjivanivati, Kiratadisapta Kashaya, Sudarshana Ghana Vati,*

### INTRODUCTION

Typhoid, also known as enteric fever is a life threatening disease that is caused due to an infection by the bacterium *Salmonella ty-*

*phi*. According to the CDC (Center for Disease Control) almost 21.5 million people in developing countries contract typhoid each

year. The bacterium *Salmonella typhi* is present only in human beings and is transmitted through contaminated food or water. People with this infection carry the bacterium in their intestines and bloodstream, and those who have recovered from the disease could still have the bacterium in their system; they are known as 'carriers' of the disease. Both ill people and carriers shed *Salmonella typhi* in their stool. Infection is usually spread when food or water is handled by a person who is shedding the bacterium or if sewage water leaks into drinking water & food that is then consumed. Once the bacterium is ingested it quickly multiplies within the stomach, liver or gallbladder and finally enters the blood stream causing symptoms like fever, rashes (flat, rose-coloured spots), vomiting, loss of appetite, headaches, general fatigue. In severe cases one may suffer from intestinal perforations or internal bleeding, diarrhoea or constipation. One of the characteristic symptoms of typhoid is a 'step ladder fever'.<sup>1</sup>

Typhoid fever is treated with antibiotics. Resistance to multiple antibiotics is increasing among *Salmonella* that cause typhoid fever. Reduced susceptibility to Fluoroquinolones (e.g., ciprofloxacin) and the emergence of multidrug-resistance has complicated treatment of infections. Recently, it has been demonstrated that many human pathogenic bacteria have developed resistance against several synthetic drugs. There are several reports on antimicrobial activity of crude extracts prepared from plants that inhibit various bacterial pathogens, but a limited numbers of *in vitro* studies on herbal preparations have been published. It is need of the hour to identify antibacterial potential of herbal products

based on diseases for which no medicine or only palliative therapy is available. Hence an attempt was made to screen the antibacterial potential of herbal preparations in the control and prevention of enteric bacterial infection.

The above said Typhoid symptomatology resembles to many of the condition explained in the Ayurveda such as *Pittaulavana Sannipataja Jwara*, *Vishama Jwara* etc. as many symptoms like *Sirahgshoola*, *Antaradaha* and *Bahirdaha*, *gaurava*, *Sweda*, *Nabhiparshwapeeda*, *Vitsanga*, *Atisara*, *Antragata-raktastrava*, *gatre cha bindworakte*, are similar to that of Typhoid fever.<sup>2</sup>

#### AIMS AND OBJECTIVES:

1. To study enteric fever / Typhoid fever in modern and Ayurvedic perspective.
2. To assess the efficacy of Sanjivani Vati<sup>3</sup> with Kiratadisapta Kashaya.<sup>4</sup>
3. To assess the efficacy of Sudarshana Ghana Vati<sup>5</sup> with Patoladi Kashaya.<sup>6</sup>
4. To know the comparative effect of the above said Group A and Group B.

#### MATERIALS AND METHODS:

The following materials were used in the Clinical Trial.

1. *Sanjivani Vati*
2. *Sudarshana Ghana Vati*
3. *Kiratadisapta Kashaya*
4. *Patoladi Kashaya*

#### STUDY DESIGN: Sample size:

A minimum of 30 Subjects diagnosed as Typhoid fever were selected and randomly categorized in two groups, namely Group A and Group B each consisting of 15 Subjects.

#### SOURCE OF DATA:

Subjects attended the OPD and IPD of Post Graduate Department of Kayachikitsa, Ayurveda Mahavidyalaya and Hospital, Hubli, were taken as per the assessment criteria.

#### **METHODS OF COLLECTION OF DATA:**

- a) Subjects attending OPD and IPD of Post Graduate Department of Kayachikitsa, Ayurveda Mahavidyalaya & Hospital Hubli were made and Subjects fulfilling the criteria of diagnosis as per the proforma were selected for the study.
- b) Review of literature was collected from Post Graduate Library, Department of Kayachikitsa A.M.V.& Hospital, Hubli, and from Authentic Research Journals, Websites, Digital Publications etc.
- c) The drugs required for the clinical study were procured and prepared in the department of Rasa Shastra and Bhaishajya Kalpana, Ayurveda Mahavidyalaya, Hubli.
- d) The data which were obtained by the clinical trials were statistically analyzed by applying 't' test.

