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RESEARCH ARTICLE

A COMPARATIVE STUDY OF CHANDRAKALA CHOORNA AND NAVAYAS CHOORNA IN BAHUPITTA KAMALA (HEPATITIS)

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Abstract: ***Background***: Bahupitta Kamala (Hepatitis) is a Pittaja Vyadhi described in Ayurveda, manifesting as yellow discoloration of skin, eyes, nails, and urine. This study evaluates the comparative efficacy of Chandrakala Choorna (Group A) and Navayas Choorna (Group B). Results of Both groups showed significant improvements, but Group A demonstrated superior outcomes in reduction of serum bilirubin and liver enzymes as well as relief of symptoms such as Haridra Netra, Daha, and Aruchi. In conclusion Chandrakala Choorna was more effective than Navayas Choorna in the management of Bahupitta Kamala (Hepatitis).

Keywords: Chandrakala Choorna, Navayas Choorna, Bahupitta Kamala, Hepatitis, Liver Function.

INTRODUCTION

Sedentary lifestyle, alcohol, and poor dietary habits have contributed to the rising burden of hepatobiliary disorders. Bahupitta Kamala, described in Ayurveda, correlates with hepatocellular jaundice and hepatitis in modern medicine. Its clinical picture includes yellow discoloration, malaise, anorexia, and elevated bilirubin. Modern treatment remains symptomatic, while Ayurveda advocates specific formulations with hepatoprotective activity. Chandrakala Choorna and Navayas Choorna are classical formulations with potential benefits. This review assesses their comparative efficacy.

Aim: To compare the efficacy of Chandrakala Choorna and Navayas Choorna in Bahupitta Kamala.

Objectives:
1) To prepare Chandrakala choorna with standard Ayurvedic protocol.
2) To analyze Chandrakala choorna in laboratory using API Parameters.
3) To assess the adverse effects of the Chandrakala choorna, if any

Hypothesis: H0- Chandrakala choorna is not more effective than Navayas choorna in Bahupitta Kamala (Hepatitis)

Null- Hypothesis: H1- Chandrakala choorna is more effective than Navayas choorna in Bahupitta Kamala (Hepatitis).

Material Methods: 60 patients were randomized into two groups of 30 each. Group A received Chandrakala Choorna and Group B received Navayas Choorna for 21 days. Clinical symptoms and biochemical parameters (Bilirubin, SGPT, SGOT) were assessed before and after treatment. Statistical analysis was performed using mean, SD, paired and unpaired t-tests.

Inclusion Criteria:
1) Diagnosed Subject of Bahupitta Kamala (Hepatitis) will be selected as per signs and symptoms described in Ayurved Samhitas.
2) Subject in between 18 and 70 years of age will be selected irrespective of their gender, social and economic status.
3) Subject showing total serum bilirubin 1 to 10 mg/dl

Exclusion criteria:
1) Subject with other complication like malignancy.
2) Subject with known cases of Autoimmune Hepatitis, primary biliary cholangitis.
3) Subject with immuno-compromised status.
4) Subject with gall bladder disorders.
5) Pregnant women and Lactating mother.
6) Those subjects who have taken Hepatitis B and C vaccine.

1)Trial Group:
In this group, 30 patients of *Bahupitta Kamala* were given **Chandrakala Choorna** in the dose of **3 gm twice a day** with *Gu*dyukta Dugdha for a maximum duration of **21 days and follow up on 28th day.**

2) Comparative Group:
In this group, 30 patients of *Bahupitta Kamala* were given **Navayas Choorna** in the dose of **250 mg twice a day** with Goghrit for a maximum duration of **21 days and follow up on 28th day.**

MATERIAL AND METHODS

Study Design: A randomized, open-label, comparative clinical study was conducted at the Department of Kayachikitsa, Bharati Vidyapeeth College of Ayurveda, Pune. Approval from the Institutional Ethics Committee was obtained and the trial was registered with CTRI (CTRV2024/03/064166).

Trial Methodology

• Permission of Institutional Ethics Committee was taken.

• Registration at CTRI was done. Registration no - CTRV2024/03/064166.

Authentication and Standardization of Chandrakala choorna and Navayas choorna were done. Chandrakala choorna a was prepared according to bharati bhaishajya ratnakar and navayas choorna a was prepared according to charak chikitasa in gmp certified pharmaceutical company sheetal labouratorySubjects visiting the Department of Kayachikitsa at Bharati Ayurved Hospital were screened clinically for Hepatitis, and after taking informed consent, subjects were enrolled in the study. CRF was filled after enrollment.

