Enculturating Science:
Community-Centric design of behavior change interactions for accelerating health impact

SBC Working Group Journal Club
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Enculturating Science:
Community-Centric design of behavior change interactions for accelerating health impact

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Journal Club Overview

- Overview of publication
  - I: Background
  - II: General framework
  - III: Application & results

- IV: Discussion

Background: key take-aways

- Kumar *et al* argue that we know best practices to achieve improved health but application is issue

- Barrier to application is our inability to "unbox" the "black box" of family health behaviors in community settings

- Community-centric designs that include believability, desirability, learnability and do-ability at both individual and community level are key

I: Background

Differences in worldviews

Concept	Western worldview	Eastern worldview
Relationship between man & nature	Anthropocentric	Ecocentric
Locus of power and control	Primacy of personal agency	Primacy of collective agency
Cognitive orientation	Analytic	Holistic
Perception of reality	One	Many
Man in the context of society	Individualism	Collectivism
Nature of soul's journey & directionality of time	Linear	Cyclical

I: Background: Unboxing the black box

Worldviews shape biomedical and traditional sociocognitive systems

Belief/process	Biomedical	Traditional
Importance of human life	One live	Circle of life
Perceived complexity of the world	Low perceived complexity	High perceived complexity
Bounds of human possibilities	Boundless	Perceived limitations
Cause attribution	Systematic scientific inquiry and causes known	External forces not known to common man
Social relationships	Exchanges of services of value	Lifelong and based on reciprocity
Risk-taking attitude	Calculated risks	Risk minimizing

I: Background: Unboxing the black box

Worldviews shape biomedical and traditional sociocognitive systems

Belief/process	Biomedical	Traditional
Reasoning	Logic & rules	Analogies, metaphors & relationships
Approach to learning	Cognitive approach	Experiential approach
Factors governing behavior	Attitudes, needs, desires, rights, & contracts	Norms, obligations, & duties
Decision-making	Rational analysis of advantages & disadvantages; importance of individual agency	Relationship and trust based; importance of collective decision-making & consensus

I: Background: Unboxing the black box

Disconnect between biomedical & traditional worldviews

Biomedical

- Educated
- Policy makers
- Program designers

Traditional

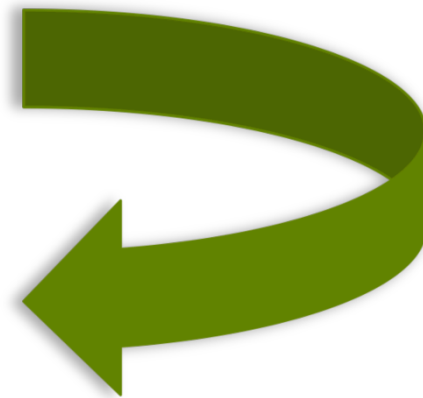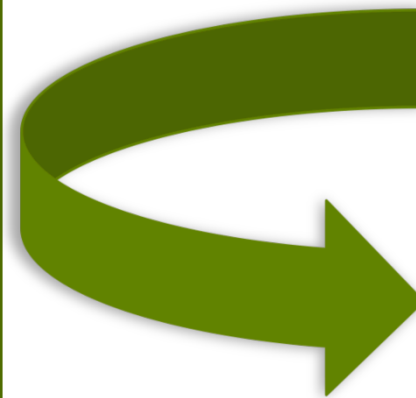- Lack formal education
- Communities
- Individuals

I: Background: Unboxing the black box

Lack of empathy & lack of understanding

Biomedical   **Traditional**

I: Background: Unboxing the black box

General Framework

- Step 1: Map the as-is state and identify root beliefs

- Step 2: Map the existing practices against risk factors and proven interventions to define the intervention package

- Step 3: Develop the Behavior Change Management (BCM) framework

- Step 4: Design behavior change interactions

Step 3: BCM framework

- Factors to consider

- Strategy for transcultural adaptation

- Strategy for stakeholder alignment at multiple levels

Step 3: BCM framework

- Factors to consider
    - Differences in worldviews and underlying beliefs
    - Multiplicity of practitioners, decision-makers, and influencers at multiple levels
    - Process for behavioral adaptation and social normalization
    - Strategic location for the interactions

