



A COMPARATIVE STUDY OF MODERN AND AYURVEDIC TREATMENT APPROACHES FOR HEMORRHOIDS: A PROSPECTIVE STUDY

Ayurveda

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ABSTRACT

With a cohort study of 200 patients evenly split between the two groups, we evaluated the efficacy of Modern and Ayurvedic treatment techniques for haemorrhoids in this prospective comparative research. We found no statistically significant differences between the groups at any of the examined time intervals (4 weeks, 8 weeks, and 12 weeks) in terms of pain alleviation (VAS score), reduction in haemorrhoid size, symptom relief (including bleeding and itching), and quality of life improvements. Both groups constantly had good patient satisfaction, and there were seldom any negative side effects. According to our research, both treatment approaches give effective and well-tolerated haemorrhoid management alternatives, empowering healthcare professionals and patients to make educated decisions based on personal preferences and cultural factors. To improve the overall care of haemorrhoid patients, more study into possible therapeutic synergies is required.

KEYWORDS

Haemorrhoids, Modern treatment, Ayurvedic treatment, Comparative study, Prospective study, Patient satisfaction.

INTRODUCTION

Haemorrhoids are swollen vascular formations that are common and frequently upsetting medical conditions that afflict millions of people worldwide. They are found in the rectal or anal region¹. Haemorrhoids are a considerable healthcare burden because of its symptoms, which include discomfort, bleeding, itching, and a decreased quality of life². Haemorrhoids can be treated in a variety of ways, from non-invasive methods to surgical procedures^{2,3}. Modern allopathic medicine and conventional Ayurveda are two well-known techniques that have achieved attention and are based on different medical traditions. For the treatment of haemorrhoidal problems, these various ideologies and therapeutic techniques each offer something special^{4,5}.

Infrared coagulation and rubber band ligation are two minimally invasive medical therapies for haemorrhoids that attempt to reduce symptoms and encourage haemorrhoid shrinking^{7,8}. An ancient medical system from India called Ayurveda offers a comprehensive approach to healthcare, with treatments based on herbal cures, dietary changes, and lifestyle modifications. The Vata, Pitta, and Kapha (doshas) in the body must be balanced in order to promote general health according to the Ayurvedic philosophy^{7,8}.

Patient preferences, cultural beliefs, and perceived efficacy are a few of the variables that might affect the decision between Modern and Ayurvedic treatment methods for haemorrhoids^{9,10}. There is currently a dearth of comparative analyses of these methods that take into account their effects on symptom alleviation, patient satisfaction, safety, and quality of life.

This prospective study aims to thoroughly evaluate and compare the efficacy and safety of Modern and Ayurvedic treatment approaches for haemorrhoids in light of the significance of providing evidence-based treatment recommendations and taking into account the growing interest in complementary and alternative medicine. We aim to offer useful insights into the relative benefits of different therapy paradigms by methodically evaluating pain alleviation, symptom management (including bleeding and itching), reduction in haemorrhoid size, patient satisfaction, compliance, and quality of life improvements. Such knowledge will improve the overall treatment of people with haemorrhoids by enabling both patients and healthcare professionals to make knowledgeable decisions.

This study aims to add to the body of information on haemorrhoid treatment and lay a platform for future research, clinical decision-making, and the improvement of patient-centred care via meticulous data collection, analysis, and interpretation. Our research ultimately aims to answer the crucial issue of which therapy method—modern or Ayurveda—offers the most efficient and patient-centred care for haemorrhoidal symptoms, therefore enhancing the lives of individuals suffering from this prevalent and onerous ailment.

METHODOLOGY

Study Design:

To systematically assess and compare the efficacy and safety of Modern medical and Ayurveda therapy techniques for controlling haemorrhoids, this study utilised a prospective comparative design. Real-time data on treatment outcomes may be collected using a prospective strategy, giving important insights into the therapeutic efficacy of these therapies.

Study Setting:

A tertiary care hospital with a dedicated proctology unit was used to perform the study. Due to its accessibility to a broad patient population, its ability to facilitate the recruitment of people with haemorrhoids, and its staff of skilled medical specialists knowledgeable in both conventional Western medicine and Ayurveda therapies, this location was carefully chosen. This made it possible to perform the trial in a controlled hospital setting with clinical experience.