#### **INCLUSION CRITERIA:**

1. Subjects of age between 20 years to 50 year of age of either sex.
2. Subjects having history of fever with mild to moderate degree.
3. Subjects having clinical feature of Typhoid fever.
4. Subjects having Widal test positive.

#### **EXCLUSION CRITERIA:**

1. Subjects below 20 years and more than 50 years.

2. Subjects having temperature more than 101<sup>0</sup>F.
3. Subjects having fever due other cause with Widal positive.

#### **WITHDRAWAL CRITERIA:**

1. If the patients having clinical feature would aggravated into secondary infection.
2. If the patient is irregular in the decided course of treatment.

#### **Interventions:**

##### **Group-A**

- Subjects were given Sanjivani Vati with Kiratadisapta Kashaya Churna; the subjects were advised to boil 20 gms. of *Kasahya Churna* in 80 ml of water and reduce to 20 ml . They were asked to take 20 ml twice daily after food.
- Pathya Ahara and Vihara were advised to the Subjects
  - Duration: 21 days.
  - Follow up: 1 month with weekly visit.

##### **Group-B**

- Subjects were given Sudarshan Ghana Vati with Patoladi Kashaya Churna; the subjects were advised to boil 20 gms. of *Kasahya Churna* in 80 ml of water and reduce to 20 ml. They were asked to take 20 ml twice daily after food.
- Pathya Ahara and Vihara were advised to subjects.
  - Duration: 21 days.
  - Follow up: 1 month with weekly visit.

#### **ASSESSMENT CRITERIA:**

1. **Subjective parameter:** Fever, Red rashes over neck (Rose spot), Headache, Sweat-

ing, Abdominal Pain, Constipation or Diarrhea, Coated tongue ( V tongue)

2. **Objective parameter:** Widal test positive

**Gradation of Clinical feature**

1. **HEADACHE:** Severe- 3 (Uncontrolled headache), Moderate- 2 (Occasional headache), Mild- 1 (Can be tolerated without medication), Nil- 0 (No headache)
2. **FEVER:** High grade -3 (>102° F), Moderate -2 (99.6° F- 102° F), Low grade -1 (97.6° F- 99.6° F), Nil -0 (<97.6° F)
3. **COLIC PAIN:** Severe- 3 ( Continuous), Moderate- 2 ( Intermittent), Mild- 1 ( Dull ache), Nil- 0 ( No pain)
4. **CONSTIPATION:** Severe- 3 (Passing scanty stool after prolonged straining), Moderate- 2 (Passing stool on straining), Mild- 1

(Occasionally hard stool), Nil- 0 ( No constipation)

5. **DIARRHEA:** Severe-3 (Watery stool passing 4-5 times in a day), Moderate-2 (Watery stool passing 2-3 times in a day), Mild- 1 (Watery stool passing once in a day), Nil-0 (No watery stool)
6. **SWEATING:** Nil- 0 (Sweating absent), Mild-1 (Sweating at the time of fever), Moderate-2 (Continuous sweating), Severe- 3 (Profuse sweating)
7. **ROSE SPOT:** Nil- 0 (No Spot), Mild- 1 (0-5), Moderate- 2(6-15), Severe- 3(>15)
8. **Coated Tongue:** Nil- 0 (Normal), Mild-1 (Coated at middle), Moderate-2 (Partially Coated), Severe- 3 (Fully coated)
9. **WIDAL TEST:** Ratio-1:320 – 3, Ratio- 1:160 – 2, Ratio-1:80 – 1, Ratio- 1: 40 -0

**STATISTICAL ANALYSIS:**

**TABLE 1: COMPARATIVE EFFICACY OF THERAPIES:**

Showing the Comparative efficacy of the therapies in Group A and Group B by using unpaired 't' test

