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A Comparative Clinical Study of Rohitkyadi Churna and Phaltrikadi Kwatha in Kamala Roga

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ABSTRACT

Background: *Kamala*, a *Pitta*-predominant *Vyadhi*, presents clinically with yellowish discoloration of the eyes and skin, altered stool and urine color, indigestion, anorexia, fatigue, and generalized weakness. These manifestations closely resemble jaundice in modern medicine. Classical Ayurvedic formulations, *Rohitkyadi Churna* and *Phalatrikadi Kwatha*, are traditionally used to manage *Kamala*, but comparative clinical evidence is limited. Objectives: To evaluate and compare the efficacy of *Rohitkyadi Churna* and *Phalatrikadi Kwath* in the management of *Kamala*.

Materials and Methods: A hospital-based, quasi-experimental clinical study was conducted at the TU Ayurveda Teaching Hospital, Kathmandu. 44 patients (aged 16–70 years) clinically diagnosed with *Kamala* were assigned to two groups: Group A received *Rohitkyadi Churna* (3 g twice daily) and Group B received *Phalatrikadi Kwatha* (20 ml BD) for 45 days. Subjective parameters (*Haridra Netra*, *Raktapitta Shakrit-Mutra, Avipaka, Hatendriya, Aruchi, Tandra, Malabaddha*) and biochemical parameters (Serum total and direct bilirubin, SGPT, SGOT, ALP) were assessed at baseline and post-treatment. Statistical analysis was performed using paired and unpaired t-tests.

Results and Discussion: Both interventions produced significant improvement in clinical and biochemical parameters ($p < 0.05$). Group B demonstrated highly relief in *Haridra Netra* (91.2%) and *Avipaka* (86.7%), while Group A was more effective in normalizing *Raktapitta Shakrit-Mutra* (66.46% vs. 42%). Biochemically, Group A achieved higher reduction in SGPT (83.47%) and SGOT (80.49%), whereas Group B showed consistent and statistically significant improvement in liver enzymes (SGPT 47.4%, SGOT 47.02%) and greater reduction in ALP (72.54%). Both formulations were safe and well-tolerated.

Conclusion: Both formulations are effective in the *Kamala* management, with complementary benefits. *Rohitkyadi Churna* is advantageous for correcting excretory disturbances, while *Phalatrikadi Kwatha* offers broader hepatoprotective effects. These findings support the classical use of both formulations in evidence-based clinical practice, though larger multi centric trials with extended follow-up are warranted.

Keywords: Kamala, Jaundice, Hepatoprotective, *Rohitkyadi Churna*, *Phalatrikadi Kwatha*.

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INTRODUCTION

Ayurveda emphasizes prevention, health promotion, and cure of ailments through safe, natural remedies. Unlike modern medicine, which is often reactive, *Ayurveda* adopts a proactive approach to well-being.

Kamala is described as a *Pitta*-predominant *Tridoṣaja Vyadhi*, characterized by clinical features such as *Haridra Netra* (yellowish discoloration of the eyes, correlating with scleral icterus), *Haridra Tvak-Nakha-Nanana* (yellowish discoloration of the skin, nails, and face), *Rakta-Pitta Śakrit-Mutr*a (reddish-yellow stool and urine), *Hatendriya* (weakness of the senses, reflecting neurological dullness or fatigue), *Avipaka* (indigestion, suggestive

of impaired hepatic digestion and metabolism), *Daurbalya* (generalized weakness, comparable to fatigue and malaise), and *Aruchi* (loss of appetite, reflecting anorexia due to hepatic dysfunction).

These features closely resemble the clinical picture of jaundice. Jaundice, or hyperbilirubinemia, is the yellow discoloration of sclera and skin occurring when serum bilirubin exceeds 3 mg/dl, initially manifesting as scleral icterus due to elastin affinity and progressing to lemon-yellow or greenish hues in chronic cases due to biliverdin deposition. Its clinical manifestations include abdominal pain, nausea, fatigue, and weakness, symptoms also observed in *Kamala*.

