

# Understanding Menstrual Waste Disposal Behaviour: A Smart PLS Analysis Applying the Theory of Planned Behaviour Model

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## INTRODUCTION

- The current waste load is 12 billion pads (non-biodegradable) per year in India & a single commercial disposable pad takes 500-800 years to decay (Muralidharan, 2018).
- National Family Health Survey (NFHS) 2015-2016 report, 77.5% of the pad users are in urban India
- Per woman switch from tampons to menstrual cups would have 16 times less carbon impact, saving 7 kg CO<sub>2</sub> over a year.
- In Europe and the U.S., 80% of conventional tampons and 20% of pads are flushed down toilets, releasing microplastics into the ocean.
- Wood pulp used for absorption has also hastened deforestation and soil depletion.
- Throughout their lifecycle, non-recyclable menstrual products emit 2,45,000 tonnes of CO<sub>2</sub> equivalents per year.

- In Europe, these products end up in landfills (87%) or are incinerated (13%), wasting resources and invoking negative environmental impacts (high land occupation rates, groundwater and soil contamination, greenhouse gases emissions, etc.).
- No segregated from other waste, energy recovery becomes very difficult.
- consumer behaviour “is a key determinant of environmental impacts for both single-use menstrual products and reusable products” (research states that consumer behaviour “is a key determinant of environmental ) - *theory of planned behaviour*.

## **RESEARCH METHODOLOGY**

- Primary data collected from five districts across Gujarat, sampling 991 school going girls.
- Went through extensive literature in the last 30 years.
- National-level policy documents
- Got limited papers in the Indian context
- Conceptual framework based on TPB and Hypothesis Analysis (PLS-SEM).
- SEM gives a deeper understanding of the plausible predicted covariance between the variables.