Sl. No.	Parameters of Assessment	No. of Pts	Group A			Group B			't'	P	Remarks
			Mean	S.D. (±)	S.E. (±)	Mean	S.D. (±)	S.E. (±)			
1	Headache	15	2.00	0.77	0.14	1.73	1.62	0.27	0.583	0.5646	NS
2	Fever	15	1.66	0.38	0.03	1.80	0.75	0.19	1.843	0.0759	NS
3	Colic pain	15	1.53	0.50	0.13	1.73	0.75	0.19	0.030	0.9763	NS
4	Constipation	15	1.06	0.71	0.19	1.67	0.71	0.18	0.137	0.8920	NS
5	Sweating	15	1.20	0.75	0.19	1.33	0.69	0.18	0.017	0.9866	NS
6	Rose spot	15	1.00	0.63	0.16	1.20	0.83	0.21	0.743	0.4637	NS
7	Coated tongue	15	2.33	0.79	0.20	2.26	0.37	0.13	0.228	0.8213	NS
8	Widal test	15	1.47	0.49	0.12	1.46	0.62	0.16	0.063	0.9502	NS

The comparative efficacy of Group A with Group B showed statistically not significant i.e. both groups shows similar relief in Typhoid patients.

**OBSERVATION AND RESULTS:**

**TABLE 2: EFFECT OF THERAPY ON HEADACHE**

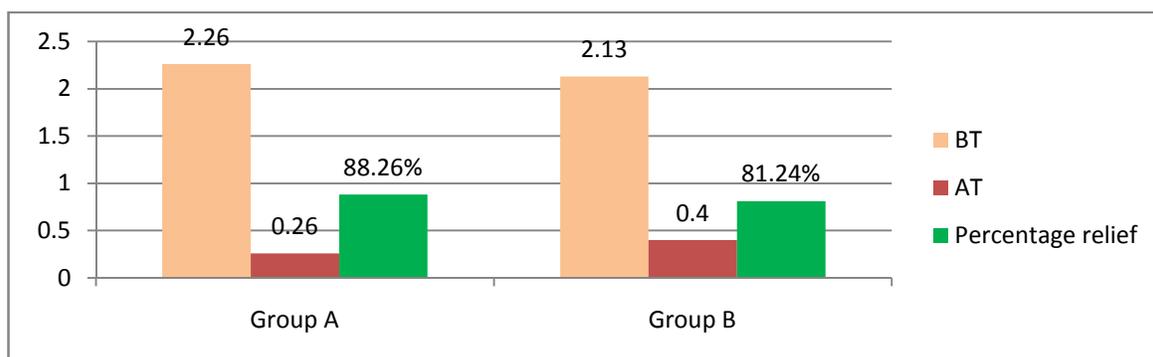
GROUPS	Mean		Difference in mean	% relief	Paired 't' test			
	BT(±SE)	AT(±SE)			S. D	S.E of mean	't'	P
Group A	2.266(0.147)	0.266(0.147)	2.00	88.26%	0.77	0.147	13.42	<0.0001
Group B	2.133(0.207)	0.400(0.184)	1.73	81.24%	1.62	0.274	6.306	<0.0001

**Effect of therapy on Headache in Group A:**

The mean Headache before treatment was 2.266 which were reduced to 0.266 after the treatment. The total effect of therapy provided statistically Highly Significant (p<0.0001) result with 't' value of 13.42.

**Effect of therapy on Headache in Group B:**

The mean Headache before treatment was 2.133 which was reduced to 0.400 after the treatment. The total effect of therapy provided statistically Highly Significant (p<0.0001) result with 't' value of 6.306.