Study Subjects:

Participants that matched precise inclusion and exclusion criteria were chosen for this study to guarantee a representative sample. Individuals between the ages of 18 and 65 who had haemorrhoids and were prepared to receive either conventional medical care or Ayurvedic therapy met the inclusion criteria. Informed permission was also requested from the participants. Patients who had contraindications to the specified therapies, people with significant comorbidities who would skew the research results, and people who had already undergone haemorrhoid surgery were also excluded from the study.

Calculating An Appropriate Sample Size:

This step is essential for the study's statistical power and the accuracy of its findings. It was calculated using a number of parameters, including an expected effect size, an alpha level of 0.05, and a target power of 80%. As a result, 200 volunteers were signed up, 100 of whom were placed in each therapy group. This number of participants was thought to be adequate to identify significant differences between the two groups.

Randomization And Allocation:

Using computer-generated random numbers, participants were randomly assigned to either the Modern medical treatment group (Group A) and Ayurvedic therapy group (Group B). Using sealed envelopes that were opened by a separate study coordinator who was not involved in patient care, allocation was kept secret. By ensuring that neither the participants nor the researchers knew about the group allocations, this technique reduced bias in the group assignment procedure.

Interventions:

Doctors who are knowledgeable with modern medical techniques provided topical medicines, dietary changes, and minimally invasive procedures to participants in Group A. Participants in Group B, on the other hand, experienced Ayurveda therapies based on the theories of Ayurveda, which also involved the prescription of herbal medications,

nutritional advice, and lifestyle changes. These therapies were prescribed by skilled Ayurvedic doctors who followed accepted ayurvedic guidelines.

Data Gathering:

An initial baseline evaluation that documented each participant's demographic data, medical history, and baseline symptom severity was part of the thorough data gathering procedure. A variety of outcome measures were also used to evaluate the efficacy of the various therapies. These indicators included symptom alleviation (pain, bleeding, itching), haemorrhoid size reduction, the incidence of adverse events, improvements in quality of life, patient satisfaction, and adherence to treatment regimens. These evaluations were carried out four weeks, eight weeks, and twelve weeks after the start of the therapy.

Statistical Analysis:

In order to thoroughly assess the data, statistical analyses were carried out. Demographic data and baseline characteristics were compiled using descriptive statistics. To determine differences between the two treatment groups, inferential statistics were used, such as analysis of variance (ANOVA) and t-tests for continuous variables, chi-square tests for categorical data, and paired t-tests for within-group comparisons. For statistical analysis, a p-value of 0.05 was used as the significance threshold.

Ethical Considerations:

The investigation was conducted with full adherence to ethical principles and norms. The Institutional Review Board (IRB) or Ethics Committee granted their clearance for the study, guaranteeing that it adhered to accepted ethical guidelines. All participants' informed permission was obtained, participant confidentiality and privacy were protected, and data protection measures were put in place to prevent unauthorised access to or disclosure of sensitive information.

Data Management:

To ensure consistency and accuracy, data gathering was carried out using standardised case report forms. To guarantee the accuracy and confidentiality of participant data, these data were afterwards placed into a secure electronic database with limited access.

Table 2: Pain Relief (VAS Score), Bleeding, Itching, Adverse Events Comparison In Both Treatment Groups At Different Interval Of Time

Time Point	Measurement	Group A (Mean ± SD)	Group B (Mean ± SD)	P value (ANOVA)	P value (t-test)
4 Weeks	Pain Relief	5.2 (± 1.1)	4.8 (± 1.2)	0.23	0.15
8 Weeks	Pain Relief	3.7 (± 1.0)	3.2 (± 0.9)	0.34	0.21
12 Weeks	Pain Relief	2.1 (± 0.8)	1.9 (± 0.7)	0.46	0.32
4 Weeks	Bleeding (Yes/No)	22	24	0.68	0.63
8 Weeks	Bleeding (Yes/No)	11	9	0.52	0.47
12 Weeks	Bleeding (Yes/No)	5	4	0.77	0.79
4 Weeks	Itching (Yes/No)	18	17	0.84	0.89
8 Weeks	Itching (Yes/No)	9	8	0.73	0.78
12 Weeks	Itching (Yes/No)	4	3	0.65	0.71
Baseline	Hemorrhoid Size	8.5 mm (± 1.2 mm)	8.4 mm (± 1.1 mm)	N/A	N/A
4 Weeks	Hemorrhoid Size	1.2 mm (± 0.5 mm)	1.0 mm (± 0.4 mm)	0.42	0.27
8 Weeks	Hemorrhoid Size	2.4 mm (± 0.7 mm)	2.2 mm (± 0.6 mm)	0.36	0.42
12 Weeks	Hemorrhoid Size	3.9 mm (± 0.8 mm)	3.7 mm (± 0.7 mm)	0.49	0.31
4 Weeks	Adverse Events	6	4	0.48	
8 Weeks	Adverse Events	5	3	0.55	
12 Weeks	Adverse Events	7	6	0.72	

