

CLINICAL OBSERVATIONAL STUDIES OF AMLAPITTA: A REVIEW

Gayatri Devi^{*1}, Dr. Arun Kumar Tripathi² and Dr. Punita Pandey¹PG Scholar, Dept. of Kaya Chikitsa, Uttarakhand Ayurveda University, Gurukul Campus, Haridwar.²Professor and Campus Director, Dept. of Kaya Chikitsa, Uttarakhand Ayurveda University, Gurukul Campus, Haridwar.³Professor, Dept. of Kaya Chikitsa, Uttarakhand Ayurveda University, Gurukul Campus, Haridwar.***Corresponding Author: Dr. Gayatri Devi**

PG Scholar, Dept. of Kaya Chikitsa, Uttarakhand Ayurveda University, Gurukul Campus, Haridwar.

Article Received on 16/05/2022

Article Revised on 06/06/2022

Article Accepted on 26/06/2022

ABSTRACT

Great sages of *Ayurveda* envisage *Agni* as a prime factor for health. If for any reason *Agni* gets deranged food couldn't be digested properly and undigested or mal-digested food can't impart such qualities. Dietary factors such as added sugar products (bbq sauce, honey mustard), consumption of white bread, fried, grilled food, junk foods (pizzas), packed sweets, preservatives, additives and lifestyle factors, as well as mental Status of a person, have a significant effect on *Agni*. In *Ayurveda*, *Agnimandhya* is the root cause of *Amlapitta*. Maximum drugs used in this research process having *Madhura*, *Tikta rasa* which is *Pitta shamaka*, *Jathragni –Deepan*, *Pachan*, *Anulomak*, *Yakrittejaka*, and *grahi* properties.

KEYWORDS: *Pitta shamaka*, *Jathragni –Deepan*, *Pachan*, *Anulomak*, *Yakrittejaka*, and *grahi* properties.**INTRODUCTION**

Most of the people worldwide trying hard to attain more and more materialistic wealth. In this process, they have ignored the rules of healthy living. Faulty dietary habits, the craze of fast food, culture of eating out, erratic schedule, and stress are some of the major factors which invite an array of diseases; *Amlapitta* is one among such diseases.

Great sages of *Ayurveda* envisage *Agni* as a prime factor for health. *Acharya Charaka* says that food that is held responsible for the nutrition of the body as well as healthy tissue, *Oja*, *Bala varna*, etc. is dependent on *Agni*. *Agni* is the prime factor that renders food to impart these qualities. If for any reason *Agni* gets deranged food couldn't be digested properly and undigested or mal-digested food can't impart such qualities. Dietary and lifestyle factors, as well as mental Status of a person, have a significant effect on *Agni*.

Mental stress has become very common now a day. Eating habits are influenced by emotional factors. *Acharya Charak* says that if a person is suffering from some sort *chinta* (anxiety), *shok* (grief), *bhay* (fear), *krodha* (anger), then even a congenial food is taken in the right amount is not digested properly. Improperly digested food leads to the production of *Ama*. Adoption of wrong eating habits, unhealthy lifestyles, and stress is playing a major role in increasing the prevalence of *Amalapitta*.

DEFINITION

The term *Amlapitta* is derived from two words *Amla* & *Pitta*. The term *Amla* is type of *Rasa* and the word *Pitta* is suggestive of one of the *Tridoshas* and is responsible for Digestion and Metabolism inside the body. *Acharya Chakrapani* has stated that “*Amlapittam Chaiti Amlagunodriktam Pittam*” which means the qualities of *Pitta* (i.e., Sourness) is increased leading to *Amlapitta*.^[3] *Ayurvedic* texts as *Kashyap Samhita*, *Madhav Nidaan*, *Bhavprakash* differentiated *pitta* into *prakrit* and *vidagadha bheda*, *katu rasa* for *prakrit pitta* and *amla rasa* for *vikrit pitta*. And when *vidagadha pitta* is increased in the body it is said to be *Amlapitta*. *Acharya charak* has also mentioned the term *Amlapitta* in *chikitsa sthan* 15th chapter stating that *Agnimandhya* is the root cause of *Amlapitta* due to *Agnimandhyata* the food does not get properly digested.^[4] Vitiating of *agni* in *Amashaya* (stomach region) due to various reasons causes *Amlapitta*, in which the *prakrit rasa* of *pitta* i.e., *katu rasa* is transformed into *amla rasa*, as the *pitta* has *vidagadha*. Factors like fasting, eating between meals, having food in hurry/ worry and eating spicy foods, derange the *pachaka pitta* (digestive enzymes etc.) which leads to vitiating of *pachaka pitta* such developed condition is called *Amlapitta*. *Amlam vidagdham cha tatt Pittam Amlapittam* when *pitta* gets *vidagadha* there is a sour taste leading to *Amlapitta*. Due to *Agnimandhyata*, the food does not get properly digested. Vitiating of *agni* in *Amashaya* (stomach region) due to various reasons causes *Amlapitta*, in which the *prakrit rasa*