**TABLE 3: EFFECT OF THERAPY ON FEVER:**

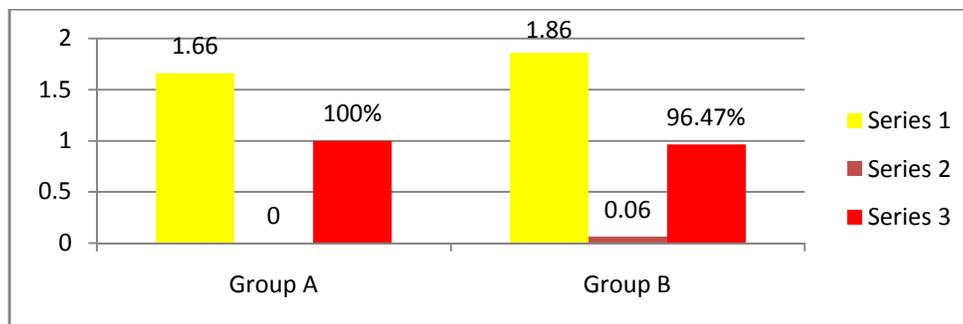
GROUPS	Mean		Difference in mean	% relief	Paired 't' test			
	BT (±SE)	AT (±SE)			S.D	S.E of mean	't'	P
Group A	1.66 (0.098)	0.00 (0.00)	1.66	100%	0.38	0.098	20.40	<0.0001
Group B	1.86 (0.159)	0.06(0.064)	1.80	96.47%	0.75	0.193	9.31	<0.0001

**Effect of therapy on Fever in Group A:**

The mean Fever before treatment was 1.66 which was reduced to 0.00 after the treatment. The total effect of therapy provided statistically Highly Significant (p<0.0001) result with 't' value of 20.40.

**Effect of therapy on Fever in Group B:**

The mean Fever before treatment was 1.86 which was reduced to 0.06 after the treatment. The total effect of therapy provided statistically Highly Significant (p<0.0001) result with 't' value of 9.31.



**TABLE 4:** EFFECT OF THERAPY ON COLIC PAIN:

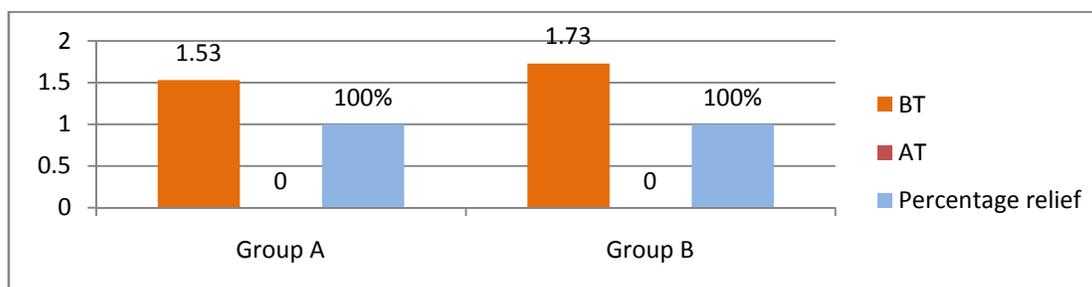
GROUPS	Mean		Difference in mean	% relief	Paired 't' test			
	BT (±SE)	AT (±SE)			S.D	S.E of mean	't'	P
Group A	1.53 (.0.129)	0.00 (0.00)	1.53	100%	0.50	0.13	11.63	<0.0001
Group B	1.73 (0.193)	0.00 (0.00)	1.73	100%	0.75	0.19	8.96	<0.0001

**Effect of therapy on Colic Pain in Group A:**

The mean Colic Pain before treatment was 1.53 which was reduced to 0.00 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 11.63.

**Effect of therapy on Colic Pain in Group B:**

The mean Colic Pain before treatment was 1.73 which was reduced to 0.00 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 8.96.



**TABLE 5:** EFFECT OF THERAPY ON CONSTIPATION:

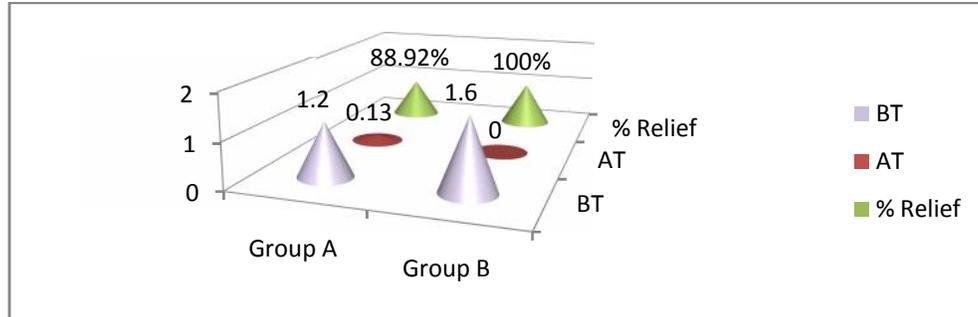
GROUPS	Mean		Difference in mean	% relief	Paired 't' test			
	BT (±SE)	AT (±SE)			S.D	S.E of mean	't'	P
Group A	1.2 (0.168)	0.13 (0.087)	1.067	88.92%	0.71	0.19	6.09	<0.0001
Group B	1.6 (0.183)	0.00 (0.00)	1.6	100%	0.71	0.18	8.74	<0.0001