Step 3: BCM framework

- Strategy for transcultural adaptation
    - Believability
    - Desirability
    - Learnability
    - Do-ability

- Strategy for stakeholder alignment at multiple levels
    - Individual & Community & class/caste considerations

II: General Framework: Step 3: Design BCM Framework

Application to neonatal health in Uttar Pradesh

- Step 1: Identification of root traditional beliefs
  - Ritual pollution
  - Attribution of death to *jamoga* (evil eye/evil spirits)

- Step 2: Map practices to risk factors & proven interventions
  - Infection, hypothermia, birth asphyxia & hypoglycemia

III: Application & Results: Neonatal mortality in Uttar Pradesh

Application to neonatal health in Uttar Pradesh

- Step 3: Develop BCM Strategy
  - Focus on building upon pre-existing beliefs and concepts existing in community to "anchor" new knowledge
  - Concept of hygiene was intangible and conflicted with entrenched notion of ritual pollution
  - Utilize existing cultural concepts of hot and cold to create a new mental framework for the key risk factor of hypothermia… *thanda bukhar* ("cold fever")
  - Introduction of skin-to-skin contact provided experiential learning and "evidence" to community

Application to neonatal health in Uttar Pradesh

- Step 3: Develop BCM Strategy *(continued)*
    - Mother-in-laws were perceived to be upholders of tradition so needed to be encouraged by traditional influencers
    - Full utilization of health workers through acknowledgement they hold traditional views
    - Community engagement and meetings
    - Full intervention package: birth preparedness, clean delivery and cord care, thermal care, breastfeeding promotion, and danger sign recognition

III: Application & Results: Neonatal mortality in Uttar Pradesh

Application to neonatal health in Uttar Pradesh

- Step 4: Designing behavior change interactions
  - Group interactions
    - Community meetings, folk song creation, stakeholder meetings
  - Individual interactions
    - Antenatal visits, postnatal visits, household/individual behavior plan
  - Messages worked with and build upon existing mental models

III: Application & Results: Neonatal mortality in Uttar Pradesh

Application to neonatal health in Uttar Pradesh

- Step 4: Designing behavior change interactions *(continued)*
  - "To quickly ripen raw mangoes, you cover them with straw to keep them warm. A preterm baby is like the raw mango and needs to be kept warm for him/her to develop faster."
  - "When you come out after a dip in the pond, if you just wipe your face, won't you feel cold? If you just wipe the face of the baby, but the rest of the body remains wet, the baby will feel cold and will develop *thanda bukhaar*."

III: Application & Results: Neonatal mortality in Uttar Pradesh

Application to neonatal health in Uttar Pradesh

- RCT conducted in 39 village units (104,123 total population) in Shivgarh, Uttar Pradesh, India

- 3-arm trial with (1) control, (2) behavioral intervention, and (3) behavioral intervention + hypothermia indicator

- Behavioral intervention arm saw 54% reduction in neonatal mortality
  - Behavioral plus arm saw 52% reduction in NN mortality

- Subsequent analyses revealed improvements on maternal health, gender equity for the girl child, and social status of low caste women

III: Application & Results: Neonatal mortality in Uttar Pradesh

Discussion Questions

- Does this article present anything new?

- How does it differ from existing methodologies that are currently in use?

- How scalable and feasible is this approach?

IV: Discussion Questions

Discussion Questions

- How has the Western vs Eastern view or the biomedical vs traditional view been applied recently?

- To what extent is a *genuine* community-centric approach used in designing programs today?

- To what extent is deep understanding of existing practices using empathy used in designing programs today?

IV: Discussion Questions

Discussion Spark

- "Training methodologies frequently overlook the pre-existing beliefs of health workers. While workers may get trained in delivering interactions through a protocolized process and may even be able to memorize pre-designed messages, their own lack of belief and understanding of the knowledge may prevent them from convincingly negotiating with families."

Discussion Spark

- "...individuals who lack exposure to formal reading may also, for the same reason, be unable to correctly interpret and understand pictures. ... The more a picture departs from retinal image of the object depicted ... the more difficult it is for them to interpret and make use of the image. Thus, photographs are easier for illiterate individuals to interpret than drawings..."

IV: Discussion Questions

Thank you for an interesting discussion!

For questions, contact Elizabeth Long at
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