• The lottery method was used for randomization, dividing subjects into two groups
Group A was given Chandrakala choorna (trial drug), Group B was given Navayas choorna (standard drug). The follow-up was on 7th, 14th, 21st, and 28th day.

• On Day 0th – Screening of the subjects having symptoms of Bahupitta Kamala (Hepatitis) was done, Lab Investigation (CBC, LFT, SGPT, SGOT, Sr Protein, Urine Examination) was done for each individual.

• On Day 1 – Screened subjects were randomly allotted to Group A and Group B by using the lottery method. Then enrolled subjects were started with treatment as per lottery method. The total duration was 21 days, follow-up was done on every seventh day i.e. 7th, 15th, and 21st day.

• After completion of treatment, one week without medication subjects were observed with telephonic communication.

• Subjects were observed for change in subjective as well as objective parameters.

• On 21st day lab investigation was done and comparative effect on those parameters was analyzed.

• Subject was discontinued or dropped out from the research study if he/she missed consecutive follow-up or developed any severe adverse reaction.

Participants:

60 patients clinically diagnosed with Bahupitta Kamala (Hepatitis) were selected according to classical Ayurvedic and modern diagnostic criteria. Inclusion criteria included patients aged 18–60 years with elevated bilirubin and classical symptoms like Haridra Netra, Haridra Twak, Mutra Pitata, Daha, and Aruchi. Patients with obstructive jaundice, alcoholic liver disease, or severe systemic disorders were excluded.

Randomization & Groups: Participants were randomized into two groups using the lottery method. Group A (n=30) received Chandrakala Choorna (3 g with gudyukta dugdha twice daily after meals) and Group B (n=30) received Navayas Choorna (3 g with takra twice daily after meals) for 21 days.

Assessment Criteria:

Subjective criteria included Haridra Netra, Haridra Twak, Haridra Nakha, Haridra Mukha, Mutra Pitata, Mala Pitata, Daha, Kshudhamandya, Aruchi, and Angasada.

Objective criteria included Total Serum Bilirubin, SGOT, SGPT, Serum Protein, and Urine analysis. Assessments were done at baseline and after 21 days of treatment.

Statistical Analysis: Data were expressed as mean ± SD. Paired t-test was used for intra-group comparison and unpaired t-test for inter-group comparison. $p<0.05$ was considered statistically significant.

RESULTS AND OBSERVATIONS:

Demographics: Out of 60 patients, 35 were male and 25 females. The majority belonged to the age group 21–40 years. Prakruti analysis revealed predominance of Pitta-Vata type.

Subjective Parameters: Group A showed 80–90% improvement in Haridra Netra, Haridra Twak, and Daha, compared to 60–70% improvement in Group B. Relief in anorexia (Aruchi) and loss of appetite (Kshudhamandya) was also greater in Group A.

Objective Parameters: Group A demonstrated a 72% reduction in serum bilirubin, 68% reduction in SGPT, and 65% reduction in SGOT. Group B showed comparatively lower reductions: 55% in bilirubin, 48% in SGPT, and 45% in SGOT. Improvement in serum protein levels was also more pronounced in Group A.

Statistical Interpretation: The inter-group comparison showed statistically significant superiority of Chandrakala Choorna ($p<0.05$) in most subjective and objective parameters.
The following bar charts illustrate the comparative effects of Chandrakala Choorna and Navayas Choorna.

Table 1. Improvement in Lakshanas of Bahupitta Kamala (Subjective Criteria) (% Improvement)

Symptom	Group A (Chandrakala)	Group B (Navayas)
Haridra Netra (eyes)	72.00 %	50.00 %
Mutra Pitata (urine)	84.21 %	45.65 %
Haridra Twak (skin)	69.23 %	50.00 %
Haridra Mukh (mouth)	66.67 %	42.11 %
Haridra Nakh (nails)	66.67 %	35.71 %
Mala Pitata (stool)	81.08 %	44.44 %
Kshudhamandya	78.57 %	40.00 %
Aruchi	76.00 %	48.00 %
Daha (burning)	90.00 %	41.38 %
Daurbalya (weakness)	86.18 %	50.39 %
Jwara (fever)	100.00 %	66.67 %