**Effect of therapy on Constipation in Group A:**

The mean Constipation before treatment was 1.2 which was reduced to 0.13 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 6.09.

**Effect of therapy on Constipation in Group B:**

The mean Constipation before treatment was 1.6 which was reduced to 0.00 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 8.74.



**TABLE 6: EFFECT OF THERAPY ON SWEATING**

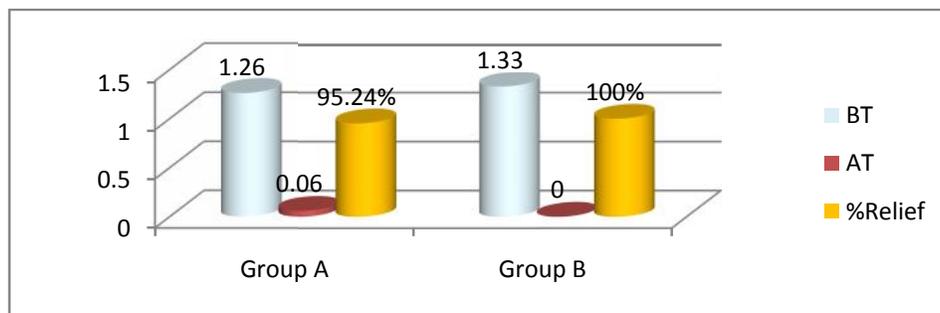
GROUPS	Mean		Difference in mean	% relief	Paired 't' test			
	BT(±SE)	AT(±SE)			S.D	S.E of mean	't'	P
Group A	1.26(0.220)	0.06(0.064)	1.2	95.24%	0.75	0.193	6.21	<0.0001
Group B	1.33(0.180)	0.00(0.00)	1.33	100%	0.69	0.18	7.36	<0.0001

**Effect of therapy on Sweating in Group A:**

The mean Sweating before treatment was 1.26 which was reduced to 0.06 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 6.21.

**Effect of therapy on Sweating in Group B:**

The mean Sweating before treatment was 1.33 which was reduced to 0.00 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 7.36.



**TABLE 7: EFFECT OF THERAPY ON ROSE SPOT:**

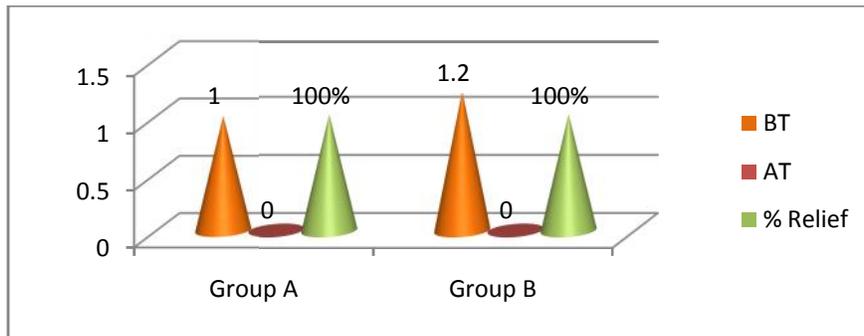
GROUPS	Mean		Difference in mean	% relief	Paired 't' test			
	BT(±SE)	AT(±SE)			S.D	S.E of mean	't'	P
Group A	1.00(0.163)	0.00(0.000)	1.00	100%	0.632	0.16	6.13	<0.0001
Group B	1.20(0.214)	0.00(0.000)	1.2	100%	0.83	0.21	5.61	<0.0001

**Effect of therapy on Rose Spot in Group A:**

The mean Rose Spot before treatment was 1.00 which was reduced to 0.00 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 6.13.

