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Restructuring anatomies - A case study of *Uger* reusable sanitary napkin and its potential for scale up.

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Abstract

“What is in a pad?” - A simple question, but one that can have many meanings and many answers. The first thought can be - why all the fuss over a sanitary napkin? Other responses can be about raw materials that make up a sanitary napkin. In the context of menstruation all aspects need to be looked at very seriously as it is the basis of human creation without which reproduction is not possible. This case study first examines menstrual product options currently available for women in India from the point of view of environment and health. The study goes on to introduce a new menstrual product, the *Uger* Sanitary Napkin. The product is bio degradable, reusable and each pad is designed to last for more than one year. Further, user experiences of the pads and possible advantages of reusable over disposable are also discussed.

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1. Introduction

“All adolescent girls and women experience bleeding every month. This usually lasts 4 to 6 days. This occurrence of bleeding month after month is called menstrual cycle or period.” [1]

Menstruation is a biological process. Unlike perspiration, urine or feces, this flow of blood at intervals every 26 to 32 days is a phenomenon unique to the female species. Exposing menstrual blood is not socially acceptable, hence the bleeding is kept private by the use of products and systems.

2. Techniques and products for “managing” menstruation

“Managing” in the context of periods means: ways to ensure that clothes are not stained, devices to “catch” the flow, ways to contain, absorb, to keep and feel clean. The earliest known method was wearing nothing at all during this time, woman bled directly on to their clothing, now commonly referred to as “free flow method”. Women isolated themselves from the rest of the family, stayed away during this time in specially demarcated menstrual huts, in barns, in shelters along with their livestock [2][3][4]. Interestingly this practice still exists in many parts of the world including India and Nepal. Aside from this, there are a variety of products and techniques. The nature and use of a product usually depends on access, availability, economic and cultural factors. In the Indian context women may use any of these:

- Two under garments, one worn on top of the other
- Cotton cloth, hosiery fabric, rags – worn with an underwear, and if underwear cannot be afforded, with the help of draw strings
- News paper, felt fabric, cloth bag filled with sand/ ash/coconut coir/corn husk/bamboo husk, leaves/ other fibres (women from lower economic groups use these measures, both in rural and urban locations)
- Tampon or cup placed inside the body (a very small number of users in India when compared with other developed nations)
- Disposable Sanitary Napkins – pasted on to undergarment or with “hold up” belts

3. Anatomy of current menstrual products and impact on environment and health

In the past the impact of a menstrual product on user health and environment was a subject that did not need much discussion. The raw materials that made up the product, biodegraded, cotton cloth or cotton underwear, ash or sand, went back into earth integrating with soil and water. The earlier generation disposable pads were made of cellulose material and cotton gauze, was bulky and uncomfortable for the wearer but this too degraded, in the same way.

More recently, menstrual products have drawn the attention of environmental and health experts. Many studies are now pointing to menstrual product debris and accompanying hazards [5][6]. This debris appears to be due to two reasons, one is the increasing consumption of disposable pads, pads have become cheaper, accessible to many more people. It is no longer a product for the higher economic groups. The second is the nature of the pad itself that is making it visible garbage. This has raised serious thoughts on the anatomy of the disposable pad. This debris is causing concern. Initially it appeared to be restricted to metros, but it is being noticed even in small towns and municipalities are moving many tons of sanitary waste everyday [7]. The anatomy of the pad has been made using very high technology. The modern pad today is less than 1 mm thick, made of plastics, non women polymers, polyacrylate gel, cellulose materials, harmful dioxins and other chemicals. [8] The pads are constructed to make it highly absorbent and leak proof. Most of the material in the pad is non biodegradable. These pads require no maintenance, they are just thrown away.



Figure no 1 A gel pad

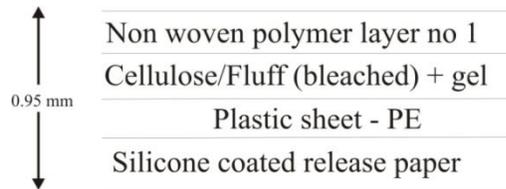


Figure no 2 Layers that are sealed in a pad

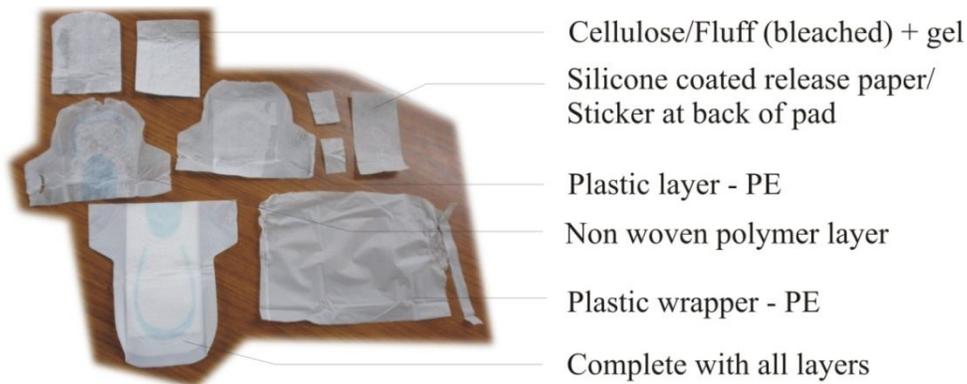


Figure no 3 Different components of a gel pad

In terms of consumption patterns, in one menstrual cycle we can assume a user will need between 6 to 12 pads (the figure will vary depending on individual needs). If we were to do an audit of even the bare minimum of 6 pads, the waste figures would look like this:

- sanitary napkin outer plastic bag
- 6 individual plastic packing/wrappings
- 6 release papers (strip at the back of a sanitary napkin)
- 6 used pads
- empty plastic bags that will line the waste bin over the three to 5 day cycle

Taking this calculation further, we know that a user using disposable pads alone will throw away close to 120 to 150 pads in a 12 to 14 menstrual cycle covering the whole year. In her lifetime of approximately 40 years of menstruation, this translates to anywhere between 3,000 to 6,000 pads [9]. These disposed pads can take many final routes. If they are buried the pads will stay intact under the soil. If it is left open exposed to the sun and other weather elements it will disintegrate it into microscopic components and cause pollution entering waterways. This causes health hazards to larger communities [10]. If it reaches landfill it will potentially lie in a preserved state for an infinite number of years. [11]

The long term affects of disposable gel based pads are still being understood. However at a micro level there is negative health evidence which we have gathered directly from disposable pad users themselves. The thin gel pads do not seem to suit all users. Women have reported, infection, allergies, severe itching, boils and in extreme cases, abscess. This we know from interviews we have been conducting with women who have shared their problems with us and are looking for alternate solutions [12].

Seeing all this, there was a felt need for an option that would address some of the issues raised both from health and environment angles in order to make menstruation management a sustainable activity for all economic groups across class and caste. All women menstruate and menstrual product options must be offered to all users.

4. Restructuring the anatomy - design development of *Uger* Pads

From all the understanding developed so far we set out to design a reusable menstrual product that would considerably bring down the environmental load [13] and play a positive impact on health. This was the result.

- We closely consulted with Ecofemme, Auroville, pioneers of reusable cloth pads in India as we developed our samples. Ecofemme has been successful with its cloth pad initiative
- Cotton fabric was selected for the product as the raw material would not create voluminous debris, further, this could degrade after its final disposal
- Cotton cloth is cool to skin and is a non irritant, so potentially we knew there may not be problems
- The fabric was styled and stitched, giving it a smart look smart so it did not look like just any piece of cloth, shape and size was designed to make it comfortable for the user, snaps were provided for fixing to the underwear so the pad would not shift when moving
- To manage different volumes of discharges throughout the cycle – adequate layers and two separate styles were developed
- The colour of fabric that would touch the skin was kept white so a user could identify abnormal discharges

The two pads developed were - *Uger* Insert pad and *Uger* light pad. The word *Uger* means a new beginning in *Mewadi* – the language of Southern Rajasthan where these studies and design work are grounded.



Figure 4 Light pad for light flow, fabric close to skin is always kept white - Source Author Generated



Figure 5 Insert pad with towel for heavy flow, the towel is folded and placed side the loops.

