Internet-Based Cognitive Behavioral Therapy

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Disclosures

I receive royalties from Oxford University Press for co-authoring treatment manuals. I receive royalties from Springer for co-editing a book. I receive honoraria from the Association for Behavioral and Cognitive Therapies (ABCT) for being Associate Editor of a journal.

Learning Objectives

- Describe Mental Health Crisis
- Explain Cognitive-Behavioral Therapy
- Discuss Barriers to Care and how technology, specifically internet-based CBT (iCBT), can help with access to care
- Compare different types of iCBT and app-based treatments
- Describe challenges with using technology to deliver mental health treatment
- Describe iCBT for children and adolescents
- Discuss future directions for using technology in mental health treatment

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Mental Health Crisis

- 43.8 Million Americans experience a mental illness in any given year

- 1 in 5 adults in America experience a mental illness

- Nearly 1 in 25 (10 Million) Americans live with a serious mental illness

- Half of all chronic mental illness develop by the age of 14, three-quarters by the age of 24

www.nami.org

Mental Health Crisis During COVID-19

- CDC report that in US pre-pandemic (January-June, 2019) 11% of adults reported symptoms of anxiety or depression compared with 42% of adults reporting symptoms of anxiety or depression during pandemic (December, 2020)

(Abbott, 2021)

Prevalence of Mental Illness

- 6.9 % of American adults live with Depression

- 18.1% of American adults live with an anxiety disorder

- 1.1 % of American adults live with Schizophrenia

- 2.6 % of American adults live with bipolar disorder

www.nimh.nih.gov

Mental Health Crisis--Treatment

- Nearly 60% of adults with a mental health diagnosis did not get any treatment within the past year

- Nearly 50% of youth aged 8-15 with a mental health diagnosis did not get any treatment within the past year

- African Americans, Hispanic Americans and Asian Americans use mental health services at lower rates than whites

www.nimh.nih.gov

Mental Health Crisis--Treatment

- On average, there is a **10-year** gap between the onset of mental illness and receiving treatment

Marques, et al., 2010

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Cognitive Behavioral Therapy

- Cognitive Behavioral Therapy (CBT) is an established treatment with documented efficacy in treating many different types of mental health problems (anxiety, depression, SUD, OCD and related disorders, etc.)

Background

- What is Cognitive Behavioral Therapy (CBT)?

- CBT was developed through a merging of cognitive therapy and behavior therapy

- Both therapies focus on the "here and now," and on alleviating symptoms

Cognitive Therapy | **Cognitive-Behavioral Therapy** | Behavioral Therapy
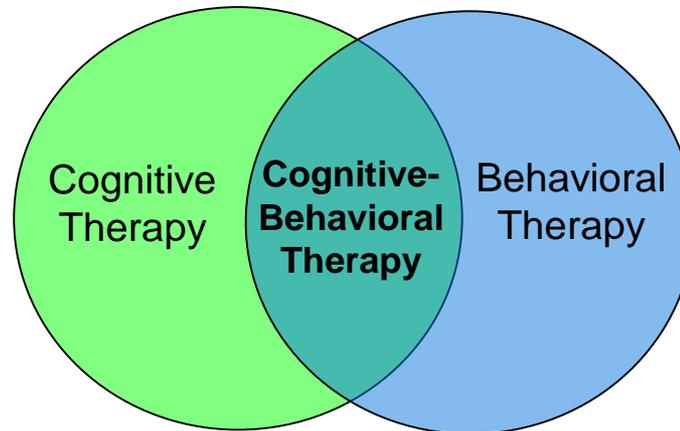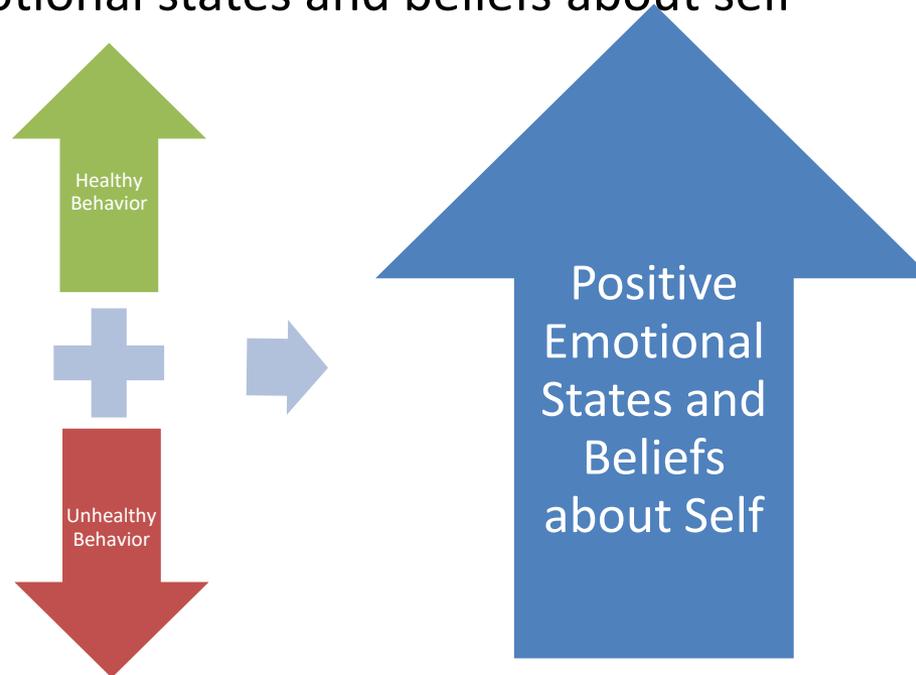
Assumptions of Cognitive Therapy

