Getting SMART about Adapting Interventions!

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Individualized Interventions

NIMH Strategic Plan, 2008: *There is a great need for specific evidence-based clinical guidelines to direct clinicians in personalizing their patients’ treatments to optimize their chances of reaching remission and minimizing burden.*
Adaptive Interventions are individually tailored sequences of treatments, with treatment type and dosage changing according to patient outcomes.

Operationalize clinical practice.
Simple Adaptive Intervention

An adolescent with MDD is provided IPT-A

At week 8:

If HRSD exhibits < 40% reduction, IPT-A is augmented with Fluoxetine for a further 8 weeks,

Else the adolescent remains on IPT-A for a further 8 weeks.
Why Adaptive Interventions?

– High heterogeneity in response to any one treatment
  • What works for one person may not work for another
  • What works now for a person may not work later (and relapse is common)

– Lack of adherence or excessive burden is common
Some Critical Decisions

• What is the best sequencing of treatments?

• What is the best timings of alterations in treatments?

• What information do we use to make these decisions? (how do we individualize the sequence of treatments?)
SMART Studies

Sequential, Multiple Assignment, Randomized Trial

These are multi-stage clinical trials; each participant proceeds through stages of treatment.

Each stage begins with a critical clinical decision; randomization to treatment takes place at each critical decision.

Goal of trial is to inform the construction of an adaptive intervention.
Adolescent Depression

Treatments:
– Interpersonal Psychotherapy and
– Fluoxetine
Two Critical Decisions in Developing an Adaptive Intervention Beginning with IPT

- Can we use early symptom change (i.e., insufficient/slow response) during IPT indicate when it is best to alter treatment?
- For slow responding adolescents, is it better to augment IPT with medication or intensify the dose of IPT (more sessions)?
SMART for Adolescent Depression

PI: Meredith Gunlicks-Stoessel, Univ of Minnesota (NIMH K23)
First Critical Question

PI: Meredith Gunlicks-Stoessel, Univ of Minnesota (NIMH K23)
Second Critical Question

PI: Meredith Gunlicks-Stoessel, Univ of Minnesota (NIMH K23)
Child Depression

Treatments:
– Individual CBT and
– Caregiver–Child treatment
Three Critical Decisions in Developing an Adaptive Intervention for Young Children with MDD/DD

(1) Which treatment to provide first?

(2) Is there a need for a secondary treatment for those who respond to the initial treatment?

(3) Which treatment to provide to those who are non-responders to the initial treatment?
SMART for Child Depression

PI: Dikla Eckshtain, Harvard University (NIMH K23)
Adaptive Implementation
Intervention of
“Replicating Effective Programs”

“Treatments”:
– External Facilitators (EF) and
– Internal Facilitators (IF)
Two Critical Decisions

(1) Which treatment to provide to sites that are insufficient responders to standard REP?

(2) Which treatment to provide to the sites that continue to show non-response?
SMART REP

Month 6

- Augment for 6mo: REP + EF
  - Responder Sites
  - Continued Non-Responding Sites

- Augment for 6mo: REP + EF + IF
  - Responder Sites
  - Continued Non-Responding Sites

12

- Discontinue REP & Monitor
  - Continue 6mo: REP + EF
  - Augment 6mo: REP + EF + IF

18-24

- MH-QOL (primary) and # LG encounters

75 (75% of 100) community-based outpatient clinics (sites) that have not responded to 6 months of REP

PI Amy Kilbourne
SMARTs are for Developing Individualized Intervention Sequences

NIMH Strategic Plan, 2007: Encourage the development of

*Interventions that tailor the treatment to the diverse characteristics, needs, and circumstances of each individual and target not just the person but also the environment that maintains the problem.*

Email with questions or if you would like a copy:

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