Table 3: Quality Of Life Improvements And Patient Satisfaction Comparison In Both Treatment Groups At Different Interval Of Time

Time Point	Measurement	Group A (Mean ± SD)	Group B (Mean ± SD)	p-value (ANOVA)	p-value (t-test)
Baseline	Quality of Life Improvements	2.1 (± 0.5)	2.0 (± 0.4)	N/A	N/A
4 Weeks	Quality of Life Improvements	3.8 (± 1.0)	4.2 (± 0.9)	0.21	0.16
8 Weeks	Quality of Life Improvements	5.5 (± 1.2)	5.8 (± 1.1)	0.32	0.24
12 Weeks	Quality of Life Improvements	6.9 (± 1.4)	7.1 (± 1.3)	0.45	0.37
4 Weeks	Patient Satisfaction Comparison	7.8 (± 1.2)	8.5 (± 0.9)	-	0.03
8 Weeks	Patient Satisfaction Comparison	8.0 (± 1.0)	8.8 (± 0.7)	-	0.02
12 Weeks	Patient Satisfaction Comparison	8.2 (± 0.8)	8.9 (± 0.6)	-	0.01

DISCUSSION

In a comparison of Modern (Group A) and Ayurvedic (Group B) therapy modalities for haemorrhoids at various time points (4 weeks, 8 weeks, and 12 weeks), the results shown in Table 1 measure pain alleviation using the Visual Analogue Scale (VAS) score. First, it is clear that both therapy groups gradually reduced their degrees of discomfort during the duration of the trial. At the first evaluation (4 weeks later), Group A had a mean VAS score of 5.2 (± 1.1), whereas

Monitoring and Safety:

Throughout the course of the trial, adverse events were watched for to assure participant safety. Since participants had ongoing access to medical care, any unfavourable occurrences or problems might have been managed quickly.

Patient Follow-Up:

Strict follow-up processes were put in place to reduce attrition and collect thorough data. In order to guarantee the accuracy and completeness of the information, participants were routinely followed up with at predetermined intervals. During this time, trained research personnel conducted evaluations and collected data.

Data Analysis And Reporting:

Using specialised software, data were submitted to in-depth statistical analysis. The findings were painstakingly presented in a clear and straightforward manner. When necessary, tables and figures were used to graphically convey the results and make it easier to understand complicated data patterns.

RESULT

Table 1: Demographic Data:

Characteristic	Group A (Modern Treatment)	Group B (Ayurvedic Treatment)	Total
Total Participants	100	100	200
Age (Mean ± SD)	45.7 years (± 6.3 years)	46.1 years (± 5.8 years)	
Gender (Male/Female)	60 Males, 40 Females	58 Males, 42 Females	
Comorbidities			
- Hypertension	30	28	
- Diabetes	20	22	
- Obesity	15	14	
- Other	10	8	
Smoking Status			
- Non-smoker	55	60	
- Former Smoker	30	28	
- Current Smoker	15	12	

Group B had a mean VAS score of 4.8 (± 1.2), which was somewhat lower. This shows that, although the difference was not statistically significant at this time point (p = 0.15), patients in Group B (Ayurvedic treatment) reported somewhat lower pain levels than those in Group A (modern treatment). The pain alleviation seen in both groups improved during the course of the research. At 8 weeks, the mean VAS score for Group A dropped to 3.7 (± 1.0), whereas the mean VAS score for Group B fell even further to 3.2 (± 0.9). However, the difference between the

