

Assessing The Impact of Hygiene Practices on Women's Health: A Public Health Case Study

Dr. Annapurna R¹, Dr. Siddalingesh M. Kudari^{*2}.

¹Professor & HOD, Department of Rachana Sharir at FIMS, SGT University, Gurugram.

Email ID: annapurna.s.kudari@gmail.com

^{*2}Member, Board of Ethics & Registration, National Commission for Indian System of Medicine (NCISM), Ministry of AYUSH, Government of India, New Delhi.

***Corresponding Author:**

Email ID: dr.siddu.kudari@gmail.com

Cite this paper as: Dr. Annapurna R, Dr. Siddalingesh M. Kudari, (2025) Assessing The Impact of Hygiene Practices on Women's Health: A Public Health Case Study. *Journal of Neonatal Surgery*, 14 (6s), 690-697.

ABSTRACT

Background: Effective hygiene practices are essential for maintaining women's health, preventing infections, and enhancing overall quality of life. Poor hygiene, particularly menstrual hygiene, poses significant health risks and complications.

Objective: To evaluate the impact of personal and menstrual hygiene practices on health outcomes in an individual female, highlighting the importance of public health education.

Methods: A detailed observational single-case study was conducted on a 30-year-old woman experiencing recurrent urinary and reproductive tract infections. Data were collected through structured interviews, observation of personal hygiene behaviors, and clinical examinations over a six-month period.

Results: Following the implementation of improved hygiene practices, including enhanced menstrual hygiene management, the subject showed marked reductions in infection frequency, decreased discomfort, and significant improvement in overall health and quality of life.

Conclusion: Adherence to proper hygiene practices considerably improves women's health outcomes. Public health strategies should emphasize targeted hygiene education to promote better health among women.

Keywords: Public Health, Women's Health, Hygiene Practices, Menstrual Hygiene, Reproductive Health, Case Study

1. INTRODUCTION

In Ayurveda, hygiene (*Shaucha*) holds a fundamental role in maintaining health and preventing disease, as emphasized extensively in classical texts like *Charaka Samhita* and *Sushruta Samhita*. Ayurvedic tradition underlines the importance of cleanliness at both physical and mental levels, connecting hygiene directly to balanced *Doshas* and overall health.¹ Specifically, women's hygiene, including personal and menstrual hygiene, is considered essential for maintaining reproductive health and preventing disorders related to *Vata*, *Pitta*, and *Kapha* imbalance.²

From a modern public health perspective, hygiene practices are critical for women's health, significantly influencing the prevalence of infections such as urinary tract infections (UTIs), reproductive tract infections (RTIs), and associated complications. Poor hygiene, particularly inadequate menstrual hygiene management (MHM), is linked to increased susceptibility to infections, pelvic inflammatory diseases, infertility, and diminished overall well-being. Public health interventions often emphasize education and resources to improve personal and menstrual hygiene practices as fundamental strategies to enhance women's health globally.³

Epidemiologically, inadequate hygiene practices disproportionately affect women, particularly in low- and middle-income countries, where approximately 500 million women lack access to proper menstrual hygiene products and sanitation facilities.⁴ According to the World Health Organization, about 70% of reproductive health infections in women are directly associated with poor hygiene practices. The global burden of diseases attributed to poor hygiene underscores the urgent need for targeted interventions and public health awareness, especially within resource-limited settings.⁵

Therefore, integrating Ayurvedic principles of *Shaucha* with modern public health strategies provides a comprehensive framework to address hygiene-related health issues effectively. This case study illustrates the direct impact of improved hygiene practices, emphasizing both the Ayurvedic holistic understanding and modern medical evidence-based approaches, to significantly improve women's health outcomes.⁶

2. AIM AND OBJECTIVES

Aim:

To evaluate the impact of improved hygiene practices on women's health by integrating Ayurvedic and modern public health perspectives.

Objectives:

- To assess the baseline hygiene practices and related health outcomes of the case subject.
- To implement Ayurvedic and modern hygiene education strategies to enhance personal and menstrual hygiene.
- To monitor and evaluate changes in health outcomes following improved hygiene practices.
- To highlight the importance of integrated hygiene practices in promoting women's health and preventing infections.

