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EXAMINING THE EFFICACY OF *AYURVEDIC* THERAPIES IN SELECTED CLINICAL CONDITIONS REFERRED FOR SURGICAL INTERVENTION: A CROSS-SECTIONAL RETROSPECTIVE COMPARATIVE STUDY

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Abstract

Background: While conventional medicine often mandates surgical intervention for various structural and inflammatory pathologies, a significant patient cohort seeks *Ayurvedic* alternatives due to personal preference, cost constraints or surgical contraindications. This study evaluates the long-term clinical outcomes of patients who opted for *Ayurvedic* management despite being formally advised to undergo surgery.

Methods: A retrospective analysis was conducted on 8,012 case records from three *Ayurvedic* centres in Kerala, India, spanning a ten-year period (January 2006 to December 2015). A total of 1,174 patients met the inclusion criteria, having sought *Ayurvedic* care specifically to avoid recommended surgical procedures. Outcomes were categorized into five thematic domains: Surgery Totally Avoided, Improved Quality of Life (QoL) without Surgery, Deterioration due to Surgical Delay, resolved via Surgery and Lost to Follow-up.

Results: The data revealed that 76.06% (n=893) of the study population successfully avoided surgery, while an additional 15.08% reported significantly improved day-to-day functioning without operative intervention. Clinical success was particularly notable in cases of intervertebral disc prolapse (IVDP) and acute appendicitis. Conversely, a small minority experienced a decline in health status attributed to the postponement of necessary surgical care.

Conclusion: These findings suggest that *Ayurvedic* protocols can serve as a viable alternative to surgery for specific conditions, particularly where "preference-sensitive" decisions are involved. The high rate of surgery avoidance and improved functional outcomes underscore the need for an integrative healthcare model. Further prospective research is warranted to standardize these non-operative *Ayurvedic* pathways within mainstream surgical triaging.

Keywords: *Ayurveda*, Surgical alternative, Clinical outcomes, Preference-sensitive conditions, Holistic healthcare, Complementary medicine.

1. Introduction

In the modern clinical landscape, *Ayurveda* has evolved from a wellness-oriented system[1] to a definitive alternative for managing preference-sensitive surgical conditions. In contemporary times, it is observed that patients often turn to *Ayurvedic* clinicians under specific circumstances. Typically, individuals seek *Ayurvedic* treatment either when conventional medicine fails to provide satisfactory relief for their ailments or when the anticipated cost of conventional treatment is perceived to be prohibitively high.[2] Additionally, *Ayurveda* is

often considered when conventional medical practitioners recommend surgical intervention, or as a final resort after exhausting all other available medical care options. This pattern reflects a complex interplay between traditional healing practices and modern healthcare systems, wherein *Ayurveda* continues to serve as a valuable alternative or complementary approach in addressing diverse health needs and preferences. The current study presents a review of the health outcomes of patients who have chosen *Ayurvedic* medical care over surgical intervention as recommended by conventional medical practitioners. Specifically, the study focuses on patients diagnosed with selected clinical conditions who expressed reluctance towards undergoing surgical management. By examining the health status and treatment outcomes of these individuals within the framework of *Ayurveda*, the study aims to shed light on the effectiveness and potential benefits of *Ayurvedic* interventions as an alternative approach to surgical treatment. Through an analysis of patient demographics, medical histories, treatment modalities and health outcomes, this review seeks to provide insights into the role of *Ayurveda* in addressing the healthcare needs of individuals who opt for non-surgical management despite conventional medical recommendations. The decision-making process among general surgeons regarding whether to proceed with surgical intervention often exhibits notable variability.[3] Particularly in preference-sensitive conditions, where multiple treatment options are available, patients are empowered to choose their preferred course of action.[4] While some patients opt for surgical care, a considerable majority, particularly in regions like Kerala, India where *Ayurveda* enjoys widespread popularity, turn to *Ayurvedic* treatments as an alternative, often as an initial trial method. The present study is rooted in the experiences of three *Ayurveda* practitioners who assert achieving notable success in managing patients with preference-sensitive clinical conditions. Through an exploration of their clinical experiences and patient outcomes, this work aims to provide insights into the efficacy and potential benefits of *Ayurvedic* interventions as viable alternatives to surgical management in such cases.