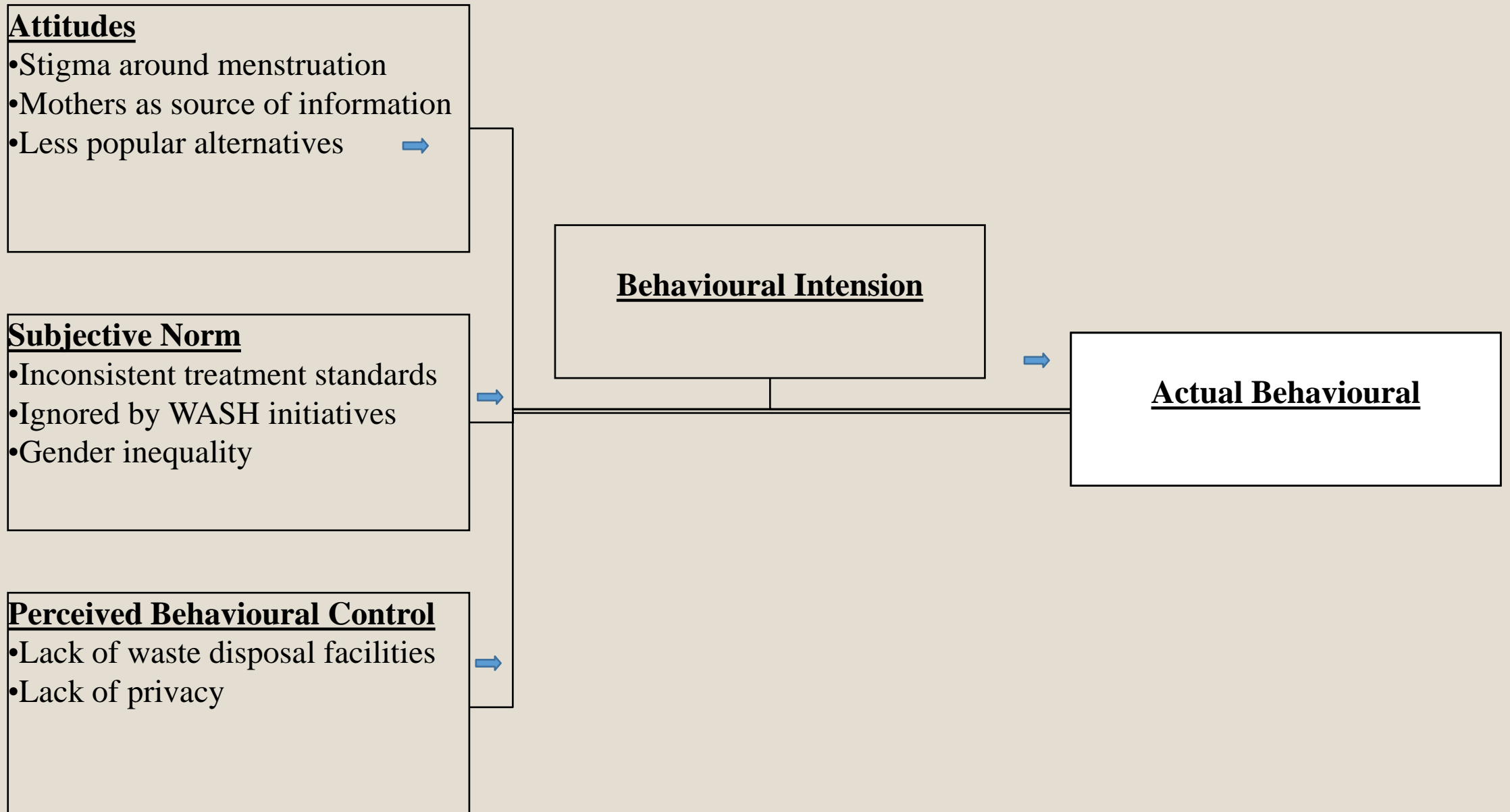


Figure 1: Theoretical framework for menstrual waste behaviour

## **HYPOTHESIS**

H1: Attitude of the School Going girls have a significant positive impact on their Behavioral Intention towards Menstrual Disposal Behavior.

H2: Subjective Norm have a significant positive impact on the Behavioral Intention of the School going girls towards Menstrual Disposal Behavior.

H3: Perceived Behavioral Control has a significant positive impact on the Behavioral Intention of the School going girls towards Menstrual Disposal Behavior.

H4: Behavioral Intention has a significant positive impact on the Actual Intention of the School going girls towards Menstrual Disposal Behavior.



## **Policies and Schemes at the National Level**

- No government body, scheme, or policy specifically defines a way to handle the menstrual waste.
- There is no specific goal or indicator for menstrual hygiene and none of the existing goals (SDGs) directly deal with the problem of menstrual waste disposal
- A national scheme like Rashtriya Kishor Swasthya Karyakram, managed Ministry of Health, focuses only on distributing high-quality sanitary pads to females in the age group of 10-19 years.

## CONTRIBUTION OF THE STUDY

- Studies have found that the socio-cultural surroundings, information, attitudes, and practices that young females are exposed to, affect their access to menstrual facts, products, and facilities (Muralidharan, 2019).
- Our paper focuses on the waste disposal behaviour of females and the factors influencing this behaviour.
- For this ‘theory of planned behaviour’ (TPB) developed and refined by Icek Ajzen (1991) was chosen.
- TPB has been used before in other sectors but never in the context of menstrual waste behaviour.
- popular literature (Scorgie et al., 2015; Garikipati and Boudot, 2017) focused only on health and hygiene needs of females during menstruation
- They all lacked attitudinal evaluations responsible for this wasteful behaviour.



## **a) Factors Shaping the Attitude**

### ***1) Stigma around Menstruation***

- situation for females becomes worse due to shyness, embarrassment and inadequate knowledge on the subject
- Such practices are a threat to the mental as well as physical wellbeing of females in the society.
- girls developed a positive outlook towards menstruation when they studied and discussed it in schools with teachers

### ***2) Mother as a Source of Information.***

- Majorly these mothers are illiterate or had only primary schooling + communication gap
- Lack of health education programmes in schools
- Hardly given any information regarding the disposal of commercial sanitary pad by a female relative or mother.

### ***3) Less Popular Alternatives.***

- Factors contributing to the low usage of alternatives to sanitary pad:
  - difficult task of hiding the sight and smell of menstrual blood from men and other family members
  - lots of water is needed to wash and sterilize reusable products.
  - Alternatives are more expensive- Rs. 4 v/s Rs. 350

## b) Role of Subjective Norms

- ‘Subjective norms’ indicate a compulsion felt by an individual to behave in a certain way through the society or by factors outside the control of an individual, (Ajzen, 1991).