**Effect of therapy on Rose Spot in Group B:**

The mean Rose Spot before treatment was 1.20 which was reduced to 0.00 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 5.61.



**TABLE 8: EFFECT OF THERAPY ON COATED TONGUE**

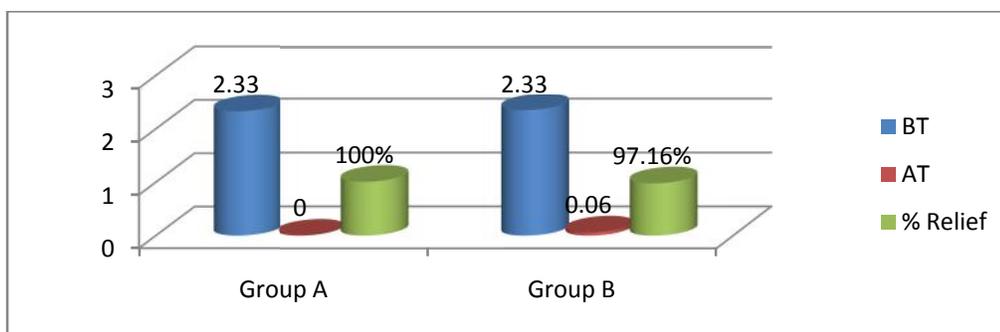
GROUPS	Mean		Difference in mean	% relief	Paired 't' test			
	BT (±SE)	AT (±SE)			S.D	S.E of mean	't'	P
Group A	2.33 (0.203)	0.00 (0.000)	2.33	100% (55)	0.79	0.20	11.44	<0.0001
Group B	2.33 (0.149)	0.06 (0.064)	2.264	97.16% (57.75)	0.57	0.15	15.27	<0.0001

**Effect of therapy on Coated Tongue in Group A:**

The mean coated tongue before treatment was 2.33 which were reduced to 0.00 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 11.44.

**Effect of therapy on Coated Tongue in Group B:**

The mean coated tongue before treatment was 2.33 which was reduced to 0.06 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 15.27.



**TABLE 9:** EFFECT OF THERAPY ON WIDAL TEST:

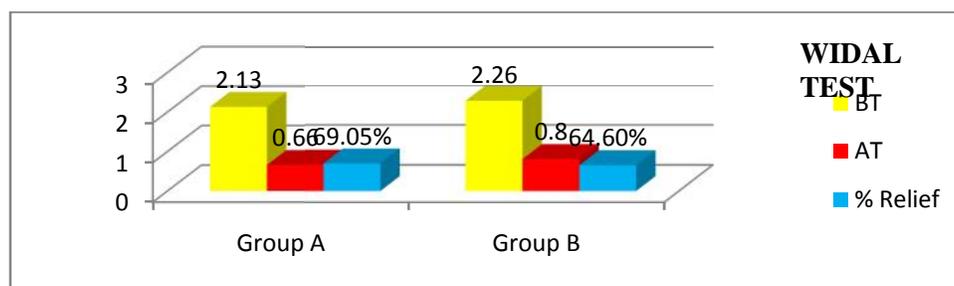
GROUPS	Mean		Difference in mean	% relief	Paired 't' test			
	BT ( $\pm$ SE)	AT ( $\pm$ SE)			S.D	S.E of mean	't'	P
Group A	2.13(0.159)	0.66(0.154)	1.473	69.05%	0.49	0.128	11.406	<0.0001
Group B	2.26(0.148)	0.80(0.139)	1.46	64.60%	0.62	0.161	9.137	<0.0001

**Effect of therapy on Widal test in Group A:**

The mean Widal test before treatment was 2.13 which were reduced to 0.66 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 11.406.

**Effect of therapy on Widal test in Group B:**

The mean Widal test before treatment was 2.26 which was reduced to 0.80 after the treatment. The total effect of therapy provided statistically Highly Significant ( $p < 0.0001$ ) result with 't' value of 9.137.