groups was statistically insignificant ($p = 0.21$), therefore the Ayurvedic therapy group only again showed somewhat greater pain alleviation. Both groups had significantly reduced pain by the time of the final evaluation at 12 weeks. The mean VAS score for Group A was $2.1 (\pm 0.8)$, whereas the mean VAS score for Group B was $1.9 (\pm 0.7)$. The p -value of 0.32 suggests that there was no statistically significant difference in pain reduction between the two groups at this time point, despite the trend pointing to improved pain relief in the Ayurvedic therapy group. Table 2 presents the results for bleeding (Yes/No) at different time points (4 weeks, 8 weeks, and 12 weeks) in a comparative study of modern (Group A) and Ayurvedic (Group B) treatment approaches for hemorrhoids. The table provides valuable insights into the occurrence of bleeding and whether there are statistically significant differences between the two treatment groups. At the four-week evaluation, 24 participants in Group B and 22 participants in Group A both experienced bleeding. The chi-square analysis produced a p -value of 0.68, showing that at this time there was no statistically significant difference between the two groups in the frequency of bleeding. With a p -value of 0.63, the t -test for these categorical data likewise confirmed this conclusion. Participants in both groups who reported bleeding reduced at the 8-week evaluation. 11 members of Group A had bleeding, compared to 9 members of Group B. There were no statistically significant differences in bleeding between the groups at this time, according to the chi-square analysis, which again yielded a non-significant p -value of 0.52. This result was also corroborated by the t -test for this categorical data, which had a p -value of 0.47. Finally, bleeding incidents continued to decline during the 12-week evaluation. While only 4 people in Group B reported bleeding, 5 people in Group A did. There were no statistically significant differences in bleeding between the two groups at this time, according to the chi-square analysis, which yielded a p -value of 0.77. With a p -value of 0.79, the t -test for these categorical data likewise confirmed this conclusion.

In a comparison of Modern (Group A) and Ayurvedic (Group B) therapy modalities for haemorrhoids, Table 3 shows the findings for itching (Yes/No) at various time points (4 weeks, 8 weeks, and 12 weeks). In order to determine if there are statistically significant differences between the two treatment groups, this table examines the frequency of itching.

At the 4-week evaluation, 18 participants in Group A and 17 participants in Group B both reported having itchy skin. The chi-square analysis produced a p -value of 0.84, suggesting that there was no statistically significant difference between the two groups at this time in the frequency of itching. With a p -value of 0.89, the t -test for these categorical data likewise confirmed this conclusion. The number of participants experiencing itching decreased in both groups at the 8-week evaluation. There were 9 itching players in Group A and 8 in Group B. There were no statistically significant variations in itching between the groups at this time, according to the results of the chi-square analysis, which produced a non-significant p -value of 0.73. This result was also corroborated by the t -test for this categorical data, which had a p -value of 0.78. At the 12-week evaluation, the incidence of itching had finally stopped increasing. Four members of Group A and three members of Group B both reported itching. There were no statistically significant differences in itching between the two groups at this time, according to the results of the chi-square analysis, which yielded a p -value of 0.65. With a p -value of 0.71, the t -test for these categorical data likewise confirmed this conclusion.

A comparison of Modern (Group A) and Ayurvedic (Group B) treatment methods for haemorrhoids shows the findings for the reduction in haemorrhoid size, including baseline values, at different time points (4 weeks, 8 weeks, and 12 weeks) in Table 4. In order to determine if there are statistically significant differences between the two treatment groups, the table examines the changes in haemorrhoid size.

Both Group A and Group B started with haemorrhoids that were similar in size at the baseline evaluation, with Group A starting at $8.5 \text{ mm} (1.2 \text{ mm})$ and Group B starting at $8.4 \text{ mm} (\pm 1.1 \text{ mm})$. The non-applicable p -values (N/A) for ANOVA and t -tests reflect the fact that the baseline haemorrhoid sizes of the two treatment groups were comparable. By the time of the 4-week assessment, haemorrhoids had shrunk in size in both groups. The mean reduction in Group A was $-1.2 \text{ mm} (\pm 0.5 \text{ mm})$, whereas the mean reduction in Group B was $-1.0 \text{ mm} (0.4 \text{ mm})$. At this time, the ANOVA analysis revealed no statistically

significant difference between the two groups in terms of haemorrhoid size decrease ($p = 0.42$). With a p -value of 0.27, the t -test analysis also confirmed this conclusion. Both groups continued to have shrinking haemorrhoids at the 8-week evaluation. The mean decrease for Group A was $-2.4 \text{ mm} (\pm 0.7 \text{ mm})$, whereas the mean reduction for Group B was $-2.2 \text{ mm} (\pm 0.6 \text{ mm})$. Once more, the ANOVA analysis found no statistically significant difference between the two groups' reductions in haemorrhoid size ($p = 0.36$). This finding was also corroborated by the t -test analysis, which had a p -value of 0.42. Both groups had shown significant haemorrhoid size reductions at the 12-week assessment. The mean decrease for Group A was $-3.9 \text{ mm} (\pm 0.8 \text{ mm})$, whereas the mean reduction for Group B was $-3.7 \text{ mm} (\pm 0.7 \text{ mm})$. At this time, there was no statistically significant difference in the haemorrhoid size decrease between the two groups, according to the ANOVA analysis ($p = 0.49$). With a p -value of 0.31, the t -test analysis corroborated this conclusion.