The prevalence of jaundice is common in vulnerable populations such as newborns and the elderly. In developing countries like Nepal, poor sanitation and environmental risk factors contribute significantly to the burden of jaundice. Waterborne viral hepatitis is a significant health problem in Nepal, where Hepatitis A virus (HAV) shows near-universal exposure, and Hepatitis E virus (HEV) remains hyperendemic, particularly in the Kathmandu Valley, frequently causing acute hepatitis and responsible for major outbreaks such as the 2014 Biratnagar epidemic, largely attributed to fecal contamination of drinking water. Given the high prevalence and complications of Kamala in this region, there is need to pressing to explore cost-effective and evidence based management strategies. The classical Ayurvedic formulations; *Rohitakyadi Churna*. and *Phalatrikadi Kwatha*, as described in *Bhaishajya Ratnavali*, offer promising therapeutic potential. These formulations include ingredients such as *Haritaki, Bibhitaki, Amalaki, Katuki, Nimba, Guduchi, Vasa, Chirayata, Rohitaka, Yavakshara, Nagarmotha, Navasadar*, and *Atisa*. All are readily available, affordable, and time-tested in clinical practice. Therefore, conducting a scientific evaluation of these formulations is justified to validate their therapeutic potential, ensure evidence-based integration into clinical practice, and provide a safe, accessible, and economical option for managing jaundice in resource-limited settings.

Objectives: To evaluate the efficacy of *Rohitkyadi Churna* and *Phalatrikadi Kwath* in the management of Kamala. To compare the efficacy of *Rohitkyadi Churna* and *Phalatrikadi Kwatha* in the management of Kamala.

MATERIALS AND METHODS

Study Setting: The clinical study was conducted at the Department of Kayachikitsa, TU Ayurveda Teaching Hospital (TUATH), Kirtipur, Nepal. The study duration was between 2016 and 2017AD.

Study Population: Patients attending the OPD and IPD of the Department of Kayachikitsa, TU Ayurveda Teaching Hospital (TUATH), Kathmandu, Nepal, and clinically diagnosed with *Kamala* were considered for recruitment. Only those patients who were not under any prior medication for *Kamala* were included in the study.

Sample Size: The calculated sample size = 44 (22 in each group)

Sampling Method: A total of 44 participants were enrolled with fulfilling the inclusion criteria for the study. Participants were allocated into two groups. Allocation was carried out in an alternate/sequential manner (first eligible participant to Group A, second to Group B, and so on) to ensure equal distribution. In case of participant dropouts, the sample size was maintained by recruiting new eligible participants who were subsequently assigned to the respective groups following the same allocation procedure.

Study Design: This was a hospital-based, quasi-experimental, clinical study.

Inclusion Criteria

- Patients diagnosed with *Kamala* based on classical clinical and laboratory findings.
- Age group: 16–70 years
- Both male and female patients.
- Patients willing to follow the prescribed regimen and attend follow-up visits.

Diagnostic Criteria:

Patients were conformed with the diagnosis of Kamala on the basis of laboratory investigations; mainly on: Serum Biluribin (3mg/dl or more).

Other liver enzymes were evaluated during the study on the basis of liver function test (LFT)

- Serum Biluribin (Direct) (0.3 mg/dl or more),
- Serum Glutamic-Oxaloacetic Transaminase [SGOT/AST or Aspartate aminotransferase] (normal 5u/l - 30 u/l)
- Serum Glutamic Pyruvic Transaminase [SGPT/ALT or Alanine Aminotransferase] (normal range 4 u/l - 36 u/l)
- Alkaline phosphatase (ALP) (50u/l - 120 u/l)
- Some laboratory investigations such as CBC, ESR, Hb, HAV: IgM Anti HAV, HEV: IgM anti HEV and HBsAg, Anti HBc-IgM were recommended before enrollment to rule out the other conditions such

Exclusion Criteria

- Patients with severe complications such as liver cirrhosis, hepatic failure, or obstructive jaundice.
- Chronic illness duration >5 years.
- Patients with Gilbert's syndrome, Hepatitis B, and Hepatitis C.
- Patients with co morbid conditions such as diabetes mellitus, renal failure, or cardiovascular disorders, Cerebrovascular Accident (CVA).

- Pregnant and lactating women.
- Patients already on medication for other liver-related diseases.

Clinical Examination and Data Collection

All enrolled patients underwent thorough clinical examination. The data were recorded systematically using a predesigned case record form. Both subjective variables (*Ayurvedic* clinical features) and objective parameters (biochemical and hematological markers) were assessed. Laboratory investigations were carried out at the Pathological Laboratory of TUATH at baseline (Day 0) and after 45 days of intervention.