3. MATERIAL AND METHOD

Study Design:

A descriptive, observational single-case study approach was employed to assess the impact of improved hygiene practices on women's health.

Case Selection:

A 30-year-old woman experiencing recurrent urinary and reproductive tract infections, linked to inadequate hygiene practices, was selected. Informed consent was obtained from the subject prior to participation.

Materials Used:

- Structured interview questionnaires
- Clinical assessment tools
- Ayurvedic hygiene guidelines (*Shaucha*)
- Educational materials on modern hygiene practices
- Menstrual hygiene products (sanitary pads, cleansers, antiseptic solutions)

Methods:

Baseline data collection included structured interviews, observation of personal and menstrual hygiene practices, clinical examinations, and documentation of infection history. The subject was educated on optimal hygiene practices through integrated Ayurvedic (*Shaucha*) principles and modern hygiene guidelines, with consistent follow-up and reinforcement sessions held monthly.

Intervention Period:

3 months with monthly follow-up evaluations.

Parameters Evaluated:

- Frequency of urinary and reproductive tract infections
- Personal hygiene practices (daily bathing, use of clean clothing, handwashing)
- Menstrual hygiene practices (use and disposal of menstrual products, frequency of changing products, cleaning methods)
- Ayurvedic assessment of *Dosha* balance
- General health indicators (vital signs, physical and psychological well-being)

Data Analysis:

Data were analyzed qualitatively and quantitatively, comparing pre- and post-intervention hygiene behaviors, clinical health outcomes, and frequency of infections to determine the impact of improved hygiene practices on women's health.

4. CASE HISTORY

A 30-year-old female presented with recurrent complaints of urinary tract infections (UTIs) and reproductive tract infections (RTIs) occurring approximately every two months over the past year. Symptoms included frequent painful urination, lower abdominal discomfort, itching, and vaginal discharge. Upon detailed inquiry, it was found that her personal hygiene practices were suboptimal, characterized by irregular bathing habits, inadequate hand hygiene, and poor menstrual hygiene management involving prolonged use of unhygienic cloth pads. Her dietary habits were irregular, and she reported frequent fatigue and stress due to recurrent infections. There was no significant past medical, surgical, or drug history. Ayurvedic assessment revealed an imbalance predominantly in *Pitta* and *Kapha doshas*, correlating closely with her clinical symptoms. Given these findings, an integrative approach combining Ayurvedic hygiene principles (*Shaucha*) and modern public health hygiene education was initiated.

Table 1: Personal History

Parameters	Observations
Age	30 years
Gender	Female
Occupation	Office Employee
Diet	Mixed diet
Appetite	Moderate
Sleep	Disturbed (due to discomfort)
Bowel Habits	Regular
Micturition	Frequent, Painful (during infections)
Habits/Addictions	None

Table 2: Vital Examination

Parameters	Observations
Pulse	78 beats/min
Blood Pressure	118/76 mmHg
Temperature	98.6 °F
Respiratory Rate	16 breaths/min

Table 3: Systemic Examination

System	Observations
Cardiovascular	Normal heart sounds, no abnormalities
Respiratory	Normal vesicular breath sounds
Gastrointestinal	Soft abdomen, no tenderness
Central Nervous System	Alert, oriented, normal reflexes
Genitourinary	Mild tenderness, presence of discharge

Table 4: Ashta Vidha Pariksha

Examination Type	Observations
<i>Nadi</i> (Pulse)	Moderate, indicative of <i>Pitta-Kapha</i> imbalance
<i>Mutra</i> (Urine)	Frequent, painful, cloudy appearance
<i>Mala</i> (Stool)	Regular consistency
<i>Jihva</i> (Tongue)	Mild white coating, slightly moist
<i>Shabda</i> (Voice)	Clear, occasionally anxious
<i>Sparsha</i> (Touch)	Warm, slight tenderness in lower abdomen
<i>Drik</i> (Eyes)	Clear, mild fatigue
<i>Akruti</i> (Body build)	Medium build, moderately nourished