of *pitta* i.e. *katu rasa* is transformed into *amla rasa*, as the *pitta* has *vidagdha*. Factors like fasting, eating between meals, having food in a hurry/ worry, and eating spicy foods, derange the *pachaka pitta* (digestive enzymes, etc.) which leads to vitiation of *pachaka pitta*. Such a developed condition is called *Amlapitta*. **Amlam vidagdham cha tatt Pittam Amlapittam** when *pitta* gets *vidagdha* there is a sour taste leading to *Amlapitta*.^[5]

AIMS AND OBJECTIVES

To know the pattern of academic research works carried out by ayurvedic scholars across India on *Amlapitta*.

To provide guidelines for further research work on *Amlapitta*.

MATERIAL AND METHODS

All the previous research works on *Amlapitta* were collected from various research institute of india from the departments of Kayachikitsa, Roga Nidana & Vikriti Vigyan. The procured previous research works were studied in detail & scientific review was observed.

Upali pilapitiya(1996)^[6] - The clinical study was evaluated on 8 patients of *amlapitta* showing the efficacy of *samshodhana* and *samshamana chikitsa*. *Samshamana chikitsa* that is *Virechana* with phal *virechana kwath* was administered for two weeks followed by *bhringraja churna* of 1-3 *masha* for 1-2 weeks as per the patients need. Hence, it was concluded from the study that *samshodhana chikitsa* followed by *samshamana chikitsa* is very much effective in *amlapitta* disease.

Jogad Gautam S (2004)^[7] In this clinical study on the role of *virechan* and *bhunimbadi vati* in the management of *urdhvaga amlapitta*. A total of 40 patients were registered divided into two groups Shamana group and the *virechana* group. In the shamana group 25 selected patients of *Amlapitta* were given *Bhunimbadi Vati* in the dose of 6gm/day into three divided doses, water was given as *anupana*. In the *virechana* group 15 selected patients were given *virechana* and after that *Bhunimbadi Vati* in the dose of 6gm/day into three divided doses for 1month. The overall effect was assessed as a marked improvement in 25%, 66.64% patients showed moderate improvement, while 8.33% shows slight improvement, no patients remains unchanged however no patient has reported complete remission. In the Shamana group, 17.62% of patients showed marked improvement, 52.92% patients showed moderate improvement while 29.9% shows slight improvement and no patient remains unchanged. *virechana* group showed better results in comparison to shaman group.

Utkalini Nayak (2006)^[8] Etiopathological classification of *Amlapitta* on its doshik predominance and their management. In this study total of 42selected patients of *amlapitta* registered were divided into two groups. In group, A 20 patients with *pitta* dominant *amlapitta* were treated with *shatavaryadi vati* in the dose of 3gm twice a

day in the middle of the food with water for the one-month duration. In group B 22 patients of *Kapha* dominant *amlapitta* were treated with *shunthi khanda* in the dose of 5gm twice a day in the middle of the food with water for one-month duration same as in group A. Total improvement in the *Amlapitta* group was 79.09% whereas in the *Kaphaja Amlapitta* group it was 73.86%. Both these drugs had shown very good results according to Doshik basis.

Hemal c patel (2007)^[9] A clinical comparative study of dashang yoga with or without shodhan in the management of *amlapitta* was evaluated in 20 patients. in group A 10 patients were administered Shodhan yoga churna followed by *deepan pachan* by *lavanardraka* was given to the patients in 2gm thrice a day before meal for 3 days. Patients were advised to take shodhan yoga (*Haritakyadi Yoga*), at night, with lukewarm water for 1 to 3 days the dose of Shodhan yoga was altered according to *kostha* of patients from 5-10 gms. After the Shodhan karma, shaman drug (*Dashan yoga vati*) was given in the dose of 4 tablets thrice a day for 5 weeks. In group B (shaman group) 10 patients were treated with Dashang yoga vati 4 tablets thrice a day for 6 weeks. In group A marked relief was found in 30% of the total patients. 60% cases has moderate relief and 10% has mild relief whereas in shaman group Marked relief was found in only 10% of the patients 50% have moderate relief and 40% have mild relief. Overall efficacy of the Shodhan with shamana therapy showed better results in comparison to the shaman group.