Ethical Clearance

Ethical approval for the study was obtained prier to enrollment from the Institutional Review Board (IRB), Institute of Medicine (IOM), Tribhuvan University (Ref. No. 376 (6-11-E) 7/073/074). Informed written consent was obtained from all participants. The consent process involved explaining the study objectives and procedures in detail, after which participants voluntarily signed the consent form. Patients unwilling to provide informed consent were excluded from the study.

Intervention Plan

A total of 22 clinically diagnosed patients (Group A) were administered *Rohitkyadi Churna* 3g/ twice a day for 45 days with lukewarm water and another group of 22 patients of another group (Group B) were administered *Phalatrikadi Kwatha* 20 ml/ twice a day for 45 days. Follow up for both groups was for 15 days interval of treatment period. All participants were counseled regarding *Pathya-Apathya* regimen and guided to maintain dietary and life style modification also.

Rohitkyadi Churna

Table 1: Contents of *Rohitkyadi Churna*

Name of drug	Latin name	Proportion	Part used
Rohitaka	*Tacoma undulata*	1 Part	Stem bark
Yavakshara	*Mixture of potassium salts*	1 Part	Kshara
Bhunimba	*Andrographic peniculata*	1 Part	Whole plant
Katurohini/ Kutaki	*Picrorhiza Kurroa*	1 Part	Roots
Musta	*Cyperus rotundus*	1 Part	Tuberous roots
Navasadara	Ammonium Salt	1 Part	Kshara
Sodhit (Purified) Ativisha	*Aconitum heterophylum*	1 Part	Tuberous roots
Sunthi	*Zingiber officinale*	1 Part	Rhizome

Method of Preparation:- All the *Dravya-Rohitaka*, *Yavakshara, Bhunimba, Kutaki, Musta, Ativisha* and *Sunthi* were taken in equal proportion. First of all, initial 6 *Dravya* (*Rohitaka, Bhunimba, Kutaki, Musta, Suddha ativisha* and *Sunthi*) were powdered and added with sl. no. 2 and 6, then were mixed thoroughly and restore in airtight container separately.

Phalatrikadi Kwath Churna

Table 2: Contents of Phala Trikadi Kwatha

Name of drug	Latin name	Proportion	Part used
Amalaki	*Embelica officinalis*	1 Part	Fruit
Haritaki	*Terminalia chebula*	1 Part	Fruit
Bibhitakai	*Terminalia bellerica*	1 Part	Fruit
Guduchi	*Tinospora cardifolia*	1 Part	Stem
Vasa	*Adhatoda vasica*	1 Part	Roots
Katuki	*Picrorhiza Kurroa*	1 Part	Root
Bhunimba	*Andrographic peniculata*	1 Part	Whole plant
Nimba	*Azadirecta indica*	1 Part	Stem bark

Method of preparation: All contents were procured, cleaned thoroughly and dried in shade. After that it was made to a fine powder as *Yavakutta* (coarse powder) form. The finish product was dried and packed in airtight container and labeled.

Outcomes

Change in the clinical symptoms of *Kamala*

Change in the blood test- Serum bilirubin (Total), Serum bilirubin (Direct), (Aspartate Aminotransferase (AST/SGOT), Alanine Aminotransferase (SGPT/ALT) and Alkaline Phosphatase (ALP)

The outcomes were measured after screening at baseline (BT) and at the end of 45 days (AT).

Assessment of Subjective parameters

***Haridra Netra* (yellowish discoloration of eyes)**

0 – Normal color of the sclera

1 – Yellowish white color of the sclera

2 – Yellow color of the sclera

3 – Dark yellow color of the sclera

4 – Greenish yellow color of the sclera

***Rakta-Pitta Shakrit-Mutra* (reddish-yellow stool and urine)**

0 – Normal color of stool/ urine

1 – Yellowish white color of stool/ urine

2 - Dark yellow color of urine and pale yellow of stool

3 - Greenish yellow urine/ clay color of stool.

***Avipaka* (Indigestion)**

0 – Able to digest any kind of food.

1 – Able to digest normal food

2 – Able to digest light food but difficulty in digestion of normal food.

3 – Unable to digest light food like *Yush*, gruel etc.