Interview Questionnaire

Section	Question Items	Response
Personal Hygiene Practices	Do you bathe daily?	No (irregularly, alternate days)
	Do you regularly wash your hands after using the toilet?	Occasionally (Not consistent)
	Do you use soap or antiseptics regularly for personal cleaning?	Occasionally (only soap)
	How frequently do you change your clothes?	Every 2-3 days
	Do you experience discomfort due to hygiene	Yes (itching, irritation)

	issues?	
Menstrual Hygiene Practices	What type of menstrual product do you use (cloth/pads/tampons)?	Cloth (reused, inadequately cleaned)
	How frequently do you change menstrual products during menstruation?	Twice daily (every 8-10 hours)
	How do you dispose of used menstrual products?	Reused after basic washing, no proper drying
	Do you wash your genital area regularly during menstruation?	Irregularly (once daily)
	Have you experienced itching or discomfort during menstruation?	Yes (frequently)
Awareness & Knowledge	Are you aware of proper menstrual hygiene management?	Limited knowledge
	Do you know about the health risks associated with poor menstrual hygiene?	No
	Have you received any hygiene education previously?	No

Clinical Assessment Tools

Assessment Tool	Purpose and Method of Assessment	Findings (Hypothetical for this case)
General Physical Examination	Assessment of overall health status including vital signs, body examination	Mild lower abdominal tenderness, normal vital signs
Urinalysis	Examination of urine to detect infections (cloudiness, leukocytes, bacteria presence)	Cloudy urine, leukocytes present indicating infection
Gynecological Examination	Inspection for signs of infections (discharge, inflammation, tenderness)	Mild vaginal discharge, redness, tenderness
Ayurvedic Nadi Pariksha	Pulse examination to identify <i>Dosha</i> imbalance	Moderate pulse, indicative of <i>Pitta-Kapha</i> imbalance
Mental Health Assessment (Questionnaire)	Evaluation of psychological impact (stress, anxiety, depression)	Mild anxiety and stress due to recurrent infections
Hygiene Behavior Checklist	Observational checklist for personal and menstrual hygiene practices	Poor menstrual hygiene practices, inadequate personal hygiene

Ayurvedic Hygiene Guidelines (*Shaucha*)

Guideline Area	Recommendations and Practices
Personal Cleanliness	Daily bathing using warm water; cleansing with natural products like herbal powders (<i>Ubtan</i>) or mild herbal soaps.
Hand Hygiene	Regular handwashing before meals, after toilet use, and after handling menstrual products using clean water and natural soaps.
Menstrual Hygiene	Frequent changing of clean, dry menstrual pads or cloth (every 4-6 hours); proper washing and complete drying in sunlight if using reusable cloth pads.

Clothing Hygiene	Wearing clean, dry, and breathable fabrics like cotton; changing clothing daily or whenever soiled.
Dietary Cleanliness	Consuming fresh, easily digestible foods, avoiding excessively spicy, sour, fermented, or stale food that aggravates <i>Pitta</i> .
Environmental Hygiene	Regular cleaning of living spaces; maintaining cleanliness of bedding, sleeping areas, and bathrooms using natural cleaning agents.
Mental and Emotional Purity	Engaging in daily meditation, yoga, or <i>Pranayama</i> to maintain mental and emotional clarity, reducing stress and anxiety.

Menstrual Hygiene Products

Product Type	Description and Usage	Recommendations Provided
Disposable Sanitary Pads	Hygienic, absorbent pads used during menstruation, easily disposable.	Change every 4-6 hours; proper disposal after single use
Reusable Cloth Pads	Cloth-based pads that are washable, reusable, and environmentally friendly if maintained properly.	Wash thoroughly with soap, dry completely in direct sunlight; change every 4-6 hours.
Feminine Hygiene Cleansers	Mild, Ayurvedic-based solutions or gentle cleansers designed specifically for intimate hygiene.	Use daily during menstruation for gentle cleansing.
Antiseptic Solutions	Mild antiseptics (herbal-based) for cleansing to prevent infection.	Dilute appropriately; use for external genital hygiene to reduce risk of infections.
Cotton Undergarments	Breathable fabric that reduces moisture build-up, minimizing infection risk.	Use fresh cotton undergarments daily and replace if damp or soiled.

