

Adolescent Psychological Development: Implications for Uptake of MPTs

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Adolescent Brain and Psychosocial Development

- We have known that adolescence is a unique period as Shakespeare indicated in “A Winter’s Tale”

“I would there were no age between sixteen and three-and-twenty, or that youth would sleep out the rest; for there is nothing in the between but getting wenches with child, wronging the ancients, stealing, fighting...”

- New techniques (e.g., fMRI) have shown changes in brain development match the developmental literature, which has given renewed attention to adolescent developmental changes

The Teen Brain: Still Under Construction

- Not only are there many changes in adolescence; those changes continue into young adulthood ([NIH](#))
- So . . . raises both of these questions:
 - Are we providing enough support to our young adults?
 - If we let young adults make those decisions; why not let minors?



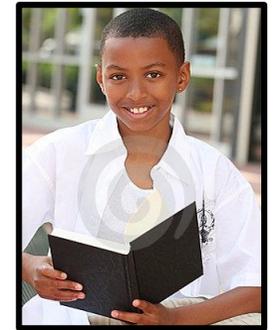
Implications of Brain Development

- In general, great capacity for learning during the adolescent years
 - When 40% of youth globally are not in school; with 63% in least developed countries ([UNICEF, 2016](#))
- In non-social situations, they are like adults in understanding and applying rules: learn rules less well in social situations ([Blakemore, 2012](#))
- May be more responsive to emotionally loaded content than younger children or adults
 - “Amygdala Hijack”; “Hot Cognitions”: When the amygdala (emotions) take over the pre-frontal cortex (thinking/executive function)

Implications for Decision-Making

- Linear decline in impulsivity between ages 15 and 30
 - Reward-seeking followed a curvilinear pattern, increasing between preadolescence (10yrs) and mid-adolescence (15yrs), and declining (or remaining stable) thereafter
 - Thus, intersection of rewarding seeking with less impulse control may lead to higher vulnerability to risk-taking

But again. . . Not all Adolescents Are the Same



- Some will
 - Have cognitive deficits
 - Have experienced toxic stress or poverty
 - Have psychiatric disorders (e.g., conduct disorders, depression, ADHD)
 - Be using substances

Acceptability vs Intent vs Uptake vs Adherence

- Definitions:
 - Acceptability: general attitude toward product
 - Intent: plan to use
 - Uptake: actually using the product
 - Adherence: using both correctly and consistently
- Products can be unacceptable and used (typically for treatment)
- May have intent to use; and not use
- Doing once (uptake) different than correct and consistent use (may need to become “habit”)

MPT: Target Product Profile (TPP)

- Preferred characteristics will vary across cultures:
 - e.g., Rapid return to fertility more important to providers and potential users in Kenya than Rwanda
 - Providers do not always predict users' attitudes correctly
- Contraception different than preventing/treating infections
 - No evidence yet that RTI provides a cover to make it more acceptable
- In some cultures (e.g., U.S.) more is almost always better

Data Gaps

- Understanding the link between intent and adherence
 - How attitudes about product characteristics that influence acceptability/intent are developed
 - Contextual factors influence uptake/adherence
 - Individual factors influence uptake/adherence
 - All adolescent and young adult women
 - Women with special considerations
- Best strategies/interventions to:
 - Foster uptake/adherence to less acceptable products
 - Foster uptake/adherence within contextual and individual barriers

Safety/Efficacy Assessments

- Across cultures: safety and efficacy are important
- How do those attitudes develop?

But it's weird...I just heard that it {Nuvaring} . . . can tear like wear down your walls or something like that that I heard of.

I feel like it [IUD] has got to stop something. It's got to mess something up. There's no way that—they don't even put pacemakers in for that long, do they?...Like for a reproductive system, I feel like that would just throw a whole lot of things out of whack.

- Efficacy perceptions were based in part on product characteristics:
 - gel volume, location in the vagina, coating behavior, sensation of the gel, leakage, and gel changes during coitus

Attitudes about Vagina and Vaginal Health

- Has to fit with attitudes about vagina and vaginal health
 - Specific practices are used to keep the vagina healthy which will vary by culture and may be learned from elders
 - How does those practices complement or interfere with use of MPT?
 - How does the sensory experiences influence their perception of the vagina as healthy
 - Vagina may be viewed as “shared space” with partner; how does impact perceptions

Access Factors

- Access: community level barriers
 - Over-the-counter availability
 - Too visible: worried about the neighbors
 - Near Midol, tampons, pads OR nail polish, hair goods
 - Pharmacy in low SES neighborhoods may have less convenient hours
- Access: individual barriers
 - With whom to they share a bedroom/where do they have sex?

“I’d just put it in my mom’s room. ‘Cause I – Actually, I share a room with her; I gotta keep it in there.”

Timing of Use: How to Manage the Impulsivity

- Post-coital use of a microbicide or MPT
 - Inconsistent with some girls' notion of prevention
“Afterwards doesn't sound safe. It's more like it's already up there.”
- Non-coitally dependent use
 - Adolescents were not confident that they would have sex, might be “wasteful”
“There's a limited time and say you did it ahead of time thinking it was going to happen and then it didn't happen in that time and then you just wasted one.”
 - No evidence that adolescents have been good at OCPs
- Long-acting
 - Overcomes “habit” but LARCs have had slow uptake

Next Steps

- Community based studies (equivalent to pre-clinical?):
 - How attitudes about safety and efficacy are developed
 - Relationship to product characteristics
 - Sources of information
 - How attitudes about vaginal health relate to acceptable product characteristics
- Clinical trials:
 - Evaluate the impact of changing both community and contextual factors associated with access
 - Evaluate different methods for maintaining adherence --- focused on nuisance factors, person, and context