***Hatendriya* (weakness in motor or sensory organ)**

0 – Normal strength

1 – Movement against some resistance only

2 – Movement against gravity only

3 – Movement with gravity eliminated only.

***Assessment of Aruchi* (Indigestion)**

0 – Take a full diet on a proper gap

1 – Take moderate diet on proper gap between meals

2 – Decreased amount of diet and the increased gap between meals

3 – Unable to consume a minimum amount of diet on at least 2 meal time

4 - Unable to consume a minimum amount of diet in a whole day.

***Assessment of Tandra* (Tiredness)**

0 – Feeling of well being

1 – Tired after doing strenuous physical activity

2 - Tired after doing moderate physical activity but can perform daily activity

3 – Perform daily activity with difficulty

4 – Extremely tired to carry out daily routine activity

***Assessment of Malabaddhata* (Constipation)**

0 - *Samhatam / Sandram* – normal

1 - *Kharam / Parusham* – dry but defecated with pain and difficulty

2 - *Kathinam / Gadham / Grathitam* – dry, hard and passes segmented stool

3 - *Atigrathitam / Vigrathitam* – Pellet like, stoney hard and even forms fecoliths

The assessment was done before starting the treatment and after 45 days of treatment i.e. at the completion of the treatment and the improvement was assessed on the basis of statistical analysis.

Objective Criteria:

Assessment of Biochemical parameters

- Serum bilirubin (Total)
- Serum bilirubin (Direct)
- (Aspartate Aminotransferase (AST/SGOT)
- Alanine Aminotransferase (SGPT/ALT) and Alkaline Phosphatase (ALP)

Assessments were carried out at baseline (Day 0), and post-treatment (Day 45)

Statistical Analysis

All data were entered in xl sheet and analyzed by using SPSS version 11.5. Descriptive statistics, including mean, standard deviation (SD), frequency, and percentage, were used to summarize baseline and outcome data. Inferential statistics were applied to assess treatment effects, with the paired t-test used for within-group pre- and post-treatment comparisons, the unpaired t-test for between-group comparisons. A p-value of less than 0.05 was considered statistically significant.

Observation and Results

The present study was designed as a comparative clinical evaluation of *Rohitkyadi Churna* and *Phalatrikadi Kwatha* in *Kamala* (jaundice). A total of 44 patients aged between 16 and 64 years, irrespective of gender, were enrolled. Patients were randomly allocated into two groups: Group A (n = 22) and Group B (n = 22). The majority of patients were in the age group of 16–30 years (56.8%), followed by 31–50 years (38.6%), while only 4.6% were in the 51–70 years range. A clear male predominance was noted, with 79.5% males and 20.5% females. All participants in the study were Hindu by religion. With respect to occupation, half of the patients were students (50%), followed by laborers (22.7%), service holders (20.5%), and housewives (6.8%). Regarding marital status, 63.6% of the participants were married and 36.4% were unmarried.

In terms of dietary habits, all patients reported being non-vegetarian. Concerning addictions, 36.4% consumed alcohol, 31.8% were smokers, while 31.8% had no such habits. Educational status revealed that 45.5% of the participants had primary education, 34.1% were illiterate, and only a small proportion was graduates or postgraduates.

Both treatment groups demonstrated (Table 3) highly significant improvement in the clinical features of *Kamala*. *Haridra Netra* (yellowish discoloration of the eyes) showed marked reduction in both groups, with greater improvement observed in Group B (91.2%) as compared to Group A (61%). In contrast, *Raktapitta Shakrit-Mutra* (reddish yellow discoloration of stool and urine) responded better in Group A (66.46%) than in Group B (42%). *Avipaka* (indigestion) improved significantly in both groups, although Group B (86.7%) showed a higher degree of relief compared to Group A (64%). *Hatendriya* (weakness in motor or sensory organ), *Aruchi* (loss of appetite), *Tandra* (tiredness), and *Malabaddha* (constipation) were completely relieved in both groups, suggesting equal efficacy of the interventions for these symptoms. Overall, Group B appeared more effective in improving discoloration and digestive symptoms, whereas Group A was comparatively better in correcting stool and urine changes.