2. Aims and Objectives

The aims of this study are:

1. To evaluate the present health status of 1174 patients who initially had a surgical indication but chose *Ayurveda* treatment and lifestyle guidelines instead.
2. To assess the effectiveness of *Ayurvedic* interventions and lifestyle modifications in managing clinical conditions that typically warrant surgical interventions and also confirmed through various examinations that these conditions are not life-threatening to the patient.
3. To contribute to the understanding of *Ayurveda*'s role as an alternative or complementary approach to surgical management in selected medical conditions.

3. Materials and Methods

The study encompasses a multi-centred retrospective cross-sectional comparative analysis conducted at three peripheral *Ayurveda* clinics situated in distinct districts of Kerala, India. A total of 8012 case records of patients who visited these clinics between January 1, 2006, and December 31, 2015, spanning a duration of 10 years, were screened for inclusion. From this pool, records pertaining to ten specific clinical conditions relevant to the study were identified and reviewed. Of the screened case records, 1174 met the inclusion criteria, signifying patients who had chosen *Ayurveda* as an alternative therapeutic system despite being advised surgical intervention by conventional medicine(as shown in Table no.1).

Table 1: *Ayurveda* line of treatment for the Clinical conditions

Sl No	Clinical condition	*Ayurveda* line of treatment
1	Polycystic ovarian disease(PCOD)	Amenorrhea – *Kaphavritha apana*[5]
		Metropathia haemorrhagica– *Kapha pithavrutha apana*[5]
2	Cholelithiasis	*Kapha pitha gulma*[6]
3	Cerebral palsy	*Sira snayugata vata*[5]
4	Carpal Tunnel Syndrome	*Snayugata vata*[5]

5	Fibroid of the uterus	According to the symptomatology as : • *Pakwashaya gata vata*[5] • *Kapha pitha avarutha apana*[5] • *Grandhi*[7] • *Antharvidradhi*[7]
6	Tonsilitis	*Tundikeri*[8]
7	Adenoid hypertrophy	RURTI protocol of *Ayurveda – Kapha pitha swasa*[9] *kasa*[10]
8	Urolithiasis	• *Pakwashaya gata vata*[5] • *Asmari*[8]
9	Acute Appendicitis	• *Pitha gulma*[6] • *Antharvidradi*[7]
10	Intervertebral disc prolapse(IVDP)	According to the symptoms : • *Pakwashayagata vata*[5] • *Sandhigata vata*[5] • *Mamsa medogata vata*[5]

These selected case records formed the basis of the present analysis. Data regarding the current health status of the selected cases was collected utilizing a phone-call interview method. A pre-designed questionnaire comprising 20 questions was employed for this purpose (Table No.2). Responses obtained through the interviews were categorized into five main thematic areas for further analysis. The flow-chart regarding the participant recruitment process is depicted in Figure 1.

Table 2: Questionnaire used for the selection of the patients

Sl no.	Questions
1	Are you currently experiencing any of the following symptoms you initially mentioned during your first *Ayurvedic* consultation?(The presenting complaints were listed)
2	Are you currently continuing with *Ayurvedic* medicine and treatments? (Yes/No)
3	If you are receiving *Ayurvedic* treatment, where are you receiving it from? (e.g., *Ayurvedic* clinic, practitioner name)
4	Can you briefly describe the *Ayurvedic* treatment you received? (e.g., herbal remedies, therapies)
5	If available, would you be willing to upload your *Ayurvedic* discharge summary?
6	Following your last *Ayurvedic* visit, why haven't you returned for further consultations?
7	Did you undergo the surgery recommended by your surgeon? (Yes/No)
8	If you opted for surgery, why did you initially seek *Ayurvedic* treatment as an alternative?
9	If you did not have surgery, why did you decide against it?
10	Following surgery, how would you describe your current health and any remaining symptoms?
11	If you did not have surgery, why did you decide against it?
12	If you avoided surgery, how would you describe your current health and any remaining symptoms?
13	For paediatric cases, how would you describe your child's overall development?
14	Are you currently continuing with any multidisciplinary therapies for your child? (Yes/No)
15	Is your child continuing with anti-epileptic medication? (Yes/No)
16	On average, how often does your child receive antibiotic treatment from conventional medicine?