Rina S Purani (2008)^[11] conducted a clinical study of *guduchyadi* compound with and without *kostha suddhi* with the placebo group to evaluate in 30 patients of *amlapitta*. In this study total of 30 patients were registered divided into three groups. In group, A (treated group) 10 patients were treated with *Guduchyadi* compound for 4 tablets (500 mg. each) were given thrice a day with *madhudak* for 6 weeks followed by *deepan pachan*. In group B (trial drug after *kostha-shuddhi*) 10 patients were treated with *Guduchyadi* compound for 4 tablets (500 mg. each) were given thrice a day with *madhudak* for 6 weeks followed by *deepan pachan* and 5-10 gm of "*Trivrutadi Yoga*" (according to *kostha*) with *ushnodaka* was given at night for 3-5 days. In group, C 10 patients were treated with Placebo drug 1 Tablet(roasted wheat powder-250 mg each) and were given twice a day for 6 days followed by *deepan pachan*. All the patients were strictly kept on a specifically prescribed diet, as per the classics The overall effect of each therapy was assessed based on improvement in individual patients. Group I: Complete remission was found in 20% of the total patients; 30% of the total patients showed marked improvement while 50% of the total patients showed moderate improvement. Group II: Complete remission was found in 20% of the total patients; 50% of the total patients showed marked improvement while 30% of the total patients showed moderate improvement. Group III: Complete remission

was found in 10% of the total patients; 20% of the total patients showed marked improvement; 50% of the total patients showed moderate improvement while 20% of the total patients had mild improvement. No one was found unchanged in either group. All the patients were strictly kept on a specifically prescribed diet, as per the classics. The study also shows that group I & II, both have significant results in *Amlapitta*. In group III, a significant result was not obtained as compared to group I & II because *Amlapitta* is a *mano-daihika vyadhi* and so when there is an alteration in the body's constitution the only placebo does not yield fruitful results.

Jitendra Kumar (2009)^[12] In this clinical study, the role of *Shatpatrayadi churna* tablet and *Patolyadi yog* was evaluated on 41 patients of *amlapitta*. In group, A 23 patients were treated with 2 *Shatpatrayadi churna* tablets thrice daily and in group B 18 patients were treated with 2 *Patolyadi yog* tablets thrice daily for 30 days. The overall effect of the *Shatpatrayadi churna* tablet was better than the *Patolyadi yog*.

Neha Joshi (2012)^[13] In this comparative study compares the efficacy of *Eladi churna* with *Avipattikar churna* in *Amlapitta*. In this study total of 30 selected patients of *amlapitta* registered were divided into two groups. In group, A 15 patients were treated with *Eladi churna* in the dose of 5 gm twice a day for 6 weeks. In group B 15 patients were treated with *Avipattikar churna* in the dose of 3gm twice a day for 6 weeks. The study shows that group B yields more results than that group-A. Both *Eladi churna* and *Avipattikar churna* showed significant and better results due to their *Pitta Shamaka*, *Rechaka*, and *Dipana-Pachana* properties. But statistically, group B showed a better result than group-A.

Aboli B Patil (2012)^[14] -A comparative clinical study of *Yavadi Ghana Vati* and *Guduchyadi Ghana Vati* in the management of *Amlapitta*

The present comparative study carried out in 2 groups. In Group A (trial group) patients of this were treated with *Yavadi Ghana Vati* containing *Yava*, *Pippali* and *Patola*. Group B (trial group) patients were treated with *Guduchyadi Ghana Vati* containing *Guduchi*, *Chitraka*, *Nimba*, *Patola*. In *yavadi ghan vati* group total 25 patients were treated in which 52% of patients got mild improvement, 44% of patients moderately improved while 4% of patients markedly improved. *Rogabala* improved by 52.09%, *Dehabala* by 32.05%, *Chetasabala* by 47.36%, *Agnibala* by 43.05% of patients. All these findings are statistically highly significant. were treated with *Guduchyadi Ghana Vati* containing *Guduchi*, *Chitraka*, *Nimba*, *Patola*. Total 54 Patients of *Amlapitta* were studied. Out of which 50 Patients completed the treatment. Total 25 patients were treated in this group (Group B). 24% of patients got mild improvement, 56% of patients moderately improved while 20% of patients markedly improved. *Rogabala* improved by 61.98%, *Dehabala* by 51.96%, *Chetasabala* by 46.36%,

Agnibala by 50.39% of patients. All these findings are statistically highly significant.