### 1) *Inconsistent Treatment Standards*

- No guidelines given in the latest National Sanitation Policy 2008 to treat used menstrual products.
- Solid Waste Management (SWM) Rules, 2016 vs Bio-Medical Waste Management Rules, 2016
- Incomplete burning can pollute the environment by releasing harmful gases like Dioxin and Furan.
- Only 3 Indian cities – Bengaluru, Indore and Pune are segregating menstrual waste from others.

### 2) *Ignored by WASH & MHM Initiatives*

- Total Sanitation Campaign (TSC) 1999, diverted all resources towards building community infrastructure ignoring the infrastructure needs for waste disposal of used menstrual products.
- Swachh Bharat Mission, an improved version of TSC, too does not focus on this issue.



### ***3) Gender Inequality***

- Negative and demeaning attitude of men concerning menses and menstruating females
- Many females suffer a lot of teasing and humiliating experiences at schools, colleges, and workplaces
- Men not ready to share the burden of daily chores.
- Men did not encourage active participation of females

### **c) Perceived Behavioural Control**

indicates the amount of struggle or comfort with which an individual is able to execute or conduct a behaviour

#### ***1) Lack of Waste Disposal Facilities.***

- In slums/constrained spaces females are forced to go out of their houses to dump used pads in open gutter, resulting in people knowing about a girl's menstrual status.
- This whole exercise compelled some females to shift to the usage of cloth instead of pad.
- Decomposition of used menstrual products disposed in wrapped plastic gets thwarted
- No separate wastebaskets for menstrual waste
- Menstrual waste segregated by local waste collectors using bare hands
- incineration camp is set up at a distance from toilets

#### ***2) Lack of Privacy***

- Poorly constructed toilets shared by many family/ neighbourhood members
- This forces females to dispose used menstrual waste in an environmentally unfriendly way.

Variables	Range	Frequency	Percentage
Age	17	364	36.7
	18	462	46.6
	19	165	16.6
Standard	11 <sup>th</sup>	554	55.9
	12 <sup>th</sup>	437	44.1
Medium	English	362	36.5
	Gujarati	473	47.7
	Hindi	156	15.7
Source Of Information	Friend	104	10.5
	Female Relative	27	2.7
	Internet	68	6.9
	Mother	730	73.7
	Part Of Syllabus	41	4.1
	Teacher	13	1.3
	Others	8	0.8

# DEMOGRAPHIC STUDY

## HYPOTHESIS ANALYSIS

Hypothesised Path	$\beta$ -value		p-value	Decision
Attitude ----Behavioural Intention	0.642		0.000	Supported
Subjective Norm ---- Behavioural Intention	0.541		0.000	Supported
Perceived Behavioral Control ----Behavioral Intention	0.523		0.000	Supported
Behavioural Intention --- - Actual Behaviour	0.671		0.000	Supported

## DISCUSSION

- Merely having people aware about the serious consequences of a habit does not guarantee discontinuance of that harmful habit.
- Matters of safety and privacy mostly wins over the concerns about hygiene and sanitation facilities.
- Need to create a conducive environment to practice a responsible behaviour.
- Lack of health education programmes in schools deterred females from developing a healthy outlook towards menstruation.
- Focus on building toilets or in procuring menstrual products but not on managing menstrual waste
- Ambiguity in policies of waste management on the categorization and treatment of menstrual waste.
- Fine or punishment should be imposed on local authorities for not collecting or treating the concerned waste properly

## CONCLUSION

- Due to ever increasing load of used menstrual products, it is very important to educate females about environmentally safe menstrual waste disposal
- Different waste disposal devices need to be implemented with proper planning
- Future research can go to the micro-level and focus on the drivers of the intensions of females, ways to change their mindset, role of male-centric institutional structures etc.
- This study will equip policy-makers, implementors and civil society to handle the problem of menstrual waste practically and responsibly.
- Inform policy-implementors of the various kinds of social pressures faced by females
- Hope during the creation of female-oriented infrastructure like toilets, the targeted group (i.e. females) would be consulted



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*Thank You*