Social Brain & Consultation-Liaison Psychiatry: The Problem of Medication Adherence

Research Committee
Group for the Advancement of Psychiatry (GAP)
Fred Wamboldt

Other committee members: Russell Gardner, Beverly Sutton, John Beahrs, Jacob Kerbeshian, Morton Sosland, Alan Swann, Johan Verhulst, Michael Schwartz, Carlo Carandang, Doug Kramer, John Looney
Most Prevalent Psychiatric Problem

- Medication non-adherence is the most frequently encountered psychiatric problem
  - Worldwide prevalence
  - Colleagues in Medicine, Pediatrics, & Surgery no longer approach psychiatrists for help with patients with this problem
    - Moreover, if/when they request consultation, they ask a psychologist or social worker
Below Psychiatrists’ Radar Screen

- Psychiatry considers it an obscure problem: Within DSM-IV-TR, it receives a scant paragraph in its V-code hiding place.
- Given its importance, why obscure?
  - No medications exist for its treatment
  - May explain why psychiatry ignores it
  - Also, even with meds, patients with this problem would likely not take them properly!
Observed mean adherence rate = 50%

- Prevalence data for long-term, “disease-controller” medications used across a variety of chronic medical illness

- Adherence rate defined:
  - \((\text{Doses taken/doses prescribed}) \times 100\%)\)
Inhaler use leave evidence of use/non-use

Results: about 25% of patients with asthma take prescribed inhaled anti-inflammatory meds in a way consistent with pharmacological function:
- i.e., regular, daily use without prolonged periods of non-use that exceed the “coverage” of the medication

The above-quoted 50% average adherence likely underestimates the number of patients at risk from medication non-use behavior
Example From Diabetes Tx

- **Acarbose:**
  - antidiabetic agent intended for life-long administration,

- **Results of usage in 2 recipient-groups:**
  - Median persistence tabulated
    - i.e., days from initial prescription to patient-discontinuation
  - Group 1: 83 (<3 months)
  - Group 2: 105 (<4 months)
Lipid control

- Statins provide long-term lipid control

- Median persistence:
  - About 6 months duration
Antiretroviral therapy

- Highly active antiretroviral therapy changed HIV infection from a lethal to chronic illness
- Therapy requires life-long drug use with adherence rates of ≥95%
- Motivations for adherence include risks of progression to AIDS & emergence of viral resistance
- Majority of patients do not sustain usage
  - Therefore it remains a goal only
Multi-drug resistant tuberculosis

- Top infectious problem worldwide
  - Resurfaced as such

- Important role in disease-perpetuation
  - Non-adherence to therapy
Explanatory Models Caricatured

- From contemporary psychiatric thinking

- Help understand medical therapy of non-adherence
  - Like good political cartoons, caricatures express underlying model-weaknesses
  - Discussion will end with social brain explanation
Model 1. Silver Bullet

“Chemical imbalance” or “bent or deficient molecule” models of mental illness hold

- That taking “Silver Bullet” medications thereby “fixes” their brain problem
- According to the model,
  - 15-minute “med check” allowed by managed care allows psychiatrist time to adjust effects/side effects via altered drug or dosage
  - Engineering analogy: person = machine with parts that need particular fluids or tweaking
Measurable effect powerful

Success of “Silver Bullet” Model stems from measuring effects of medications
  - Scientific study thereby more possible

Contributed enormously to developing effective specific treatments for psychiatric disorders
Solution to Non-adherence Using Silver Bullet Model

- Medication! (of course!)
- But to date, no FDA-approved medication indicated to augment patients take other prescribed medications
  - Some hope for long acting, “depot” meds that permit longer intervals between treatments
  - But patients still would need to return at some point for “refills” when their coverage wears off
Monitoring Causes Adherence

As when public health concerns require limits on personal freedom
- e.g., Directly Observed Therapy (DOT) for TB

Clozapine exhibits better adherence than other anti-psychotics
- Stems from drug company & FDA regulations
- Require documented blood levels before refills
Silver Bullet Model Inadequacy