The objective biochemical parameters (Table 4) also demonstrated substantial improvement following treatment. Both groups significantly reduced total and direct serum bilirubin levels, indicating a strong corrective effect on jaundice. Group A showed 67.03% reduction in total bilirubin and 75.31% reduction in direct bilirubin, while Group B achieved 70.14% and 69.63% relief

respectively. Liver enzymes showed a different trend: Group A produced a higher percentage reduction in SGPT (83.47%) and SGOT (80.49%), but these changes were statistically non-significant due to wide variability. In contrast, Group B showed comparatively lower reductions in SGPT (47.40%) and SGOT (47.02%), but these were statistically significant, reflecting more consistent improvement in hepatocellular enzyme profile. Both groups significantly lowered alkaline phosphatase levels, though Group B (72.54%) demonstrated greater reduction than Group A (60.06%), suggesting a stronger effect on cholestatic elements.

Table 3: The effect of treatment on subjective variables in both group A and B

Variables	Group	Mean		Mean Diff.	% Relief	SD +		t- value	P value
		B.T.	A.T.			B.T.	A.T.		
Haridra Netra (Yellowish discoloration of the eye)	A	1.64	0.64	1	61%	0.58	0.49	15.20	<0.001
	B	1.59	0.14	1.45	91.2%	0.73	0.35	13.39	<0.001
Raktapitta Shakrit-Mutra (Reddish yellow stool & urine)	A	1.64	0.55	1.09	66.46%	0.58	0.60	9.72	<0.001
	B	1.55	0.09	0.65	42%	0.68	0.29	13.387	<0.001
Avipaka (Indigestion)	A	0.64	0.23	0.41	64%	0.58	0.43	3.813	<0.001
	B	0.68	0.09	0.59	86.76	0.72	0.29	4.695	<0.001
Hatendriya (weakness in motor or sensory organ)	A	0.64	0	0.64	100%	0.58	0	5.14	<0.001
	B	0.55	0	0.55	100%	0.60	0	4.29	<0.001
Aruchi (Loss of appetite)	A	0.68	0	0.68	100%	0.68	0	5.63	<0.001
	B	0.73	0	0.73	100%	0.46	0	7.48	<0.001
Tandra (Tiredness)	A	0.64	0	0.64	100%	0.58	0	5.14	<0.001
	B	0.57	0	0.57	100%	0.60	0	4.38	<0.001
Malabaddha (Constipation)	A	0.95	0	0.95	100%	0.49	0	9.22	<0.001
	B	1.27	0	1.27	100%	0.77	0	7.78	<0.001

Table 4: The effect of treatment on objective variables in both group A and B

Variables	Gr.	Mean		Mean Diff.	% Relief	SD ±		t value	P value
		BT	AT			BT	AT		
Serum Bilirubin (Total) (mg/dl)	A	3.64	1.20	2.44	67.03%	3.40	0.74	3.8	<0.001
	B	3.65	1.09	2.56	70.14%	3.88	0.23	3.27	0.004
Serum Bilirubin (Direct) (mg/dl)	A	1.82	0.60	1.22	75.31%	1.61	0.49	3.8	<0.001
	B	1.91	0.58	1.33	69.63%	2.14	0.29	3.26	0.004
SGPT/ALT (u/l)	A	175.75	29.05	146.70	83.47%	416.74	16.56	1.68	0.108
	B	44.24	23.27	20.97	47.40%	43.09	12.64	2.84	0.01
SGOT/AST (u/l)	A	154.46	30.14	124.32	80.49%	405.95	18.94	1.48	0.153
	B	36.03	19.09	16.94	47.02%	28.44	11.99	4.30	<0.001
Alkaline Phosphate [ALP] (u/l)	A	128.15	51.18	76.97	60.06%	163.31	68.94	3.41	0.003

(SGPT-Serum Glutamic-pyruvic Transaminase; ALT- Alanine Aminotransferase; SGOT- Serum Glutamic-Oxaloacetic Transaminase; AST- Aspartate aminotransferase; ALP- Alkaline phosphatase.)