17	On average, how often does your child receive fever-reducing medication from conventional medicine?
18	Are you currently taking any conventional medications for your uterine health concerns? (Yes/No)
19	Looking back, are you satisfied with your decision to undergo/avoid surgery?
20	Would you like to share any general comments about your experience with surgery or your health journey after avoiding surgery?

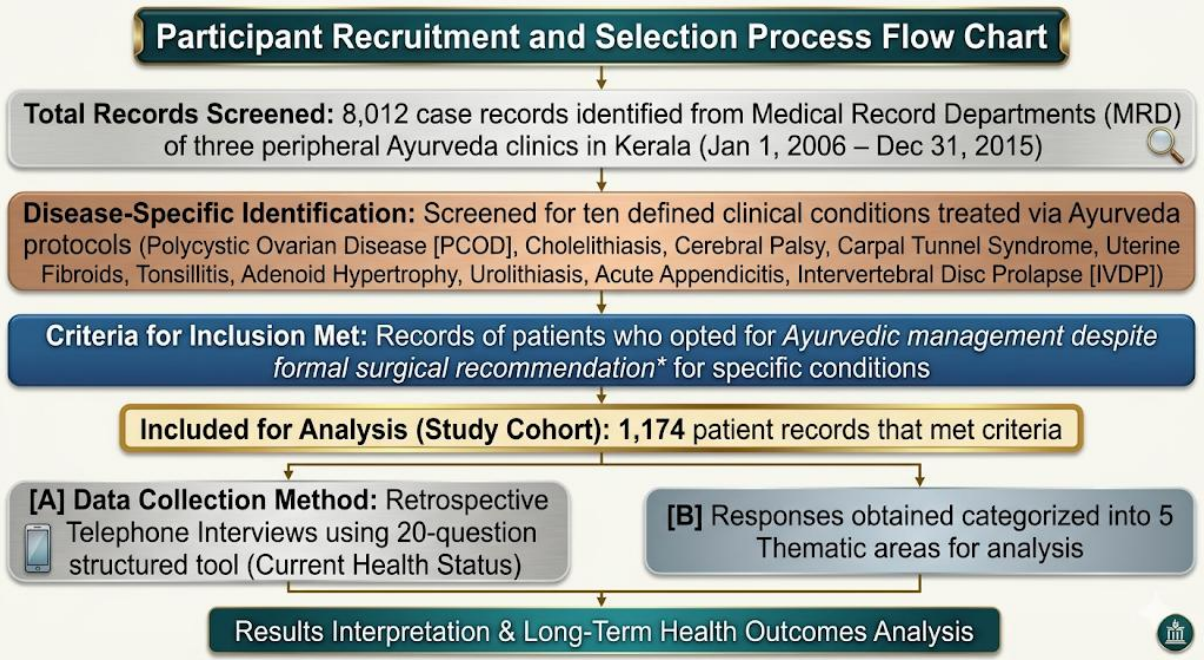

Figure 1: Flow chart on the participant recruitment process.

Inclusion and Exclusion Criteria

- **Inclusion:**
  - Patients who received treatment in the specified period.
  - Patients with accessible contact information.
- **Exclusion:**
  - Patients who decline to participate.
  - Patients with incomplete medical records.

The study categorized the outcomes of patients based on their responses to *Ayurvedic* interventions and their subsequent decisions regarding surgical intervention:

1. Surgery Totally Avoided: This group comprises individuals who experienced a complete cure, as evidenced symptomatically or through investigations, solely through personalized *Ayurvedic* interventions. Consequently, surgical intervention was entirely averted.
2. Improved Day-to-Day Living Without Surgery: Patients in this category achieved satisfactory relief from their condition, albeit not achieving a complete cure. As a result, their quality of life improved, as assessed by their ability to carry out day-to-day activities with ease, leading to the avoidance of surgery.
3. Condition Deteriorated Due to Reluctance for Surgery: This group includes patients who, despite being recommended surgery by *Ayurveda* practitioners, were reluctant to undergo the procedure due to various reasons such as financial constraints, fear of pain and associated complications, or fear of disability. Consequently, their condition may have worsened due to their reluctance to surgical intervention.
4. Cured by Surgery: Patients in this category were identified by *Ayurveda* practitioners as requiring surgical intervention, and they were successfully convinced of the necessity for surgery. Consequently, these patients underwent surgery and achieved cure through surgical intervention.