- In summary:
- “Silver-Bullet” model’s favored solution “give a new medication”
- Fails to “fix” adherence problems
Physician Denial

- Major factor in not thinking of non-adherence as a clinical problem
- M.D. personal reaction to medical adherence in their own patients near universal; they assert:
  - “But my patients do take their medications”
  - However, objective measures of actual adherence behavior do not confirm impressions
- Research consistently demonstrates 50% adherence
Silver bullet priorities

“Silver Bullet” publications suggest

- That “non-specific” relationship factors affect medication adherence
  - Such comments suffer from being vague, infrequent & given secondary status only
  - Only molecular-biochemical issues seem “of interest”
Model 2. DSM “Symptom-Checklist-Defines-Reality” Model

- Despite undeniable successes of the empirical & phenomenological-based DSM taxonomies,
  - DSM model poorly conceptualizes therapy non-adherence
- “V-code” diagnosis for adherence problems exist
  - But such codes hold “second class citizenship”
  - They provide no clear-cut guidance for therapy
  - 3rd-party payers don’t reimburse V-code problems
Poor adherence as Axis II dx?

- Prevalence rates of less than optimal adherence occur ~50-75% of population
- Also: “dumping” occurs in 30% of prescriptions if circumstances permissive:
  - Therefore, Axis II problems related to medication adherence would become the #1 mental illness worldwide
Does Axis I explain?

- Consider Axis I psychopathology, e.g., mood or anxiety disorders,
  - Although a factor in medical non-adherence,
  - Does not explain much of the variance
- Diagnosing and treating “co-morbid” major psychopathology, although useful,
  - Does not “fix” non-adherence
Most fundamental problem with DSM explanation

- Model states that all mental illness exists “inside the head” of the patient
  - One well established factor for why many patients fail to take their medications:
    - Turns out to be its expense (insurance won’t reimburse & patient has insufficient other $)
- Poverty doesn’t locate “inside the head”
Model 3. Biopsychosocial Model

- BPS Model reminds psychiatrists
  - Behavior more complex and multifaceted than embodied in reductionistic “Silver Bullet” or “Symptom-Checklist-Defines-Reality” metaphors

- But little practical help for adherence problems
  - Points to a universe of possible reasons
  - But does not point to better or worse leads to follow
BPS Model Problems

Poor adherence may stem from poor understanding of how medications work

Examples

- A patient may believe that long-term controller medications can be successfully used “as needed”
- Need to defy authority figures derived from childhood
- Inability to afford the medication
- Cultural idiosyncrasy
  - Consider the person who describes believing that a Chihuahua dog in the home cures asthma
BPS Model lacks focus

- All the factors listed on the prior slide link to poor adherence\(^\text{15}\)
- In the Biopsychosocial Model
  - possible factors related to non-adherence
  - Could be:
    - red hair, enjoyment of chewing bubblegum, foot fetishes
Needle in the Haystack

- BPS Model
  - Generates an extremely wide, even infinite, universe of potentially relevant factors
  - Panoply of possibilities overwhelms the practicing psychiatrist
  - Cannot scrutinize everything as potentially contributory &/or explanatory
  - Especially not in the face of managed care

- Without focus, the model loses power
  - Crucial needle(s) could be anywhere in the haystack
BPS lacks testability

- No testable hypotheses stem from this model
  - Such might advance research in this (or most other areas of psychiatry)
- BPS Model important in psychiatric education
  - When creating diagnostic “formulations” &
  - As the last remaining bastion of cultural, psychological & social forces in mainstream psychiatry
- Lack of impact makes it in fact sterile
  - No effect on either practice nor research
Social Brain Model

SB Model posits

- Formation and maintenance of viable relationships across the lifespan represents an individual’s primary challenge
- Thus, this represents the primary determinant of psychiatric health
- Those who form & maintain viable vocational & intimate relationships possess psychiatric health
- Those who cannot = those who with illness
Relationships & Health