- Psychological disorders involve maladaptive thinking

- Feelings and behaviors are determined by the way an individual interprets certain situations

- Cognitive therapy helps patients overcome difficulties by identifying and changing dysfunctional thinking

- Changes in thinking are presumed to lead to changes in emotions and behavior
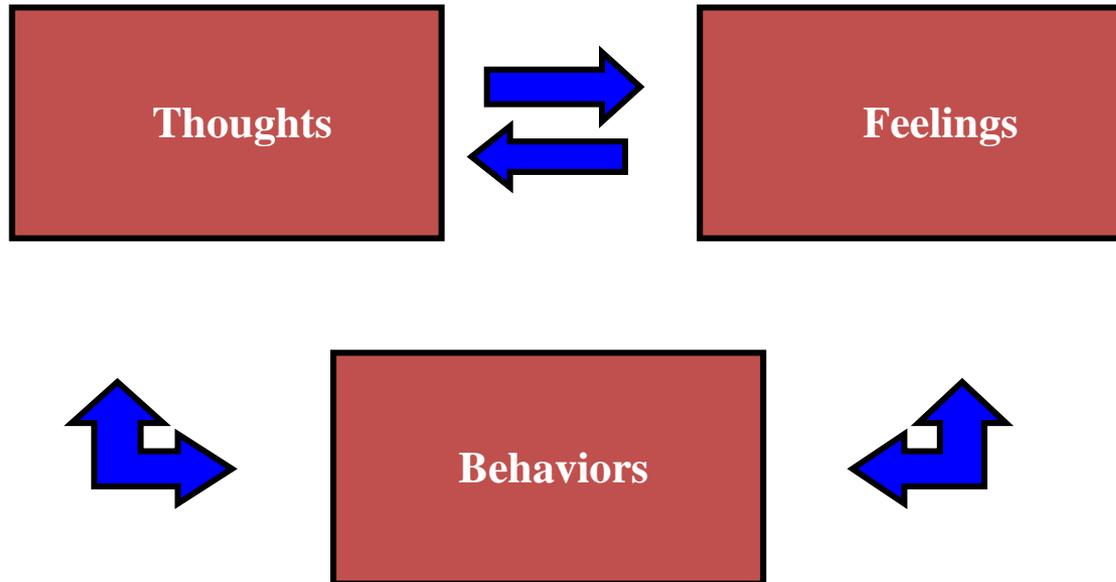
Assumptions of Behavioral Therapy

- Certain behaviors are associated with negative emotional states
  - For example, socially isolating oneself results in
    - fewer opportunities for positive experiences
    - increases negative self-evaluation
    - Increases in depressive symptoms
    - This then further decreases the likelihood of connecting with other people

Assumptions of Behavioral Therapy
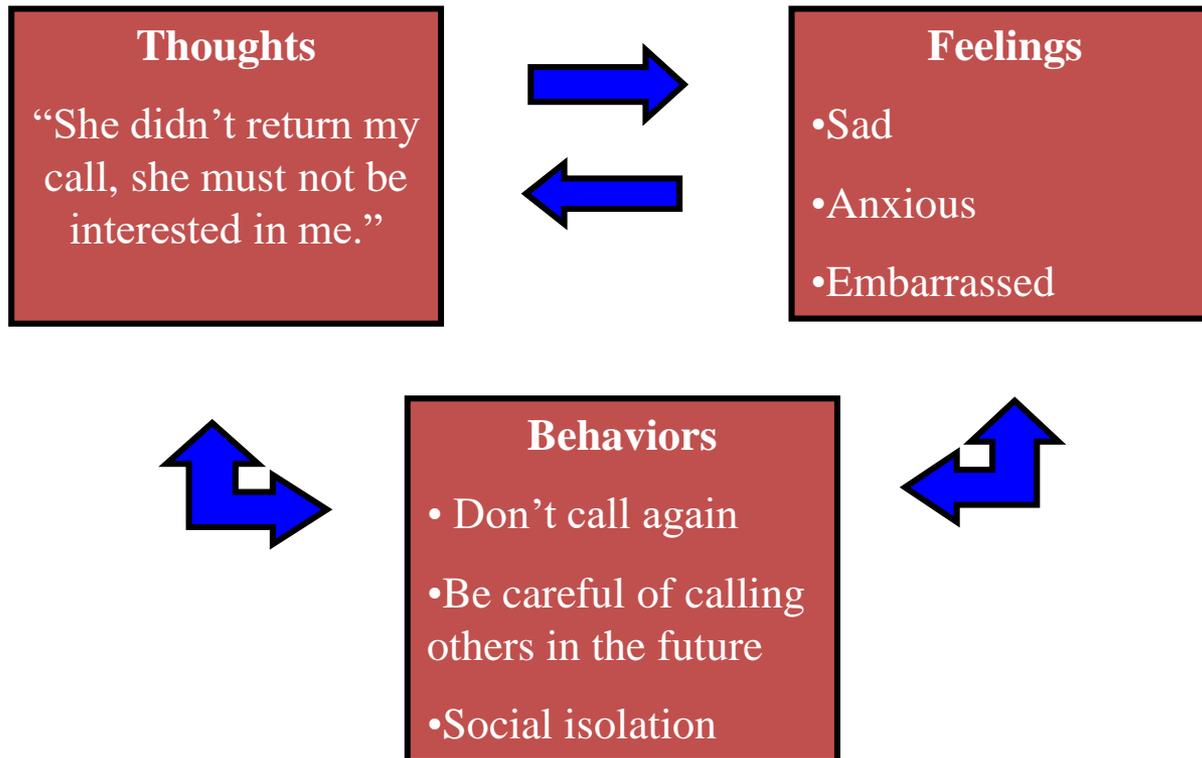
- A decrease in unhealthy and an increase in healthy behaviors positively impacts emotional states and beliefs about self