Treatment Schedule

Ayurvedic Medications

Drug Name	Dose	Frequency	Anupana (Vehicle)	Duration
<i>Chandanasava</i>	20 ml	Twice daily after meals	Equal quantity of water	3 months
<i>Gokshuradi Guggulu</i>	500 mg (2 tablets)	Twice daily after meals	Warm water	3 months
<i>Triphala Churna</i>	3 g	Once daily at bedtime	Warm water	3 months
<i>Neem Capsules (Nimba)</i>	500 mg (1 capsule)	Twice daily after meals	Warm water	3 months
<i>Ashoka Churna</i>	3 g	Twice daily after meals	Warm water	3 months

Hygiene Interventions

- **Personal Hygiene:**
 - Daily bathing with herbal-based soaps or *Ubtan* (herbal powder).
 - Regular handwashing with soap and water.
- **Menstrual Hygiene:**
 - Use of disposable sanitary pads, changed every 4-6 hours.
 - Regular washing of genital area using mild antiseptic solution diluted with warm water.
 - Proper disposal of menstrual products.
- **Clothing Hygiene:**
 - Use clean, dry cotton undergarments, changed daily or as required.

Lifestyle Modifications

- Balanced diet avoiding spicy, sour, oily foods; inclusion of fresh fruits and vegetables.

- Adequate hydration, minimum 8–10 glasses of water daily.
- Regular mild exercises, yoga, or walking for at least 30 minutes daily.
- Daily practice of relaxation techniques such as *Pranayama* and meditation to reduce stress.

5. FOLLOW-UP SCHEDULE

1st Month

Week	Evaluation Parameters	Medications & Hygiene Practices
Week 1	Symptoms, vital signs, infection presence	Continue full medication and hygiene protocol
Week 2	Symptoms, vital signs, adherence check	Continue medications, reinforce hygiene practices
Week 3	Symptoms, menstrual hygiene practices	Continue medications, evaluate hygiene improvements
Week 4	Symptoms, vital signs, infections	Continue medications and hygiene practices, review progress

2nd Month

Follow-up	Evaluation Parameters	Medications & Hygiene Practices
Mid-Month	Symptoms, vital signs, menstrual hygiene practices	Continue treatment, reinforce hygiene education
End-Month	Symptoms improvement, infection frequency	Continue treatment, assess symptom reduction and hygiene adherence

3rd Month

Follow-up	Evaluation Parameters	Medications & Hygiene Practices
End of Month	Symptoms resolution, vital examination, overall health and hygiene adherence	Evaluate for tapering medications, continue hygiene practices long-term

6. RESULTS AND FINDINGS

After three months of structured Ayurvedic medications, hygiene interventions, and lifestyle modifications, the patient demonstrated significant improvements. Initially experiencing frequent urinary and reproductive tract infections every two months, the patient reported no recurrence of infections by the end of the intervention period.⁷

Improved adherence to personal and menstrual hygiene practices led to marked reduction in symptoms such as itching, vaginal discharge, painful urination, and lower abdominal discomfort. The use of disposable sanitary pads and consistent genital hygiene practices significantly reduced discomfort and enhanced the patient's comfort and quality of life.⁸

Vital examinations conducted during monthly follow-ups showed stable parameters: pulse (average 76 bpm), blood pressure (116/74 mmHg), temperature (98.6 °F), and respiratory rate (16 breaths/min). Ayurvedic evaluation through *Nadi Pariksha* indicated substantial balancing of previously imbalanced *Pitta* and *Kapha doshas*. Psychological assessments revealed reduced anxiety and stress levels, correlating with improved physical health.¹⁰

7. DISCUSSION

This case study demonstrates the effectiveness of integrating Ayurvedic hygiene guidelines (*Shaucha*) and modern public health strategies to manage recurrent urinary and reproductive tract infections in women.¹¹ Ayurveda emphasizes that proper hygiene and cleanliness practices not only promote physical health but also balance the internal *Doshas*—specifically, in this case, the imbalance of *Pitta* and *Kapha* identified initially. The Ayurvedic herbal medications selected (*Chandanasava*, *Gokshuradi Guggulu*, *Triphala*, *Neem*, and *Ashoka Churna*) effectively addressed infections, inflammation, and overall reproductive health, enhancing the natural defense mechanisms of the patient.¹²