DISCUSSION

The present clinical study was undertaken to rule out the efficacy of *Rohitakyadi Churna* and *Phalatrikadi Kwatha* in the management of *Kamala*. *Kamala* is a *Pitta dosha pradhana vyadhi* characterized predominantly by *Haridra Netra*, *Haridra Tvaka -Nakha Anan* (yellowish discoloration of the eyes, skin, nails, and face), *Rakta-Pitta Sakrita-mutra* (altered color of stool and urine), *Avipaka* (Indigestion) *Aruchi* (anorexia), *Hatendriya* (weakness of motor and sensory function). These all symptoms show significant overlap with the clinical features of jaundice described in contemporary medicine. The vitiated pitta dosha accumulate in the *Yakrit* (liver) and Pleha (spleen) and spread through *Rasa*, *Rakta Dhatu* leading to Dusti of entire system, the imparts yellowish discoloration of

the skin, eyes, nails, face, stool and urine. In Severe and chronic condition there is *Dathukshaya* (depletion of tissues), may leads to various complications. Due to excessive vitiated *Pitta* in *Yakrit* and Pleeha mediate hepatocellular damage or obstruction that led to impaired metabolism and excretion of biluribin (bile pigments). Further they initiate impaired hepatocytes function by *Jatharagni* and *Dhatvagni Mandta* that stimulate *Ama* production means defective conjugation of bilirubin (hyperbilirubinemia) as well as poor metabolism of nutrition.

The demographic profile of the patients revealed that the majority belonged to the younger and middle age group, 16–30 years and 31–50 years, with a marked male predominance. This distribution may be attributed to the higher likelihood of these age groups engaging in dietary indiscretions, alcohol consumption, and stressful lifestyles factors that are widely recognized as contributory to liver dysfunction in contemporary research. The predominance of non-vegetarian dietary habits and a significant proportion of patients with addictions such as alcohol and smoking also indicate possible precipitating factors for *Pittaja Vyadhi* including *Kamala*.

Discussion of subjective parameters

Haridra Netra (Yellowish discoloration of the eyes)

Both the groups A and B showed highly significant improvement. But Group B (91.2%) demonstrating more effectiveness compared to Group A (61%). It reflects that *Phalatrikadi Kwath*a has a stronger role in correcting bilirubin metabolism and *Pitta dushti*, being P*itta-shamaka* and *Yakrit-uttejaka dravyas* in this formulation.

***Raktapitta Shakrit-Mutra* (Reddish-yellow stool and urine)**

Highly significant was seen in both groups, but Group A (66.46%) had comparatively better results than Group B (42%). It indicates that *Rohitkyadi Churna* may have superior efficacy in normalizing the excretory functions of stool and urine, supporting its classical indication as *Yakrit-pleeha hara* and *Raktaprasadana*.

***Avipaka* (Indigestion)**

Both groups reflect significant relief, but Group B (86.76%) showed a higher percentage of improvement compared to Group A (64%). This can be attributed to the Dipana-Pachana properties of *Phalatrikadi Kwatha* which enhance Agni and reduce Ama, thereby restoring normal digestion.

***Hatendriya* (Weakness of motor or sensory organs)**

Both groups showed complete remission (100% relief); therefore, both formulations effectively restored the *Dhatukshaya* caused by excessive *Pitta* and impaired Agni, thereby reestablishing *Hatendriya* (Weakness of motor or sensory organs).

***Aruchi* (Loss of appetite)**

Group A and Group B achieved complete relief (100%), highlighting that stimulation of Agni is a common action of *Dipana* and *Pachana* of the both formulations. This supports the classical view that correction of Agni is central to the management of Kamala.

***Tandra* (Tiredness)**

In both groups achieved complete relief was observed in both groups, suggesting restoration of normal Pitta function and reduction of systemic fatigue.

***Malabadhta* (Constipation)**

Both groups achieved 100% relief, with Group A showing faster improvement in constipation compared to Group B. However, since this symptom was observed in only a few participants, a larger sample size is required to confirm the result.

Discussion on Biochemical Parameters

***Serum Bilirubin* (Total and Direct)**

Both treatments effectively reduced hyperbilirubinemia. Group B showed slightly better results in total bilirubin reduction (70.14%), whereas Group A had better reduction in direct bilirubin (75.31%). This suggests that *Rohitkyadi Churṇa* acts more efficiently on hepatic clearance and excretory pathways, while *Phalatrikadi Kwatha* has broader efficacy in overall bilirubin metabolism.

SGPT/ALT and SGOT/AST

Group A got more percentage relief, but statistically insignificance. Group B showed consistent hepatoprotective effects, reflecting the *Tikta-Katu rasa, Dipana, Pachana*, and *Yakrit-uttejaka* properties of its ingredients, which help stabilize hepatocyte function and mitigate enzyme leakage.