**Table 10:** Total Response of Therapy in Group A and Group B: (Comparison between Group A and Group B)

Response of Therapy	Group A		Group B	
	No. of Subjects	%	No. of Subjects	%
Marked >75%	15	100%	14	96%
Moderate 51 – 75%	0	-	1	4%
Mild 26 – 50%	0	-	0	-
No Response 0 – 25%	0	-	0	-

Out of 25 subjects in Group A, all 25 (100%) subjects showed marked response and not any subject showed Mild or No response to therapy.

Out of 25 subjects in Group B, 24 (96%) subjects showed Marked response, 1 (4%) subject showed moderate response.

## DISCUSSION

### Discussion on Review of literature

Plenty of disorders have been found referred in the ancient Vedic literature either directly naming the disease itself or by hinting the nature of disorder. Typhoid fever symptomatically resembles too many of the conditions explained in classical texts such as *Pittaulbana Sannipataja Jwara*, *Visham Jwara* etc.

The *nidanans* which are explained for *Janapadodhwansa*<sup>7</sup> (*Dooshitajala*, *Dooshitaanna*) are considered to be the main *nidaanans* of *Pittaulbana Sannipataja Jwara* which are very similar to the causative factors of Typhoid fever in modern.

As the symptoms of Typhoid fever are Fever, Headache, Abdominal disturbances, Red rashes etc. are due to the bacteria *Salmonella typhi* and *Salmonella paratyphi*. To treat the disease, we should have the drugs which are *Amapachaka*, *Shoolaprashamana*, *Tridoshahara*, *Srotoshodhaka*, *Swedajanana*, *Krimighna* and *Jwaraghna*. These properties are found in *SanjivaniVati*, *Sudarshana Ghana Vati*, *Kiratadisapta Kashaya* and *Patoladi Kashaya* which are *Katu*, *Tikta*, *Kashaya*, *Laghu*, *TeekshanaGuna* and all the above said properties.

### Discussion on Materials and Methods

#### Probable Mode of action of *SanjivaniVati*:

The term *Sanjivani* literally means -life, and the one which gives life is known as " *Sanjivani*". It contains mainly *Shunthi*, *Triphala*, *Guduchi*, *Yastimadhu*, *Bhallataka* and *Vatsanabha*. *Vatsanabha* contains Aconite which is alloyed to be a antipyretic, the reduction of temperature being due to various causes:

- 1) The slowing of the circulation, diminishing the metabolism.
- 2) The peripheral action of Aconite, causing dilatation of cutaneous blood vessels.
- 3) The depressing action of the drugs upon all muscles tissue.

The drug seems to exert a peculiarly beneficial influence on mucous membrane, all acute inflammatory condition of intestinal canal.

It is used in *Sannipata*, *Vatakaphajajwara* and *Jwaratisara*. (API 1999)<sup>8</sup>

#### Probable mode of Action of *Kiratadisapta Kashaya*

The bitterness, antihelminthic, hypoglycemic and antipyretic properties are attributed to amarogentin (most bitter compound isolated till date), *werchirin*, *swertiamarin* and other active principles of the kirattikta. The herb is an excellent drug for strengthening the stomach.

Patha is having anti-inflammatory, anti-ulcer, antidiarrhoeal, antiprotozoal, antibacterial and antioxidant property which was proved in animals.

The cytoprotective and gastric anti-ulcer studies of *Shunthi* have been carried out in albino rat which suggest that it has cytoprotective and anti-ulcerogenic effect of ginger. The studies suggested that it is antiviral, anti-diarrhoeal, anti-inflammatory, and antipyretic action.<sup>9</sup>

### Probable mode of action of *Sudarshana Ghana Vati*

*Kirata Tikta* is taken equal to all the above herbs in it. So *Chiraita* (*Swertiachirata*) is the main herb. It has capacity to even treat fever associated with symptoms as Dyspepsia, Fatigue, Diarrhoea, Headache etc. It is *Tikta-pradhan* in nature and it has been used in Ayurveda for a long time as ***Krimihara and Jwarahara***. Unlike most other medicines of this class, it does not constipate the bowels but tends to produce a mild laxative effect. It promotes the flow of bile. It balances all the three doshas (*Vata, Pitta, and Kapha*) and build strong against allergens and infections. It stimulates the liver, promotes blood detoxification and tones up the digestive system.