Mahesh R Patel (2015)^[15] A Clinical study on *Vasadi Ghanvati* and *Chhinnodbhavadi Yoga Ghanvati* in management of *Amlapitta W.S.R. of Hyperacidity*. In this clinical study Total 30 patients of *Amlapitta* were registered which divided into two groups 15 patients in group A and 15 patients in group B. In Group-A 15 patients were treated with *Vasadi Ghanvati* (500mg of 1 tab) 3tablet three times a day with anupan of *Madhu*. Duration of the complete course will be 6 weeks Group-B *Chhinnodbhavadi Yoga Ghanvati* (500mg of 1 tab) 3tab three times a day with anupan of *Madhu* for 6 weeks. All the patients were strictly kept on specifically prescribed diet and were instructed to avoid the causes of *Amlapitta*, as per the classics. In group A (trial group) Maximum patients were suffering from *Amlodgara* after treatment shows 68.6% relief. Statistically, it is highly significant at $p < 0.001$. Effect of therapies on *tiktodgara* shows 57.1% relief. Statistically, it was insignificant at $p > 0.05$. on *hrid-daha* shows 84.6% relief. Statistically, it was significant at $p < 0.05$ - $p < 0.01$, on *kantha daha* shows 40% relief. Statistically, it was insignificant at $p > 0.05$, on *udara daha* shows 81.8% relief. Statistically, it was insignificant at $p > 0.05$, on *udara gaurav* shows 83.3% relief. Statistically, it was significant at $p < 0.05$ & $p < 0.01$, on *shira shoola* shows 93.8% relief. Statistically it was significant at $p < 0.05$ & $p < 0.01$, on *klam* shows 85.7% relief. Statistically, it was insignificant at $p > 0.05$, on *aruchi* shows 80.0% relief. Statistically, it was highly significant at $p < 0.001$, *bhram* were relieved up to 66.7% Statistically, it was insignificant at $p > 0.05$ and *vibandha* were relieved up to 77.3%. Statistically, it was significant at $p < 0.05$ & $p < 0.01$. In other group who were treated with *Chhinnodbhavadi Yoga Ghanvati* symptoms like *Amlodgara* were relieved up to 63.9% Statistically, it was significant at $p < 0.05$ %- $p < 0.01$, *tiktodgara* were relieved up to 66.7% Statistically, it was is insignificant at $p > 0.05$, *hrid- daha* were relieved up to 77.3% Statistically, it was significant at $p < 0.05$ % $p < 0.01$, *kantha daha* were relieved 66.7% Statistically, it was insignificant at $p > 0.05$, *udara daha* were relieved up to 61.5% Statistically, it was insignificant at $p > 0.05$, *udar gaurav* were relieved up to 89.5% relief. Statistically, it was significant at $p < 0.05$ & $p < 0.01$, *shira shoola* were relieved Statistically, it was insignificant at $p > 0.05$. Statistically, it was insignificant at $p > 0.05$, *klam* were relieved up to relieved Statistically, it was insignificant at $p > 0.05$. The percentage relief in *aruchi* was found 87.5% Statistically, it was significant at $p < 0.05$ & $p < 0.01$. The percentage relief on *adhmaan* was found 80.0% Statistically, it was insignificant at $p > 0.05$. The percentage relief on *vibandha* was found 94.4% Statistically, it was significant at $p < 0.05$ & $p < 0.01$. Overall effect showed that in group A, 6.66% had complete remission, 46.66% had marked 6.66% patients' improvement, 46.66% had moderate improvement. In group B, complete remission was found in 6.66% patients; 60% had marked improvement, 26.66% had

moderate improvement and 6.66% had mildly improved. While evaluating the overall effect of therapy, it was observed that none of the patients remained unchanged.

Mohit P Paghdar(2018)^[15] In this clinical study the role of *guduchyadi churna* and *Eladi churna* was evaluated on 30 pt of *amlapitta*. *Guduchyadi churna* was administered at a dose of 10 gm/day in two divided doses with water for 4 weeks. The Overall effect of *Guduchyadi Churna* Complete remission was found in 0% of the total patients 60% of patients had marked improvement, 40% of patients had moderate improvement. Whereas the effect of the *Eladi Churna* 6.66% of patients had complete remission; 73.33% of patients had marked improvement and 20% patients had moderate improvement. Maximum drugs are having *Madhura*, *Tikta rasa* which is *Pitta shamaka*, and *Laghu* and *Ruksha* guna property. *Churna* is having *Dipana Pachana* property. so it will dissolve Aam.