- Wide range of different patterns of viable relationships = psychiatric health
- Fewer, but more consistent & definable pathways → episodic or persistent relationship difficulty
- Indeed, relationship problems characterize all current Axis I and II DSM disorders!
Social Brain Virtues

For the issues of non-adherence:

- Social Brain Model provides psychiatry with a focus lacking in the Biopsychosocial Model
- while avoiding the reductionism of the “Silver Bullet” and
- “Symptom-Checklist-Defines-Reality” models
Challenges of Medical Illness

- Medical illness provides a specific set of relationship challenges to Social Brain
- The model posits that a clear definable set of relational processes exist in the medically ill that in turn explain adherence behavior
- Relevant processes include
  - Survival of self
  - Survival of kin
  - Need for nurturance & allies
  - Acceptance of authority
Face validity can be examined

- Ill people behavior: do they
  - Seek to protect themselves and
  - Protect key others in their social network?
  - Does adherence behavior reflect these goals?

- These represent
  - Clearly specified & testable hypotheses
    - Empirical observations can then
    - Test ideas about adherence
Example case

Do patients who take their medication more view their physician as a helpful & supportive ally?

Existing data shows that^{11,16-21}

- More adherent patients feel satisfied with their physician
  - Report better alliance or communication with their physician
  - Feel greater confidence in the physician’s advice
  - Experience more conviction that taking medication will improve their health
- Possess physicians who interact with them in more “patient-centered” & less authoritarian ways
- Differ culturally from their physicians to lesser degrees
Other potential research

- One could predict less adherent patients may have more competing demands in their lives
  - That is, more “stress”

- Adherence behavior may represent a compromise between physician’s advice
  - Vs other demands in their social environment
Data on stress hypothesis

- Poor adherence indeed characterizes patients living in challenging socioeconomic circumstances with many other demands
  - Poverty or other socioeconomic deprivation\textsuperscript{17,22}
  - Increased personal or family stress\textsuperscript{12,22,23}
  - Poorer personal or family organization
  - Ritualization\textsuperscript{24,25}
Illustrates how SB > BPS Models

- The above cited research demonstrates convergent validity for hypothesis about non-adherence that grow naturally out of the Social Brain Model.

- One also sees how discriminant validity flows from testing factors predicted as unrelated.
  - Such as those mentioned above, including:
    - Red hair
    - Predilection for bubble gum
    - Foot fetish
Methology summary point

One of the most important features of the Social Brain Model is

- Ability to permit & focus
- Empirical psychiatric research
  - In areas either overlooked or underplayed by
    - The “Silver Bullet” & “Symptom-Checklist-Defines-Reality” Models &
  - Under focused on
    - In the Biopsychosocial Model
Final Advantage of Social Brain

- Hinges on the relatively simple & jargon-free fashion that it incorporates relationship conceptions into psychiatric formulations
- Transparent to most people
  - Patients
  - Colleagues in other areas of medicine
    - Often confused
    - But who would like to be able to ask for psychiatric help with non-adherent patients
Examples of clarity

- Clearer statements to patients:
  - “You seem to need an ally”
  - “You’re right, he is a hard doctor to talk to”
  - “Wow, you sure have a lot going on in your life now”
    - Succinct, supportive, readily understandable, &
      - Fully consistent with, & predictable from,

- The Social Brain Model
Demystifying Potential

- With a little imagination, one could come to believe that with time, use of the Social Brain Model might help demystify and destigmatize psychiatry in both medical and broader communities.
Five Conclusion Points

1. The best psychiatrists are those whose humility allows them to recognize what they do not know, but whose humanism drives them to learn what they need to know.

2. The best model for psychiatry should help them do both successfully.
Five Conclusion Points (continued)

3. The Social Brain Model, in the case of non-adherence with medical therapy, may help psychiatry achieve both of the following noble & important goals:

4. The Social Brain Model helps psychiatrists understand, diagnose, treat, & research non-adherence with medical therapy, & in doing so

5. Promote more healthy relationships for their patients, & with their medical colleagues from different disciplines