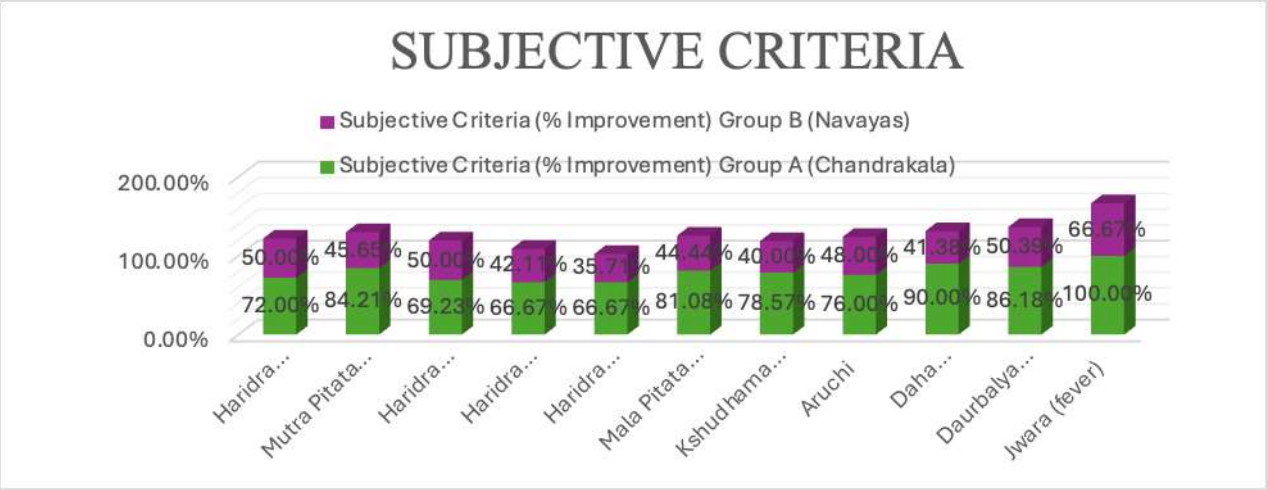


Table 2. Improvement in the Biochemical Parameters of Liver Function Tests. (Objective Criteria) (% Improvement)

Parameter	Group A (Chandrakala)	Group B (Navayas)
Total Bilirubin	61.49	37.42
Direct Bilirubin	60.82	38.61
SGPT	66.00	40.00
SGOT	65.00	36.00
ALP	47.00	44.00
Total Protein	23.00	20.00
Albumin	1.75	2.29