5. No Information: This group comprises patients for whom reliable data could not be obtained as they could not be contacted. Reasons for this lack of information include changes in contact details, unavailability of the patient at the given contact information, unanswered phone calls or unavailability of a suitable informant to provide accurate information.

4. Results

The number of cases for various diseases where surgery was suggested is depicted in Figure 2 as a bar chart. The ten clinical conditions of polycystic ovarian disease (PCOD), Cholelithiasis, Cerebral palsy, Carpal Tunnel Syndrome, Fibroid of the uterus, tonsilitis, Adenoid hypertrophy, urolithiasis, acute appendicitis and Intervertebral disc prolapse (IVDP) along with their number of cases are demonstrated.

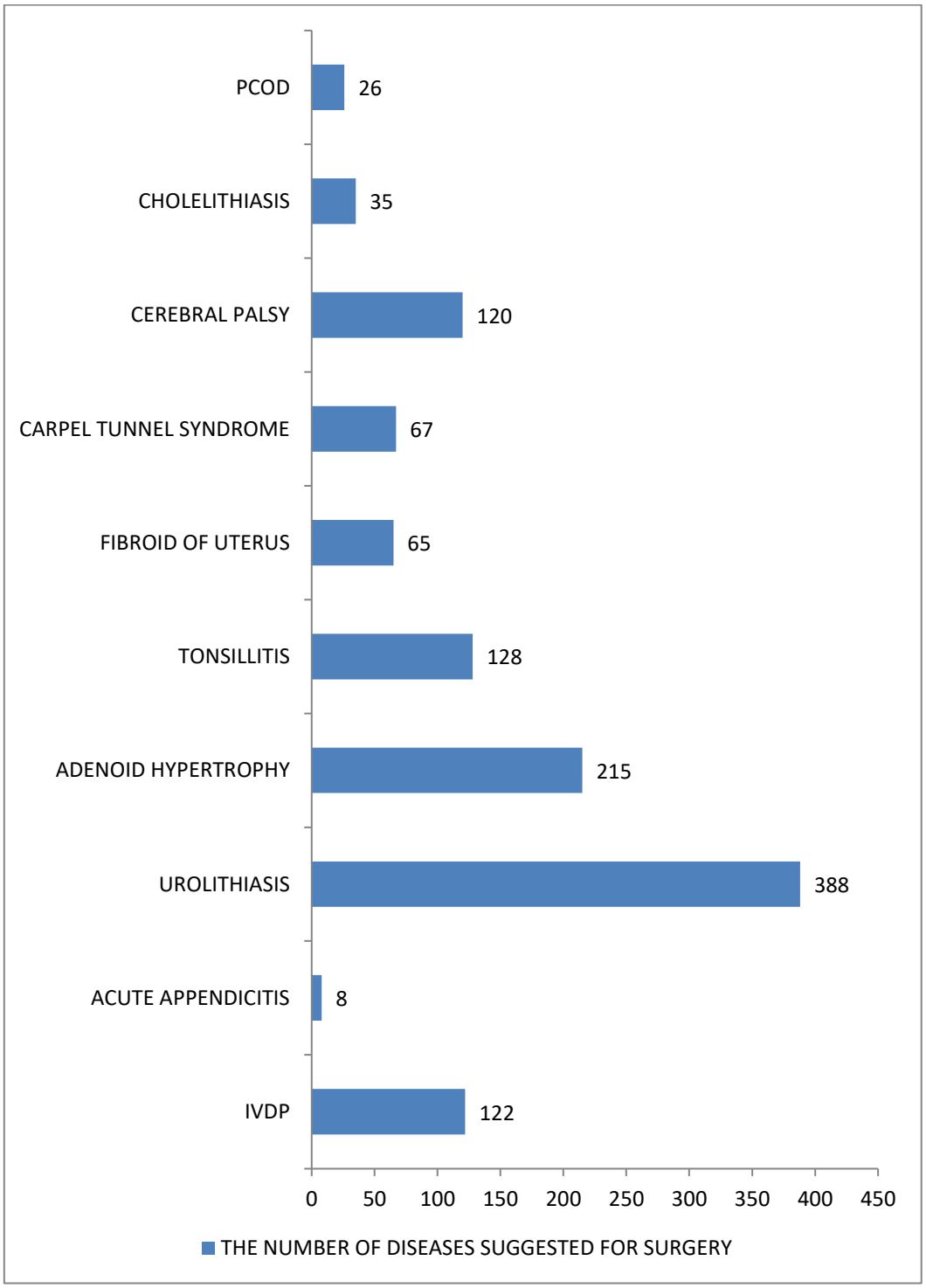

Figure 2: Number of diseases suggested for surgery

With a total number of 388 cases, urolithiasis indicated the most common condition requiring surgical intervention, having the highest number of cases. Adenoid hypertrophy and tonsilitis also reflected their prevalence having a significant number of 215 and 128 cases respectively. Possibly due to the emergency nature of the condition warranting immediate surgery, acute appendicitis had the fewest number of cases with 8 cases. A detailed representation with the analysis of the outcomes for the various diseases based on whether surgery was performed or avoided is shown in Table No.3. For adenoid hypertrophy and tonsilitis, all cases avoided surgery with no reported deteriorations, showed conservative approaches are common. The same was the case with carpel tunnel syndrome where a majority avoided surgery and a few benefited from the surgical intervention.

Table No.-3 - Present health status of the patients concerning their disease condition

Sl. No.	Disease	Surgery totally avoided	Condition deteriorated due to reluctance for surgery	Cured by surgery	Day-to-day living improved without surgery	No Information
1	IVDP	98	2	12	2	8
2	Acute appendicitis	5	0	3	0	0
3	Urolithiasis	354	0	1	29	4
4	Adenoid hypertrophy	215	0	0	0	0
5	Tonsillitis	128	0	0	0	0
6	Fibroid of uterus	13	0	44	8	0
7	Carpel tunnel syndrome	61	0	5	1	0
8	Cerebral palsy	0	3	9	108	0
9	Cholelithiasis	1	2	10	22	0
10	PCOD	18	0	1	7	0

5. Discussion