The ***Parpataka*** and ***Kusta*** are such herbs embedded with the *Raktadoshahara* property. Apart from these the main function which is impaired at the *Jwara* is temperature rise is a factor associated with the *Twacha*. Thus the action over *Twak* is substantiated here.

***Shunti*** is *Kapha hara, Amavatahara, Hrudrogahara, Grahi and Panduhara*. ***Guduchi*** is *Jwarahara, Mootrakruchrhara, Hrudrogahara, Tridoshahara, Deepaka, Sangrahi, Rasayana, Panduhara, Kamalahara, Charidihara and Amahara*. Out of these herbs the

common is *panduharatwatam*. The destruction of the *Rakta* leads to *pandu* in Typhoid and there by hepato-splenomegaly is appeared. To reduce organomegaly the *Guduchi* and *Shunti* are used. A *Dravya*, which is a *Yogavahi* in the composition (*Pippali*) makes the bioavailability of the drug to deep tissues faster and faster. Thus the association of the *Pippali* makes that the drug acts faster in Typhoid and by its *Rechaka* property pacifies the *Pitta*, which is a dominant *Dosha* in the pathogenesis of Typhoid. The essential oil of *Kustha* has antibacterial effect in vitro (1 in 10,000 dilution). It also has antibacterial effects against *Salmonella, Streptococci* and *Staphylococci*. *Sudarshanghanvati* helps to achieve *Tridosha* balance.<sup>10</sup>

### Probable mode of action of *Patoladi Kashaya*

It contains *Patola, Indrayava, Dhanyaka* and *Yastmadhu*. Combined rasa of drugs are *Tikta, Kashaya, Madhura and Katu* which are *Tridoshashamaka* especially *Pittashamaka*. *Rochana, Deepana, Pachana, Rechana, Krimighna, Jwaraghna, Vishaghna* property are present in all the ingredients

*Glycyrrhizaglabra* is a versatile medicine in India and China, for gastrointestinal health. It is a mild laxative, which soothes and tones the mucous membranes and relieves muscle spasms. Clinical studies have proved that the *Glycyrrhizaglabra* extracts to be more effective as well known synthetic alternatives. It is rich in flavonoids and is currently investigated as an antioxidant and certain immune functions such as interferon production. Its

mode of action is as an antispasmodic, antipyretic and anti inflammatory action.<sup>11</sup>

### Discussion on Results

The trial drugs due to their *Deepana*, *Pachan*, *Anulomana*, *Krimighna* and *Swedajanana* property increases the *jatharagni* and helped to reduce the *ama* which is the main cause for Fever. It facilitates the *Mala-pravratana* and *Swedajanana* which reduces the temperature of the body. Due to *Krimighna* property of the combination of the drugs it kills the microscopic and macroscopic *krimi* in the body which are the causative organism of the fever in Typhoid fever.

Both the groups showed almost same results which are statistically highly significant in all the subjective and objective parameters.

### CONCLUSION

- After sustained theory and systematic clinical work following conclusions are drawn.
- Typhoid, a commonly seen condition, has been explained in our classics under different headings.
- The incidence of Typhoid is found to be more in people taking food from outside.
- Majority of Typhoid patients had Headache, Fever, colic pain, constipation/diarrhea, Sweating as common complaints.
- It is found that Typhoid fever can be easily treated with the combination of *Sanjivani-Vati* with *Kirattiktadisapta Kashaya* or *Sudarshana Ghana Vati* with *Patoladi Kashaya*. The results are quiet encouraging.

- *PathyaAhara* with non spicy, non oily and use of Boiled Water helps early and better recovery.
- Looking to the results it can be said with confidence that the two combinations have special effect on Typhoid bacilli in turn early recovery from Typhoid fever.

*Ultimately the goal of Ayurveda is "SARVESANTHU NIRAMAYA"*

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**Source of Support: Nil**  
**Conflict Of Interest: None Declared**

How to cite this URL: Saurabhparauha Et Al:A Comparative Clinical Study In The Management Of Typhoid Fever Through Shamanaushadhi. International Ayurvedic Medical Journal {online} 2017 {cited April, 2017} Available from:  
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