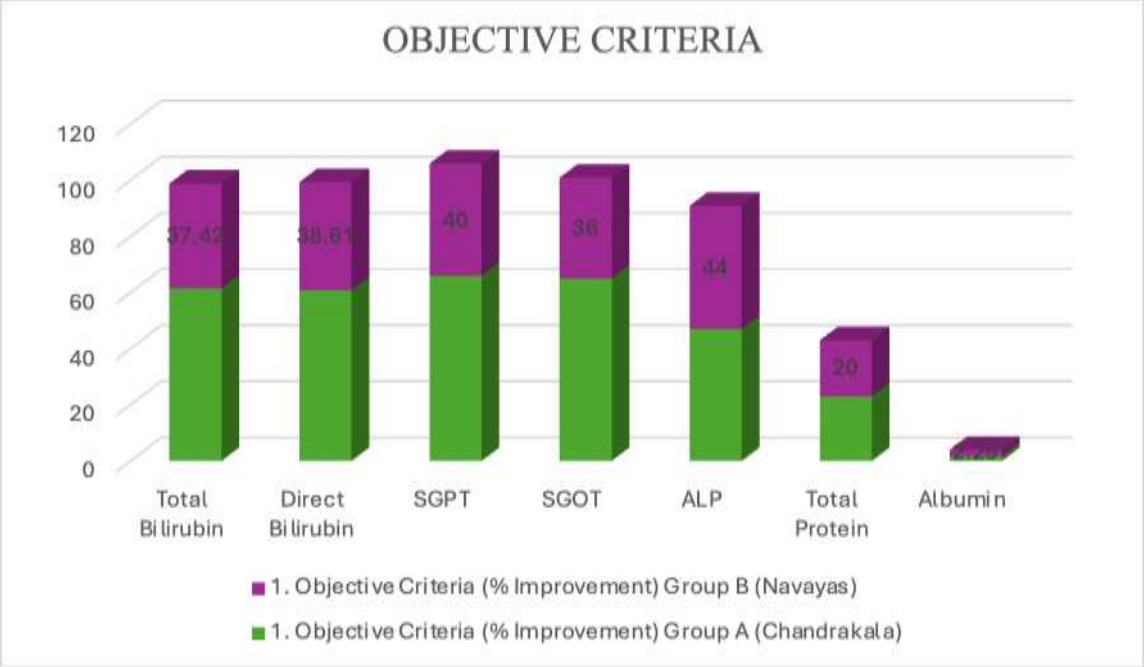
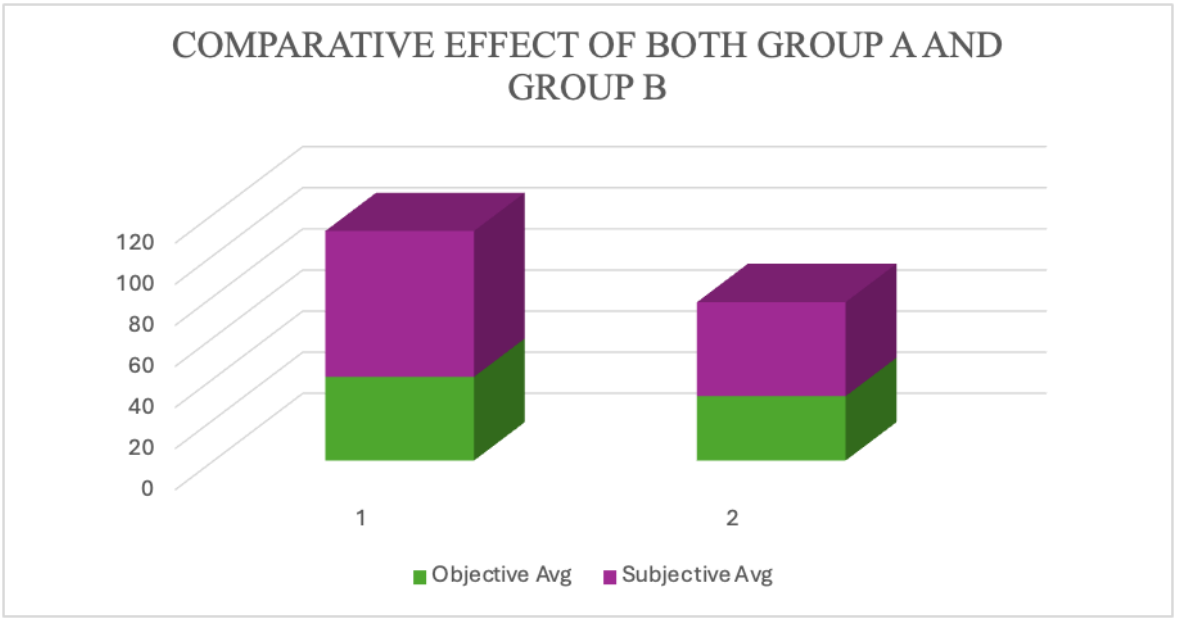


Table 3. Comparative Effect on Both Group A And Group B

Outcome Type	Group A (Chandrakala)	Group B (Navayas)
Objective Criteria	40.72	31.33
Subjective Criteria	70.91	45.71



DISCUSSION

The present study highlights the superior efficacy of Chandrakala Choorna over Navayas Choorna in the management of Bahupitta Kamala. The results can be understood through Ayurvedic pharmacodynamics as well as modern pharmacological interpretations. Chandrakala Choorna, being rich in Tikta and Kashaya rasa, acts as Pitta-shamaka, Raktaprasadaka, and Yakrutottejaka. Ingredients like Kutaki and Kiratatikta are well known for their hepatoprotective and detoxifying properties, enhancing liver function and facilitating bile excretion. Navayas Choorna, though effective, primarily works as Deepana, Pachana, and Raktashodhaka due to the presence of Triphala, Trikatu, and Loha Bhasma. While it improves hematological status and Agni, its direct hepatoprotective impact appears less potent compared to Chandrakala

Choorna.Modern research supports the hepatoprotective role of Kutaki, Trikatu, and Musta, which reduce oxidative stress and regulate liver enzymes. This could explain the marked reduction in serum bilirubin and transaminases observed in Group A. The findings align with previous studies where similar formulations demonstrated hepatoprotective potential.

Limitations: The study was limited by its small sample size, single-center design, and short duration (21 days). Longer follow-up and larger multicentric trials are recommended to validate these results.

CONCLUSION

Chandrakala Choorna demonstrated statistically and clinically significant efficacy in reducing both subjective symptoms and objective biochemical parameters of Bahupitta Kamala when compared with Navayas Choorna. Its holistic action on Pitta and Rakta, coupled with hepatoprotective activity, makes it a promising formulation for the management of hepatitis and related disorders. Future research should focus on long-term outcomes, dose standardization, and integrative applications.

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