In a comparison of Modern (Group A) and Ayurvedic (Group B) therapy modalities for haemorrhoids, Table 5 shows the outcomes for adverse events or side effects at various time points (4 weeks, 8 weeks, and 12 weeks). The table looks at whether there are any statistically significant differences between the two treatment groups and the frequency of adverse events or side effects. Group A reported 6 adverse events at the 4-week evaluation, whereas Group B reported 4 adverse occurrences. The chi-square analysis produced a p -value of 0.48, suggesting that at this time there was no statistically significant difference between the two groups' occurrence of adverse events. At the 8-week evaluation, fewer adverse events were recorded by both groups. While Group B only had three negative incidents, Group A experienced five. The chi-square analysis produced a p -value of 0.55, indicating that at this time there were no statistically significant differences between the groups in the frequency of adverse events. Both groups continued to report negative incidents at the 12-week evaluation, with Group A reporting 7 and Group B reporting 6 respectively. There were no statistically significant variations in the occurrence of adverse events between the two groups at this time, according to the chi-square analysis, which yielded a p -value of 0.72.

findings from a comparison of Modern (Group A) and Ayurvedic (Group B) therapy modalities for haemorrhoids are shown in Table 6. These findings include changes in Quality of Life (QoL) ratings at various time intervals (baseline, 4 weeks, 8 weeks, and 12 weeks), as well as improvements in quality of life. The purpose of the table is to determine whether there are statistically significant differences between the two treatment groups and how the treatment has affected the quality of life of the patients.

Both Group A and Group B had identical baseline QoL ratings at the time of the evaluation, with Group A starting at $-2.1 (\pm 0.5)$ and Group B starting at $-2.0 (\pm 0.4)$. The non-applicable p -values (N/A) for the ANOVA and t -tests support the conclusion that the baseline QoL scores of the two treatment groups were comparable. When it came to the 4-week evaluation, both groups showed signs of improved quality of life. The mean change in QoL score for Group A was $3.8 (\pm 1.0)$, whereas the mean change for Group B was $4.2 (\pm 0.9)$. According to the ANOVA analysis, there was no statistically significant difference between the two groups' changes in QoL ratings at this time ($p = 0.21$). This conclusion was also corroborated by the t -test analysis, which had a p -value of 0.16. Both groups had continued to see increases in their quality of life at the 8-week evaluation. The mean change in QoL score for Group A was $5.5 (\pm 1.2)$, whereas the mean change for Group B was $5.8 (\pm 1.1)$. The ANOVA analysis once more demonstrated that there was no statistically significant difference between the two groups' changes in QoL levels ($p = 0.32$). This finding was corroborated by the t -test analysis, which had a p -value of 0.24. Both groups had significantly improved quality of life at the time of the final assessment at 12 weeks. The mean change in QoL score for Group A was $6.9 (\pm 1.4)$, but the mean change for Group B was a little bit higher at $7.1 (\pm 1.3)$. According to the ANOVA analysis, there was no statistically significant difference between the two groups' changes in QoL ratings at this time ($p = 0.45$). This conclusion was also corroborated by the t -test analysis, which had a p -value of 0.3.

CONCLUSION

Our extensive study comparing Modern and ayurvedic methods to haemorrhoids therapy shows that both modalities provide excellent symptom alleviation, discomfort reduction, and quality of life improvements, with no statistically significant differences identified

between the two groups. Additionally, patient satisfaction, safety, and tolerability were comparable, indicating that the treatment option may be modified to take into account cultural norms and personal preferences. Various results highlight the significance of a patient-centered strategy in choosing the best haemorrhoid therapy technique, and future study may explore possible synergies between various treatment approaches.

Limitations:

For an in-depth analysis of the results, the study's limitations must be acknowledged. The single-center design of the trial, which can restrict generalizability, as well as the dependence on patient-reported outcomes, which might bring some subjectivity to the data, were potential drawbacks.

Conflict Of Interest:

No conflict of interest during whole course of the study.

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