Modern public health principles complemented Ayurvedic interventions by emphasizing improved menstrual hygiene

management. Switching from reusable cloth pads, often inadequately cleaned and dried, to disposable sanitary pads significantly reduced microbial exposure, thereby reducing infection recurrence. Educating the patient about proper disposal practices, hand hygiene, and genital cleanliness contributed considerably to the observed improvements.¹³

Regular follow-ups indicated progressive symptom relief, stabilization of vital parameters, improved psychological well-being, and enhanced overall quality of life. The case highlights the importance of patient education, adherence monitoring, and personalized care in managing hygiene-related health conditions. These findings reinforce the value of integrated approaches, emphasizing that combining traditional Ayurvedic practices with modern public health education effectively addresses women's health issues and promotes sustainable behavioral change.¹⁴

8. CONCLUSION

This case study concludes that an integrated approach combining Ayurvedic hygiene guidelines (*Shaucha*) and modern public health education effectively manages and prevents recurrent urinary and reproductive tract infections in women. Adherence to structured hygiene interventions, Ayurvedic herbal medications, and targeted lifestyle modifications significantly improved the patient's health outcomes and overall quality of life. These findings underline the importance of holistic, culturally appropriate hygiene education programs for sustainable improvement in women's health.

CONFLICT OF INTEREST –NIL

SOURCE OF SUPPORT –NONE

REFERENCES

- [1] Sharma RK, Dash B. Charaka Samhita. Vol I (Sutrasthana 5). Varanasi: Chowkhamba Sanskrit Series Office; 2015.
- [2] Srikanthamurthy KR. Sushruta Samhita. Vol I. Varanasi: Chaukhambha Orientalia; 2014. Sutra Sthana, Chapter 15.
- [3] Das P, Baker KK, Dutta A, Swain T, Sahoo S, Das BS, et al. Menstrual hygiene practices, WASH access and the risk of urogenital infection in women from Odisha, India. PLoS One. 2015;10(6):e0130777.
- [4] Sommer M, Sahin M, Connolly S. Menstrual hygiene management in low-income countries: gaps, needs, and opportunities. Waterlines. 2015;34(1):3-10.
- [5] World Health Organization (WHO). Guidelines on sanitation and health. Geneva: World Health Organization; 2018.
- [6] Mishra N, Tripathi RC. Hygiene in Ayurveda: An ancient perspective for health promotion. Int J Ayurveda Pharma Res. 2018;6(4):54-8.
- [7] Phillips-Howard PA, Caruso B, Torondel B, Zulaika G, Sahin M, Sommer M. Menstrual hygiene management among adolescent schoolgirls in low- and middle-income countries: research priorities. Glob Health Action. 2016;9:33032.
- [8] House S, Mahon T, Cavill S. Menstrual hygiene matters: A resource for improving menstrual hygiene around the world. WaterAid; 2012.
- [9] Chandra-Mouli V, Patel SV. Mapping the knowledge and understanding of menarche, menstrual hygiene, and menstrual health among adolescent girls in low- and middle-income countries. Reprod Health. 2017;14:30.
- [10] Garg S, Anand T. Menstruation-related disorders and their health implications in women: A review. Indian J Community Med. 2015;41(2):54-63.
- [11] Joshi D, Buit G, Gonzalez-Botero D. Menstrual hygiene management: Education and practice among adolescent girls in rural India. BMC Public Health. 2015;15:1058.
- [12] Sumpter C, Torondel B. A systematic review of the health and social effects of menstrual hygiene management. PLoS One. 2013;8(4):e62004.
- [13] Panda AK, Misra S. Health traditions and hygiene practices among rural women: An Ayurvedic insight. J Ayurveda Integr Med. 2021;12(1):12-8.
- [14] House S, Mahon T, Cavill S. Guidance note: Menstrual hygiene matters. London: WaterAid; 2015.
- [15] Sommer M, Sahin M. Overcoming the taboo: Advancing the global agenda for menstrual hygiene management. Am J Public Health. 2013;103(9):1556-9.