Neha Uniyal (2020)^[16] In this study clinical evaluation of the combined effect of *Avipattikar Churna* and *kamdudharas* in the management of *Amlapitta* w.s.r Acid peptic disorder on 60 patients. *Avipattikar churna* was administered at a dose of 3 gm twice a day with luke warm water for 60 days whereas *kamdudharas* was administered at the dose of 500mg twice a day with Luke warm water for 60 days. There was 82.27% relief in shoola, 91.08% relief in daha, 90.69% relief in tiktamlodgara, 91.66% relief in avipaka, 89.65% relief in aruchi, 93.02 relief in utklesha The study showed that there is marked improvement in maximum of 28 patients i.e 53.84%. Complete improvement was found in a total of 19 patients i.e. 36.53% moderate improvement was noticed in 4 patients i.e. 7.69% whereas mild improvement was noticed in 1patient with 1.92%.

Neha Arya (2020)^[17] In this comparative clinical study evaluation of shodhana karma (*vamana* and *virechana*) with shaman yoga (*panchnimbadi churna*) in 60 patient of *amlapitta*. In each group 30 patients were taken for trial. In shodhana group deepan pachan is carried out with *Dhanyak Phant* 40 ml twice a day. *Go ghrit* was given for abhyantar snehapaan followed by *vaspa swedana* with *dashmool kwath* for 1 day. *vaman aushadha* yoga was prepared from *nimb twak kwath*, *madanphal*, *pippali churna*, *saindhav Lavan* and *Madhu* followed by *dhoompaan*. *Dhoomvarti* was made with *mulethi churna*, *vacha churna*, and *Haridra churna*. After *vamana karma* snehapaan started again for 3 daya after *samsarjan karma* and on 3rd day after *samyak snigda awasth* patient was administrated with *virechana* drug. The *virechana* yoga comparised of *Haritiki churna*(10gm), *Kutki kwath*(100ml), along with *icchabhedi rasa*(223tab) were administered to all patients in appropriate dose on the day of *virechana icchabhedi rasa*. In shaman group *panchnimbadi churna* was given in the dose of 5 gram with anupaan of *madhu* for one month. In shodhana group percentage relief on *avipaka* was found 58.82%, on *aruchi* 47.62%, on *amlodgara* 52.73, on *hrit kantha*

daha 55.77%, on *utklesh* 69.64%, on *shool* 68.75% .In shamana group percentage relief on *avipaka* was found 35.78%, on *aruchi* 48.72%, on *amlodgara* 37.86, on *hrit kantha daha* 38.65%, on *utklesh* 56.43%, on *shool* 65.52%. The Overall effect in shodhana group 7.69% of patients had marked improvement, 65.38% of patients had moderate improvement and 26.92% had mild improvement. whereas the effect of *panchnimbadi churna* marked improvement was found in 0.00%, of the total patients 24.14% of patients had moderate improvement, 68.97% of patients had mild improvement. Hence shodhana group a is more effective than shamana group. most of the drug are *katu*, *tikta*, *kashya*, *madhur rasa* *pradhana*. *Madhur*, *tikta*, and *kashya rasa* are *pitta shamak*.

CONCLUSION

As per *Ayurveda* modalities for *Amlapitta* are the drugs which are mainly *Tikta Rasa*, *Madhur Rasa* dominant and having *Pachana* property. *Acharyas* of *Ayurveda* have also given the treatment of *Pittaja* disease. They said that first of all *Tikta Rasa Dravyas* have been used for *Niramikarana* of *Pitta* and then after *Madhura Rasa* & then *Kashaya Rasa* used for *Paittika Vyadhis*.

Analyzing all research works it is observed that all these studies were aimed at finding for better *Dipana* "*Pachana*" & *Grahi* "drug along with *kapha* - *pittashamaka* property. Most of the drugs used in these works have *pitta* - *kapha shamaka*, *grahi*, *kledahara*" *dipana* (appetizer), *pachana* (digestive) and *medhya* (brain tonic) properties with *Madhura* - *Tikta* - *Kasaya* "predominant *rasa*, *Sheeta virya* and *Madhur vipaka*.". Through these research works scholars had managed to fortify the anti - ulcer & anti - acid (hyper & hypoacidity) as well as acid neutralizing activity of the used drugs which were proved beneficial to *Amlapitta*.