Healthy Behavior

Unhealthy Behavior

Positive Emotional States and Beliefs about Self

Simple CBT Model

CBT Model of Depression

Thoughts

"She didn't return my call, she must not be interested in me."

Feelings

•Sad

•Anxious

•Embarrassed

Behaviors

• Don't call again

•Be careful of calling others in the future

•Social isolation

CBT Model of Panic

Interpretation of Physical Symptoms
- "I am going to have a heart attack!"
- "I am going crazy"
- "I am going to die!"
- "People are noticing what is happening"

Feelings
- Anxiety
- Depersonalization

Physiology
- Rapid heart beat
- Dizziness
- Sweating

Behaviors
- Immediately leave the situation
- Avoid future situations where panic symptoms might occur

Treatment Structure

- CBT is time-limited and structured

- Typical length of treatment is 8-25 sessions

- Typical length of sessions is 45-50 minutes

- Visits typically take place in the therapist's office

Treatment Structure

- Thorough Assessment

- Psychoeducation/Conceptualization

- Setting Specific Goals

- Cognitive, Behavioral and Mindfulness-based strategies

- Relapse Prevention

Therapy "Homework" in CBT

- Is assigned at every session

- Includes cognitive, behavioral and mindfulness strategies

- Asks patients to experience some discomfort

- Patient not "off the hook" if they miss an assignment

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Barriers to Receiving CBT

- Lack of trained therapists

- Long wait times to receive treatment

- Logistical issues—need to take time off from work for appointments, lack of transportation, child-care issues

- Stigma

- Cost

Use of Technology

- Technology can help address many of the barriers to care

- Mental health treatment can be accessed 24/7

- No need for child-care, transportation to and from clinic, time off from work

- Free or low-cost

- Less stigma

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Types of Technology-Based Treatment

- Telehealth

- Internet-Based CBT (iCBT)

- CBT apps

Telehealth

- Helps with some barriers
  - Transportation to sessions
  - Time off from work
  - Child care
  - Stigma

Telehealth

- Doesn't address other barriers
  - Lack of trained therapists
  - Cost
  - Flexibility in timing of sessions

Internet-Based CBT (iCBT)

- "Computerized Programs" that are delivered over the internet using a computer
  - Can be administered with or without the assistance of a coach
  - When coached, iCBT requires much less provider time than individual CBT

iCBT

- iCBT programs have been developed over the past several decades

- More and more programs are being developed and used as components of stepped care models
  - Canadian Network for Mood and Anxiety Treatments (CANMAT) suggested computerized CBT as second line treatment (Parikh, et al., 2009)
  - Improving Access to Psychological Therapies (IAPT) program in the UK recommends computerized CBT as a low-intensity intervention for depression (Clark, 2011)

Progression of iCBT

- Early versions of iCBT were more like online self-help books
  - Psychoeducational materials
  - Worksheets
  - "Stories" with cartoon characters
  - Programs more linear—need to go in a specific order
- Newer versions of iCBT are more interactive
  - Flexibility in tailoring content to individual patients
  - Better graphics, use of audio and video content, different language options

Does iCBT work?

- A meta-analysis comparing **guided** iCBT to face-to-face CBT, shows that they produced equivalent overall effects (Andersson, et al., 2014)

What does guided iCBT mean?

- Coaching component as opposed to completely self-guided
- Can be a therapist or a "technician"
- Therapist can provide clinical guidance
- Technician uses scripts and refrains from providing clinical advice
- Coaching vastly improves engagement in treatment
- Coaching can occur via asynchronous messaging (either in the program or outside of program) or via telephone calls

Options for using iCBT

- