



CT Design Considerations

CT Innovation Lab

Imagining the future of women's contraception

Project Report / March 2018

CT Design Considerations

These design considerations are distilled from distinct needs and are not meant to be exhaustive or mutually exclusive, but are guiding factors that should influence the design and development of compelling contraceptive products.

Presented as a series of briefs and ideas*, the considerations are meant to be used as a springboard for future ideation.

* Please note that the ideas presented here are examples from the longer list of ideas generated during the two ideation workshops in Kenya and India; they are only illustrative and not final or recommended.

Power to the User

Fertility Friendly

On Demand

Peace of Mind

Tangible Benefits

Biological Milestones

Shared Contraception

Power to the User

For many women, the use of contraceptives has to be on their own terms, when they want to use them and with limited reliance on service providers.



1. Can contraception come in formats that reduce the dependency on usual systems?

Currently, women seeking contraception have to rely on multiple stakeholders to get to a product: these include, amongst others, providers such as doctors, nurses and pharmacists, even husbands and relatives, who may be biased or may provide incomplete information or even misinformation. A good CT would reduce or remove the dependency on these stakeholders.

2. Can contraception fit more discreetly into the everyday lifestyle of the women who use it?

Using contraception can invite a lot of scrutiny from providers and partners, and this makes it difficult for women to obtain and use certain methods. A CT that is discreet in how it may be used or where it may be procured or purchased would allow for better uptake amongst women.

3. Can contraception become more relatable to specific stages of women's lives?

The medical format and communication around contraceptive methods is alienating to most users, making it a challenge to seek appropriate and relevant information. CTs which relate to products and routines that women use and perform in their everyday lives will have better uptake and adherence.

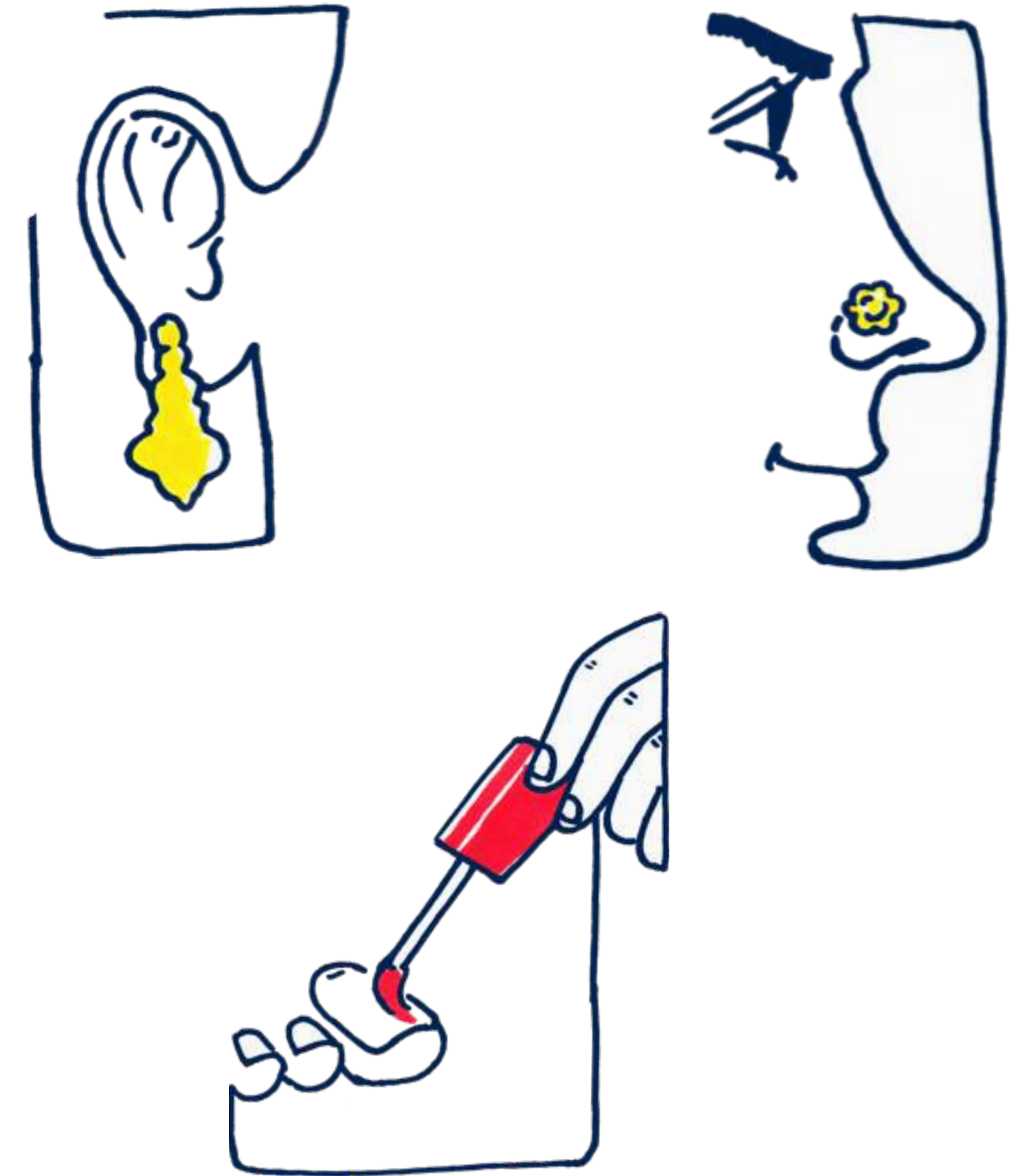
Contraceptive Jewelry > Accessory product line equipped with a mechanism to release contraceptive compounds under the user's skin at the user's discretion.

Bio-Degradable Diaphragm > A diaphragm that dissolves at the beginning of the menstrual cycle.

Contraceptive Nail Paint > An easily available contraceptive nail paint that can be applied by the woman or at a salon and does not require a service provider.

IUCD Pen> A self-administered hydrogel device, which is reversed with a calcium ion solution inserted with the same applicator.

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Fertility Friendly

Uncertainty regarding return to fertility post-CT use has become a strong pain-point for women currently using contraception. Despite changing norms and patterns around motherhood, any product that is seen as interfering with fertility (at least until they have achieved their desired family size) would be hard to adopt.



1. Can contraception ensure a reliable return to fertility?

Women are anxious to protect their fertility for future pregnancy aspirations. Any unpredictable change in fertility adversely affects usage of contraception. An ideal contraceptive product would be one that does not negatively affect fertility.

2. Can contraception offer easier ways to track one's fertility?

As hormonal methods are perceived not to provide a reliable and swift return to fertility, many women turn to natural birth control such as withdrawal and rhythm method. However, these are not always reliable, as they depend on partner comfort or basic numeracy and body literacy in order to keep track. A good contraception would allow for women to easily and reliably predict their return to fertility.

3. Can contraception be designed to closely match women's own sexual routines?

A prominent fear concerning hormonal methods is around the accumulation of chemicals within the body and their adverse effects - especially on fertility - causing women to seek out methods that more closely fit their needs and routines. A suitable product would be one that provides contraception only when needed.

It's Me / Meio Meio > A drug administered at puberty to stop development of eggs and sperm, making contraception the default state. Women and men can turn on their fertility when they want and with whom they want, as the drug is reversible without the need for a healthcare provider.

I-Birth > A rechargeable fertility tracker along with a CT dispenser worn on the hand or ankle, which is connected to a mobile phone that uses heat technology / fingerprint to recognize the user and constantly modifies and creates real-time adjustments to the hormonal drug delivery.

Bio Autonomy Method > A smart implant that is customized to the woman's body to eliminate side effects and can include supplements for energy and health, biodegrading after five years but which can also be removed earlier if desired.

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On Demand

Current contraception does not match the varied sexual behaviors of most users. Even when products are easily available, they still require some amount of pre-planning to work correctly. There is value in designing contraceptive solutions that provide users control.



1. Can contraception suit users' varying sexual frequency?

Women's sexual behaviors vary widely and can change as they go through different life stages. A good method for contraceptive delivery would be one that closely matches the user's sexual frequency.

2. Can contraception be made to better suit the impromptu nature of sex that some users experience?

Current contraceptive methods require some form of planning, which therefore makes it difficult to be adopted. This is especially true for young people, as their sexual and contraceptive behaviors tend to be reactive and not pre-emptive. A good contraceptive would be one that does not require planning on how one procures it or uses it.

3. Can contraception be made to fit in the user's current lifestyle?

For most users, using continuous methods means that there is medicine in the body even when it is not needed, and this may adversely affect the body and fertility. A good contraceptive should give users control, so that they can turn it on only when they need it.

This girl thinks ahead > A series of last-minute contraceptive solutions for women who have irregular sex to protect them from STIs and unwanted pregnancy at the last minute.

Skin based lotion > A comfortable lotion / oil solution that can be applied up to 24 hours prior to intercourse and has contraceptive and STI-prevention capabilities.

Fallopian Flush > A tube-like device that connects to the fallopian tubes and flushes out the resident egg the morning after.

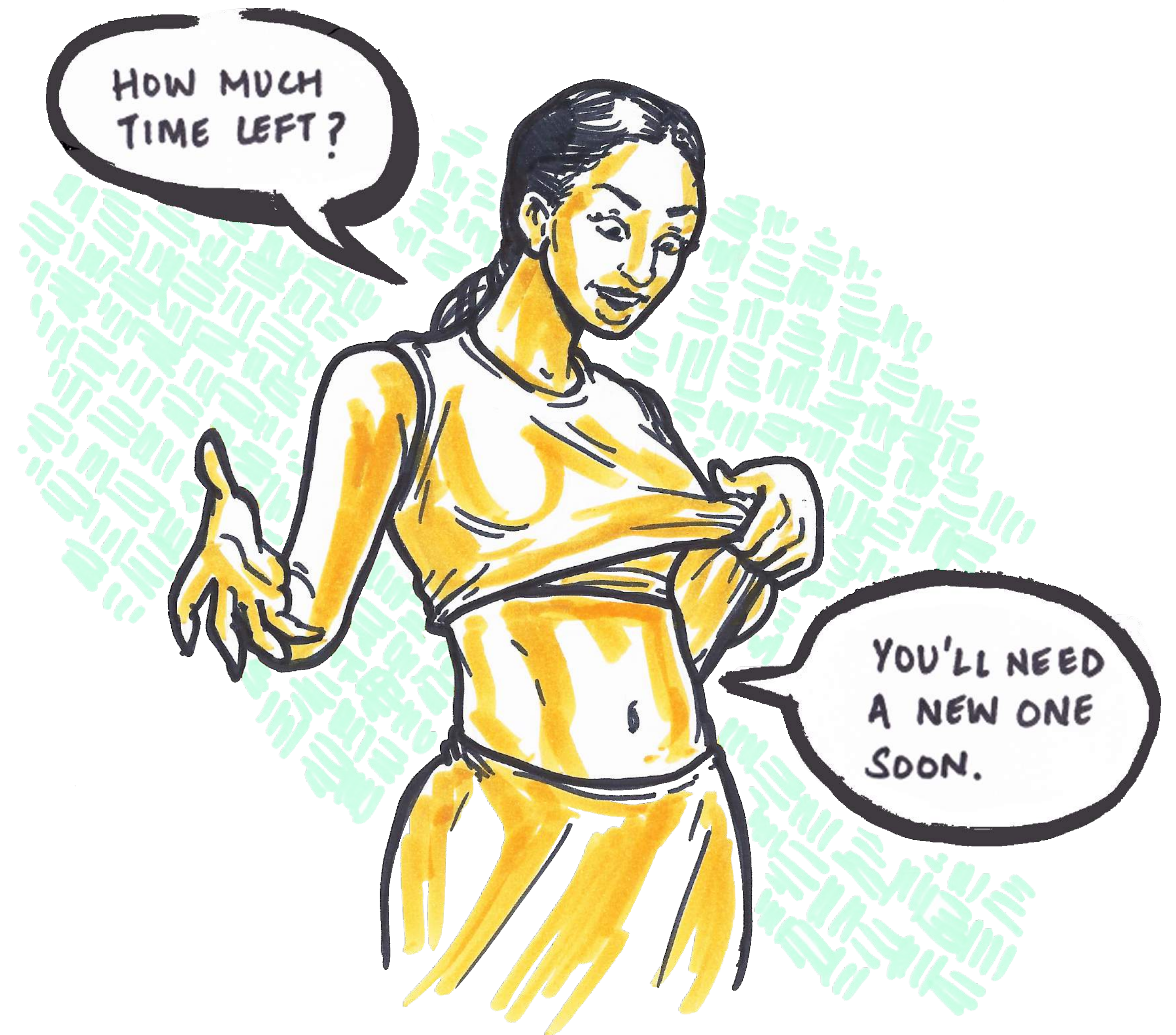
The Booty Call > A non-invasive nerve stimulant that thickens the cervical mucus. The contraceptive is activated by making a phone call to a special number by the husband that the wife can accept.

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Peace of Mind

Inability to confirm that a contraceptive method is working and forgetting when long-term methods are due for replacement are seen as limiting factors by many users and key barriers to LARC uptake.



1. Can the effectiveness of contraceptive methods be more easily monitored?

Unexpected pregnancies can cause strain in families that have decided to limit. An ideal contraception would be one that lets a user know when it is working and when it is due for replacement.

2. Can contraception help women limit more effectively?

Until the intended family size is reached, fertility is very important for married couples. Women using methods to space strongly desire a reliable return to fertility even after months or years of contraceptive use. An ideal contraception would provide a fool-proof solution that may be permanent or long term but is reversible in case a woman changes her mind.

3. Can contraceptive methods come with easier monitoring for effectiveness?

Concerns about fake or ineffective products are omnipresent. Contraceptive-related side effects (even unpleasant ones) are often the only confirmation that the method is working and can become a source of relief. A good contraceptive would leverage side effects as a way for women to monitor their contraception.

Naishi > CT implant that enables users to self-monitor its effectiveness and better track side effects.

Ona > Self-reliant kit allows users to test their pee to see if their current CT method is active.

One + Done > A dissolvable pellet that releases a foam that blocks the fallopian tubes, applied 24 hours in advance to solidify, and to reverse the effect, the woman can use a solvent pill to dilute and return to fertility.

Falloplug > A temporary balloon plug for the fallopian tubes that is endoscopically inserted and can be removed by deflating, when ready to conceive.

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Biological Milestones

Key life milestones like menstruation or having a first child are most often the times in which users gain awareness of their options or are reminded to explore new ones.



1. Can contraception be designed around existing reproductive milestones?

Many young women's knowledge of family planning solutions only starts after their first child, thus limiting their ability to have a say in their family planning when the time comes. An ideal contraceptive would be one that is accessible to women early on, even if a woman has not had her first child.

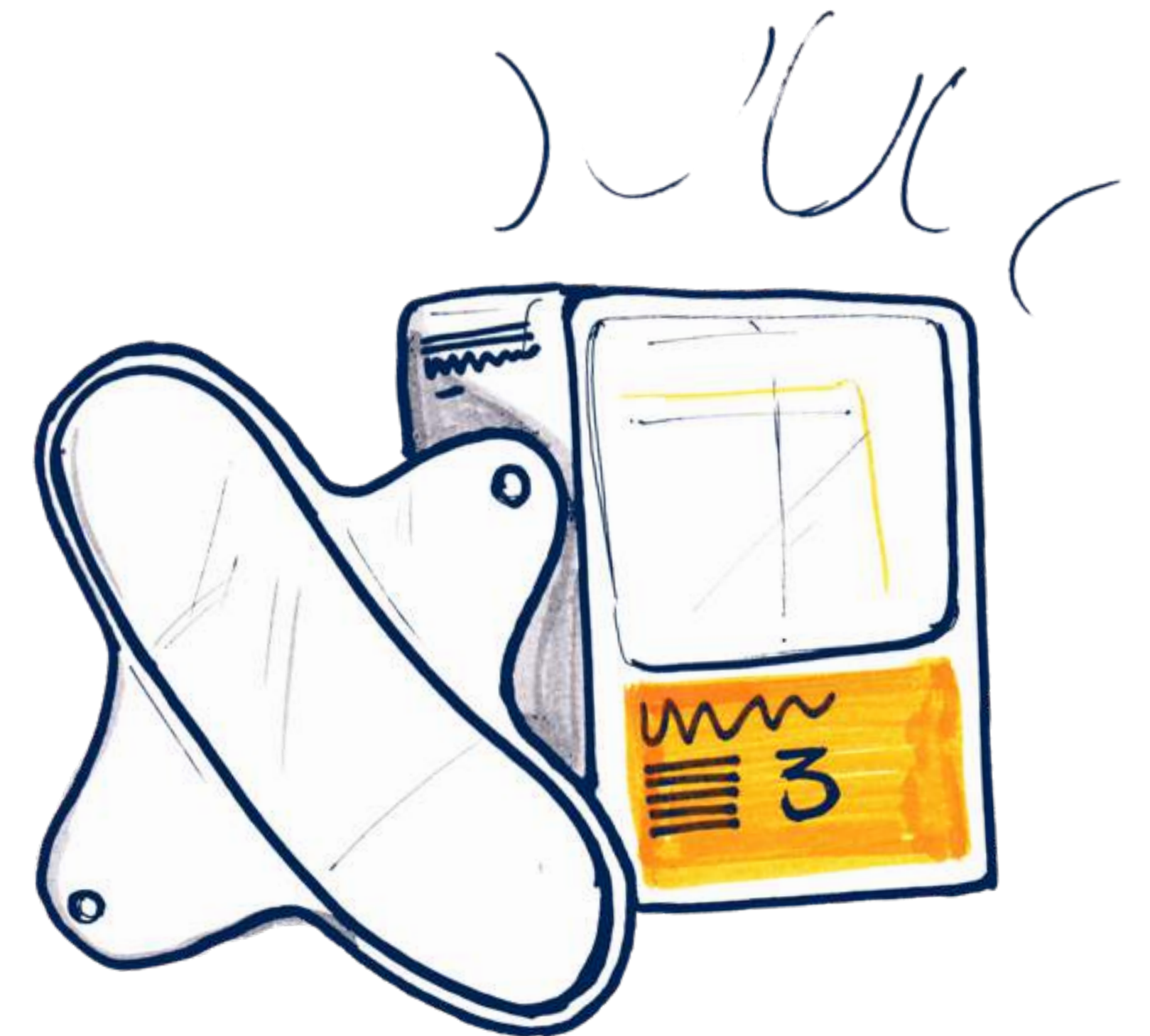
2. Can contraceptive methods better match women's existing routines?

Remembering to take self-administered methods or track safe days can be a challenge for many women who lead busy lives. On the other hand, women follow some routines that are recurring and cyclical in nature, such as their routine around menstrual cycles. For adherence to be effective, a good contraceptive should leverage women's routine around their biological milestones.

MHM / HM > A disposable underwear/sanitary napkin that delivers contraception via optogenetics/waveform/gel activation via absorption.

Non-invasive Laser Ultrasonic Sterilization > A non-invasive ultrasound non-surgical sterilization method, that reduces risk of infection and recovery period.

Post Pad > A dual protection pad that is worn for 1-2 days after the period with microbicide.



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Tangible Benefits

The financial and medical benefits of contraceptive use are clear, but may not be enough when they affect libido and cause other unpleasant side effects.



1. Can contraceptives provide added benefits for better uptake?

Many women are looking for contraceptive products that can also provide them protection from HIV and STIs. Similarly, women are looking for products that keep them fit and in shape for having a healthy child when they decide to. A good contraceptive would keep women's need to be healthy and safe in mind while contracepting.

2. Can contraceptives come with new side effects to increase uptake?

When it comes to contraception, side effects can range from weight gain, to loss of libido, to excessive bleeding. These hidden costs to contraception can become strong deterrents to adoption and sustained use. However, sometimes, side effects like amenorrhea can also be seen as beneficial. A good CT would provide added benefits that women want, so as to encourage sustained use of products.

3. Can contraceptives reliably offer non-hormonal solutions?

In order to avoid harmful side effects that severely impact their lives, some women opt for solutions marketed as natural. An ideal CT would leverage natural ingredients that provide benefits that can help women uptake new products.

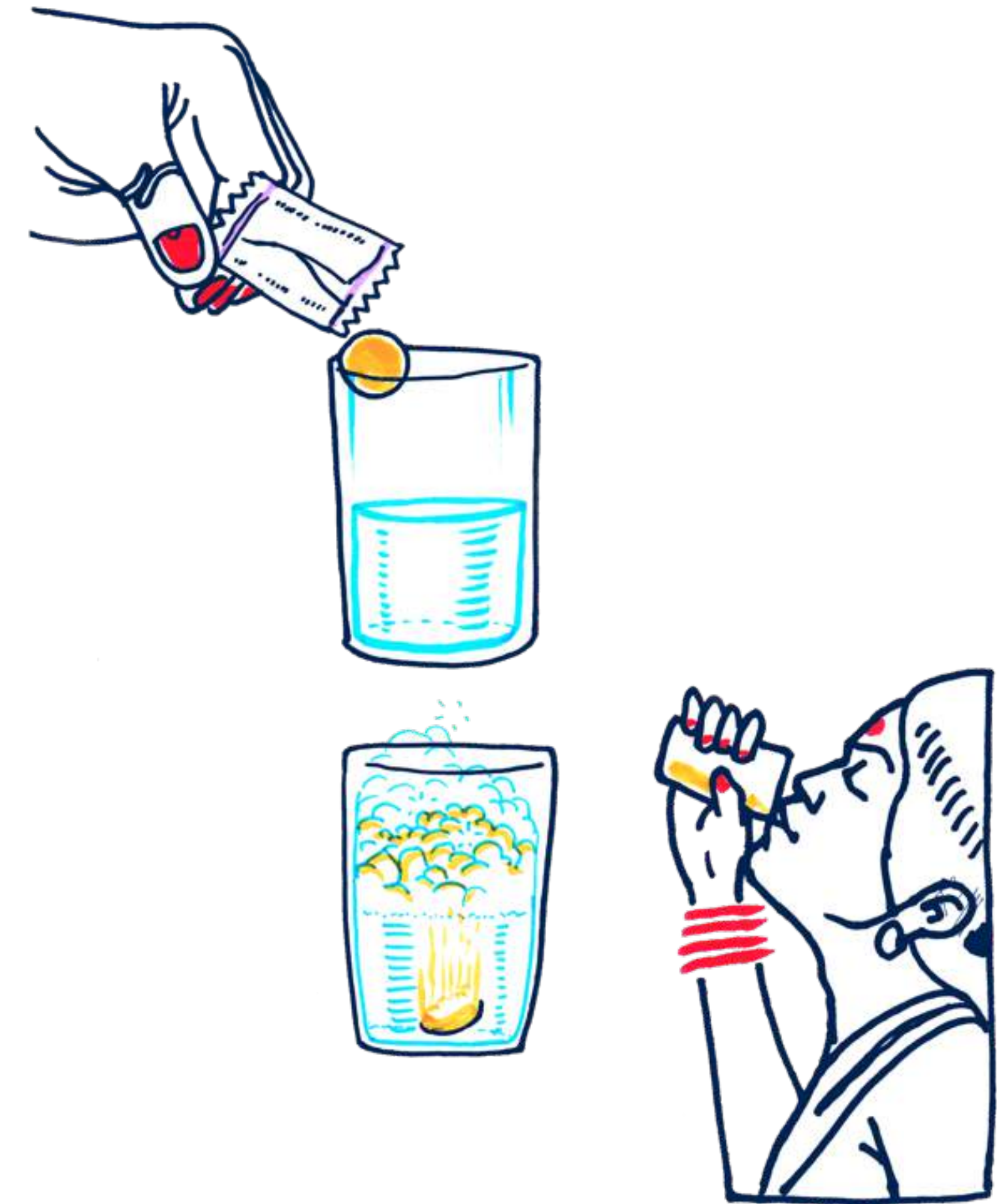
Algotastic > An IoT(Internet of Things) patch within a wearable to track unique side effects for each user.

Zapper Blaster > A private booth or stall with a scanner that also dispenses a thin film-like edible strip with a contraceptive dose that can provide immediate or short-term protection without causing harmful side effects.

Nutro-Val > A contraceptive pill with nutritional supplements that releases an implant in the intestine that releases the drug to stop ovulation.

Organic Magical Pill > A short-term natural pill with coconut, ginseng, turmeric that enhances sexual pleasure, provides supplements for energy and improves skin.

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Shared Contraception

Addressing contraceptive needs and responsibilities between partners is a challenging task that would benefit from new solutions that are trustworthy and enable sharing the burden of contraception.



1. Can contraceptive methods be designed to encourage partner involvement?

For many women, the partner plays an important role in method choice, whether it is through voicing their preferred method, their biases or their role in obtaining methods for their partner. A contraceptive that encourages men to participate in contracepting can have better uptake for women in equal relationships.

2. Can contraceptive methods facilitate the involvement of male partners in family planning?

Since men are seen as unreliable or less motivated to contracept, women often feel that they have to carry the whole burden of family planning. A good CT is one that reduced the stress on women by having the man share some of the responsibility.

3. Can contraceptive methods actively improve the sexual experience?

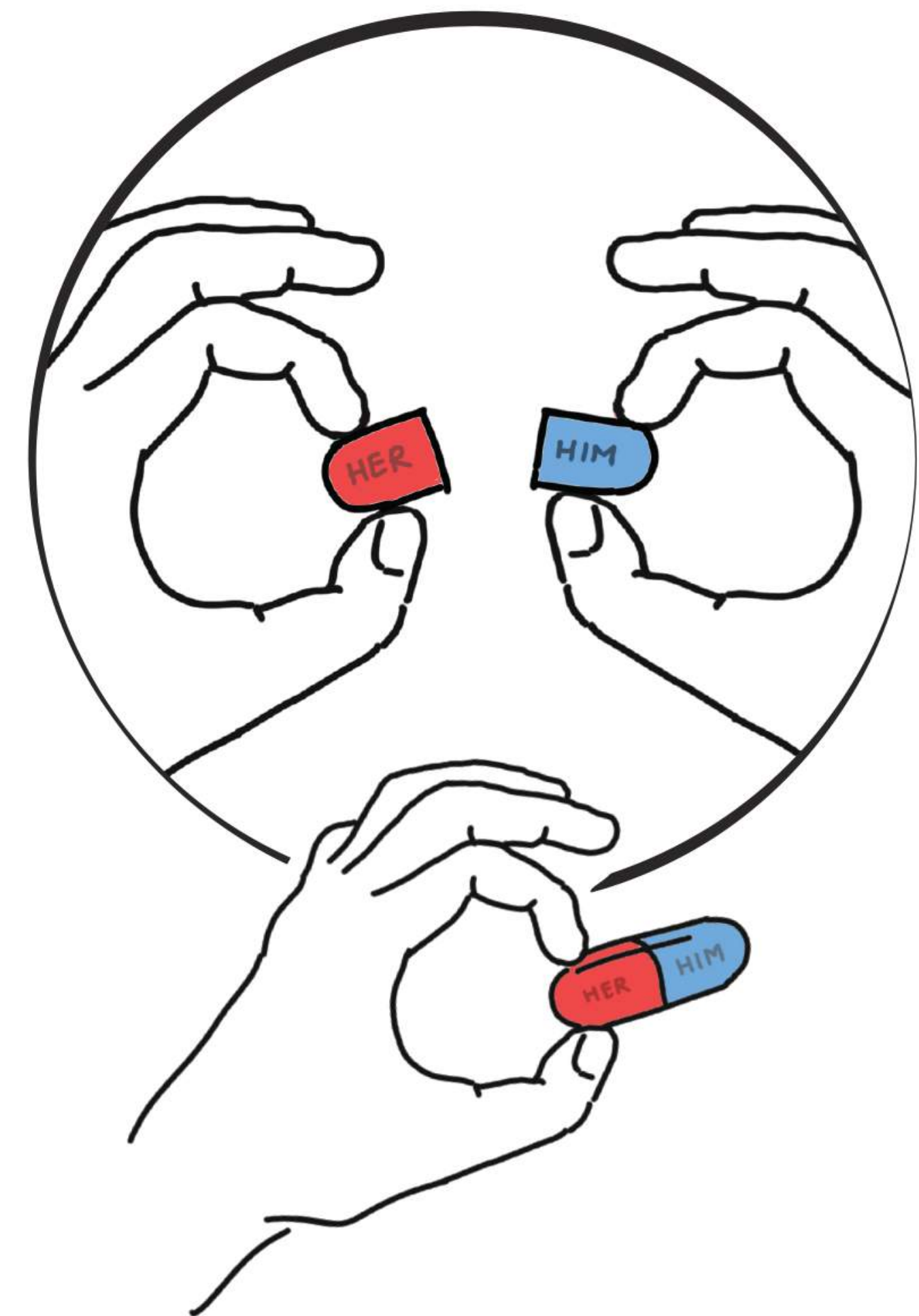
A large concern related to contraceptives is a possible loss of libido over time, which causes certain couples to resort to more temporary solutions. An ideal CT would enhance or improve sexual experience for the couple so as to encourage continuous sustained use.

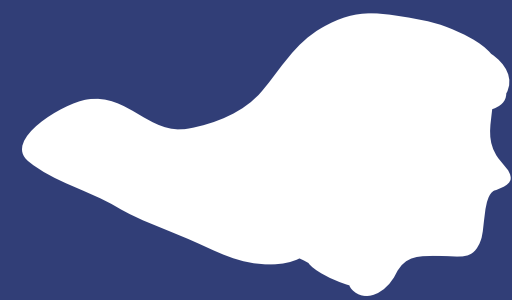
Hot Dirty Boy > A shared pre-coital cream that tightens the woman's vagina and is both spermicidal in its effect and arousing for the man.

Peepee Spray > A contraceptive spray applied to the penis right at the time of intercourse.

Bio Sensor > An internal biosensor that through an app tracks ovulation and palpable changes in structure during non-safe days and also causes temporary occlusion of vas during non-safe days. This will also enable shared decision-making.

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