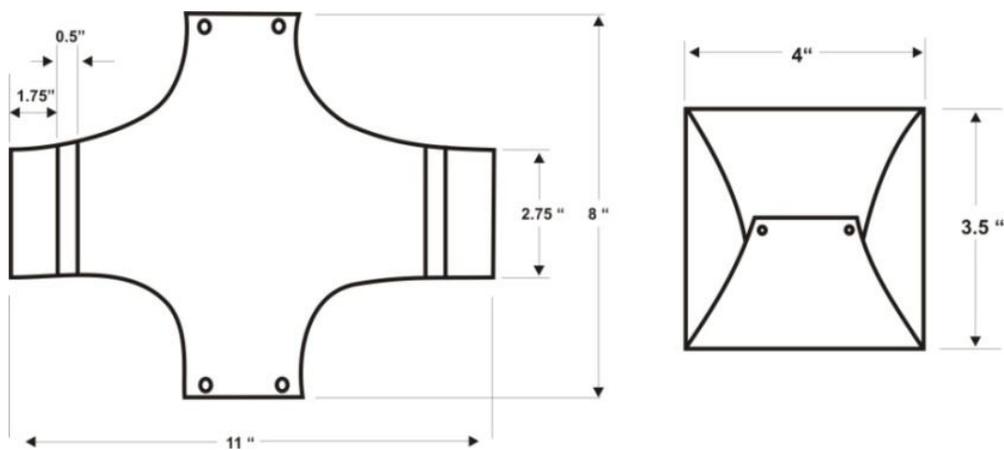


Figure no 6 Dimensions of uger, open and closed

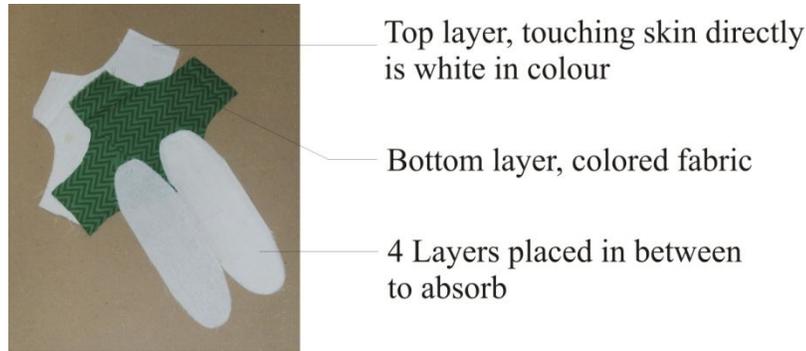


Figure 6 Layers in a the *Uger* Pad

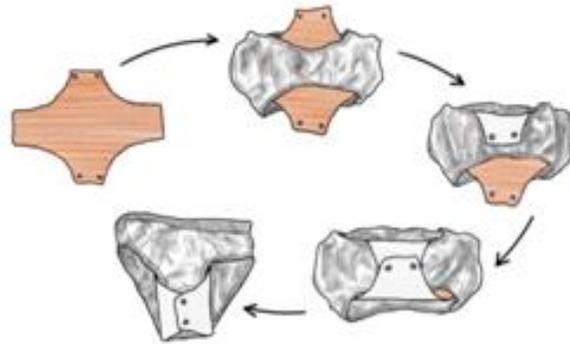


Figure 7 Method of placing *Uger* in under wear

Uger pads require maintenance – the pads have to be soaked in cold water and then washed out with soap and water using a brush for hard stains and rubbing by hand for softer stains.

5. User experiences, challenges and way forward

The researcher approached 38 women randomly. [14] She showed *Uger* pads to a potential user and asked if they would be willing to try this during their coming menstrual cycle and provide feedback on the product. 14 were not willing to use the product even once, 6 users tried the pad for 1,2 and 3 menstrual cycles and gave up. These 20 users were all disposable pad users.

Of the remaining 18, users were open to trying the pads. 3 were experiencing a number of problems earlier with gel pads, were trouble free after using *Uger*. 5 users saw *Uger* as a very useful option and combined *Uger* with cups and disposable pads. 10 users found *Uger* to be a far superior product as compared to the cloth they were earlier using.

We were able to draw some inferences from this

- Some users prefer a status quo, afraid of change, nervous about trying a new system
- Two users were in peri menopause stage and did not want to experiment
- Others are indifferent, not really too particular about what they should like to use
- The effort of washing and drying was seen as cumbersome at the end of a days work
- 18 users were continuing to use *Uger* even after 9 - 11 menstrual cycles
- The acceptance of *Uger* is high if users have tried a reusable product before, those exposed to disposable pads from

- Some users saw this as a product that helps the environment and made the change from disposable to reusable

Encouraged by the fact that 50% of the users had not rejected *Uger* and with Ecofemme's own success with cloth pads, a production centre was opened at Ramnagar Basti a slum settlement at Udaipur city. The centre is led by the designer-researcher and Jatan Sansthan. 5 women manage this unit and this has become a supplementary income source for women from the slum, as they were not earning anything up until this time. Today, *Uger* has a presence at three online outlets.

1. www.jatansansthan.org/areaofwork/safe-menstrual-health-uger/
2. www.ugerpads.jimdo.com
3. www.iamgreen.in/apparel/women/pads.html

Negotiations are on with other organic groups such as Restore at Chennai and another online store Craftsvilla. Further we have local sales from the centre and exhibitions.

Reusable needs to become central to consumption to make our lives healthy and sustainable. It must not be seen as something only for poor women. Reusable is for everyone to consider and practice not only for the environment but the sake of our own and family health.

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