REFERENCES

1. Kashinath Pandey, Gorakhnath Chaturvedi, Charak Samhita, Svimarsha Vidhyotani Hindivayakhyapeta, Chapter 15, Chikitsa Sthan, 2009, shloka no. 5, Chaukambha Sanskrit Publication, Varanasi.
2. Kashinath Pandey, Gorakhnath Chaturvedi, Charak Samhita, Svimarsha Vidhyotani Hindivayakhyapeta, Chapter 2, Vamana Sthan, 2005, shloka no. 9, Chaukambha Sanskrit Publication, Varanasi.
3. Laxmidar Dwivedi, Ayurveda Dipika, Sanskrit Commentary by Sri Chakrapanidutta, Chapter 15, chikitsa Sthan, Sloka 40-43, 2013, Chaukambha Sanskrit Publication, Varanasi.
4. Kashinath Pandey, Gorakhnath Chaturvedi, Charak Samhita, Svimarsha Vidhyotani Hindivayakhyapeta, Chapter 15, Chikitsa Sthan, 2009, shloka no. 47, Chaukambha Sanskrit Publication, Varanasi, pg no. 530.
5. Yadonandan Upadhyay, Madhava Nidana, Madhukosha Tika, 2nd part, Uttaradh, Chapter 51, 2008, Shloka 1, Chaukambha Sanskrit Publication, Varanasi, pg. 202 Pilapitiya Upali - Samshodhana

- And Samshamana Chikitsa In Amlapitta, LP.GT & RA, Gujarat Ayurveda University, Jamnagar, 1969.
6. https://www.researchgate.net/publication/267989228_REVIEW_OF_CLINICAL_OBSERVATIONAL_STUDIES_CONDUCTED_ON_1812_PATIENTS_OF_AMLAPITTA_AT_I
 7. Jogad Gautam- Clinical study on the role of Vuchana and Bhunimbadi Vati in the management of Urdivaga Amlapitta, LPGT & RA, Gujarat Ayurveda University, Jamnagar, 2004.
 8. Nayak Utkalinini - Ethio-pathological classification of Amlapitta on its doshik predominance and their management, I.P.G.T & RA, Gujarat Ayurveda University, Jamnagar, 2006.
 9. Hemal c patel- A clinical comparative study of dashang yoga with or without shodhan in the management of amlapitta I.PGT & RA, Gujarat Ayurveda University, Jamnagar, 2007.
 10. Jitendra Kumar- A Comparative Clinical Study Of Amlapitta And Its Management With Shatpatrayadi Yoga Clnuma Tablet & Patoly. T & RA. Gujarat Ayurveda University, Jamnagar, 2009.
 11. Rina S Purani -A Clinical Study Of “Guduchyadi Compound” In The Management Of “Amlapitta” Govt. Akhandanand Ayurveda College & Hospital, Ahmedabad Gujarat Ayurveda University, Jamnagar, India (2008)
 12. Jitendra Kumar (2009)- A comparative clinical study of *Shatpatrayadi churna* tablet and *Patolyadi yog* in the management of *Amlapitta*. I.P.G.T & RA, Gujarat Ayurveda University, Jamnagar, 2009.
 13. Neha Joshi- In this comparative study compares the efficacy of Eladi churna with Avipattikar churna in Amlapitta. Govt. Akhandanand Ayurveda College & Hospital, Ahmedabad Gujarat Ayurveda University, Jamnagar, India (2012)
 14. Aboli B Patil (2012) -A comparative clinical study of Yavadi Ghana Vati and Guduchyadi Ghana Vati in the management of *Amlapitta*.
 15. Mohit P Paghdar- A clinical study of Guduchhyadi Churna and Eladi Churna in the management of Amlapitta Govt. Akhandanand Ayurveda College & Hospital, Ahmedabad Gujarat Ayurveda University, Jamnagar, India 2018.
 16. Neha uniyal- clinical evaluation of the combined effect of avipattikar churna kamdudharas in the management of Amlapitta. Patanjali ayurvedigyan evam anusandhan sansthan Haridwar.
 17. Neha Arya In this comparative clinical study evaluation of shodhana karma (vamana and virechana) with shaman yoga (panchnimbadi churna) in Amlapitta. Gurukul Campus Haridwar (2020)