The clinical approach of *Ayurveda* is characterized by a personalized assessment of individual constitution and health status, guiding the selection of treatment modalities tailored to address specific imbalances and promote holistic wellness encompassing physical, mental, and spiritual dimensions of health.[11] Furthermore, *Ayurveda* prioritizes understanding the manifested pathology to formulate a management protocol, with the disease nomenclature considered secondary in importance.[12] Out of 122 cases of IVDP, 98 cases experiencing remission from their difficulties suggest that this outcome is not merely a chance incident. Previous studies have noted the possibility of remission,[13] but the high percentage observed in cases indicated for surgery is remarkable. This suggests either the success of *Ayurvedic* conservative management or potential misjudgement by surgeons in recommending surgery.

While our retrospective design stops short of proving a direct cause-and-effect relationship, the consistent pattern of symptom relief following *Ayurveda* care cannot be ignored. The fact that radicular pain is resolved so closely following treatment suggests a level of therapeutic efficacy that, while requiring formal prospective trials to confirm, offers a compelling case for non-operative management. The successful cure of 5 out of 8 cases of acute appendicitis through *Ayurvedic* treatment signals a need for revisiting the conventional surgical indication for this condition, a trend supported by previous studies.[14] Only for those patients taking oral medication with sonographically detected acute appendicitis, who did not exhibit vomiting, muscle guarding, or signs of generalized peritonitis, a conservative *Ayurvedic* management approach was employed based on surgical advice. The treatment was scheduled adhering to the principles of *pitta gulma* management from the *Charaka Samhita* and this included medicated enema, polyherbal compounds as tablets administered hourly, some topical applications at the McBurney's point and the general body procedure-based treatments with medicated milk. None of the patients who responded to *Ayurvedic* treatments required surgery. Notably, the absence of vomiting in these cases indicates the absence of peritonitis,[15] which conventionally mandates