Overall, the study suggests that both formulations are effective in the management of *Kamala*, but their spectrum of action differs. *Rohitakyadi Churna* shows a comparative advantage in improving Agni and correcting *Rakta-Pitta dushti*, while *Phalatrikadi Kwatha* provides more consistent hepatoprotective and cholestasis relieving effects. This complementary action highlights the potential of individualized treatment approaches in Ayurveda, where formulations can be selected based on the predominant clinical presentation and biochemical profile of the patient.

CONCLUSION

The present study demonstrates that both *Rohitkyadi Churna* and *Phalatrikadi Kwatha* are effective in the management of *Kamala* (jaundice), producing significant improvement in clinical symptoms as well as biochemical parameters.

While *Rohitkyadi Churna* was effective in reducing bilirubin and alleviating classical symptoms of *Kamala*, *Phalatrikadi Kwatha* showed comparatively greater efficacy by significantly improving liver enzyme functions (SGPT, SGOT) in addition to bilirubin and alkaline phosphatase levels. This suggests that *Phalatrikadi Kwatha* may possess a more comprehensive hepatoprotective and hepatocellular regenerative effect.

Both formulations were found to be safe and well tolerated, with no adverse effects reported during the study. Therefore, these classical Ayurvedic formulations, especially *Phalatrikadi Kwatha*,

may serve as promising therapeutic options for the management of *Kamala*. However, larger multicentric trials with extended follow-up are warranted to validate these findings and establish their role in clinical hepatology.

LIMITATIONS

The study was conducted for academic purpose and it was time bounded and under limitation of budget constraint. There was small sample size (n = 44) along with insufficient duration of intervention (45 days) to evaluate long-term efficacy as well as prevention of relapse.

FUTURE RECOMMENDATIONS

Further studies with larger sample sizes, extended follow-up periods, and advanced biochemical evaluations; Gamma-Glutamyl Transferase (GGT) albumin, and prothrombin time are recommended to substantiate these findings.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

1. Gaur BL, translator. Ayurvedadipika commentary of Charaka Saṃhita of Agnivesa, Chikitsasthana. Esana Hindi translation. Vol. III. 1st ed. Delhi: Rashtriya Ayurveda Vidyapeeth; 2014. p. 886.
2. Joseph A, Samant H. Jaundice [Internet]. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2025 Jan- [updated 2023 Aug 8;]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK544252
3. Sinha N, Ojha NK. Ayurveda management of jaundice: a case study. J Res Ayurvedic Sci. 2023;7(3):166-170. DOI: 10.4103/jras.jras_174_22
4. Muchowski KE. Evaluation and treatment of neonatal hyperbilirubinemia. Am Fam Physician. 2014;89(11):873-878.
5. Rai SK. Changing trend of infectious diseases in Nepal. Adv Exp Med Biol. 2018;1052:19-38. DOI: 10.1007/978-981-10-7572-8_3 PMID: 29785478 PMCID: PMC7122567
6. Sen GD. Bhaiṣajya Ratnāvalī. Edited by Mishra S. re ed. Varanasi: Chaukhamba Subharti Prakashan; 2007. Ch. 41, Ver. 10-11, p. 746.
7. Sen GD. Bhaiṣajya Ratnāvalī. Edited by Mishra S. re ed. Varanasi: Chaukhamba Subharti Prakashan; 2007. Ch. 12, Ver. 22, p. 377.
8. Nelson M, Mulani SR, Saguil A. Evaluation of jaundice in adults. Am Fam Physician. 2025;111(1):25-30.
9. Lala V, Zubair M, Minter DA. Liver function tests [Internet]. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2025 Jan- [updated 2023 Jul 30]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK482489
10. Shashikant SL. Ayurvedic perspective of Kamala (jaundice): array. Ayurline Int J Res Indian Med. 2021;5(01). DOI: 10.52482/ayurline.v5i01.376
11. Martínez-Urbistondo D, Perez-Diaz-del-Campo N, Landecho MF, et al. Alcohol drinking impacts on adiposity and steatotic liver disease: concurrent effects on metabolic pathways and cardiovascular risks. Curr Obes Rep. 2024;13:461-474. DOI: 10.1007/s13679-024-00560-5 PMID: 38520634 PMCID: PMC11306502