surgery without question. The management of clinical and surgical conditions through *Ayurveda* warrants rigorous testing for both safety and efficacy, potentially offering numerous patients benefits without the need for surgery in the future. All cases of urolithiasis identified sonologically as nephrolithiasis with a diameter of less than 6 mm were included in this study, and the cure rate was assessed solely based on sonological review. The literature reports rates of spontaneous passage ranging from 71% to 98% for distal stones ≤5 mm and 25% to 79% for stones between 6 and 10 mm. Additionally, stones in the proximal ureter ≤5 mm are reported to pass spontaneously in 29% to 98% of cases, while stones ≤10 mm pass spontaneously in 10% to 53% of cases[16]. However, in this study, out of 384 responded cases, 354 were resolved through *Ayurvedic* intervention, constituting 92.19%, thus warranting discussion and attention towards this conservative management approach. While the lack of a control group in this retrospective design limits the ability to isolate the *Ayurveda* treatment as the sole causal factor, the clinical consistency of stone expulsion following medication suggests a strong therapeutic correlation. Despite the possibility of spontaneous recovery in 53% of cases with stones less than 6 mm, the instruction for surgery in such cases in India also raises ethical considerations in the medical field. Complete cure was observed in all cases of adenoid hypertrophy without surgery, and the condition did not worsen throughout the entire course of *Ayurvedic* interventions. Furthermore, no complications such as facial deformity were noted. These observations strongly support the assertions of *Ayurvedic* physicians that they possess immune-stabilizing agents and regimens capable of yielding remarkable results. The release of a new recommendation in 2016 discouraged adenoidectomy as a primary indication for otitis media in children under 4 years old, including those with prior tympanostomy tubes, unless specific indications such as nasal obstruction or chronic adenoiditis are present.[17] This reassessment prompts a thorough analysis to ascertain the actual necessity of adenoidectomy, with consideration given to the findings of this study. In our retrospective analysis, we observed that a notable majority of uterine fibroid cases were identified incidentally, lacking distinct clinical features. However, 68% of these cases displayed progressive tumour growth accompanied by clinically significant symptoms. *Ayurvedic* physicians, upon evaluating such cases, often recommended surgical intervention after thorough discussion and patient counselling. This indicates that experienced *Ayurvedic* physicians are keenly aware of the limitations and possibilities surrounding uterine fibroid management. Furthermore, due to their compassionate approach, inherent in their standard operating procedures, patients often feel reassured and well-informed when *Ayurvedic* physicians recommend surgery.

The success rate of *Ayurvedic* management in resolving 91% of carpal tunnel syndrome cases prompts a reconsideration of conventional surgical indications. Traditionally, surgery is recommended after attempting conservative management options. In contemporary practice, the criteria for surgical referral in carpal tunnel syndrome cases appear ambiguous, as conservative management may yield favourable outcomes without the need for surgical intervention.

As integral members of a multidisciplinary team, orthopaedic surgeons are tasked with addressing a wide array of musculoskeletal issues, including spasticity, contractures, joint dislocations, and bony deformities, with the overarching goal of enhancing musculoskeletal function and ambulation in cerebral palsy.[18] Here 120 patients who were advised for the tenotomy and tendon lengthening procedures for the cerebral palsy were opted for.

However, it's worth noting that cases managed through *Ayurveda* treatments may not necessarily involve contractures or joint dislocations. Instead, they may primarily present with spasticity, graded anywhere from 0 to 4 on the Modified Ashworth Scale, or may not exhibit any dislocation issues at all. While in 29% of cholelithiasis surgery was an inevitable option due to pain or other discomfort, still a good number of subjects (66%) have reported symptomatic relief and quality living without surgery. In 66% of cases, patients may receive advice for prophylactic cholecystectomy. In such instances, it is imperative that patients are thoroughly educated about the distinction between prophylactic and therapeutic surgery. Surgery is often suggested in polycystic ovarian disease [PCOD] by the conventional system.26 cases recommended either with laparoscopic removal or cyst rupture management were included *Ayurveda* practitioner interprets PCOD as a lifestyle disorder. This view was well substantiated in the findings of the present study also as in 69% of cases this disease was completely reverted. The cure was not only symptomatic but was also reflected in the sonogram.

6. Conclusion

This study presents intriguing evidence suggesting a potential role for *Ayurvedic* interventions as an alternative or complementary approach to surgical management in select medical conditions. Through our analysis of patient outcomes, we observed promising results, including instances where surgery was entirely avoided and improvements in quality of life without surgical intervention. These findings raise gripping questions regarding the feasibility and efficacy of *Ayurveda* as a therapeutic option for patients hesitant to undergo surgery. Further investigation and collaboration between conventional and *Ayurvedic* healthcare systems are warranted to explore the potential of *Ayurvedic* medicine in optimizing patient care strategies in such cases.

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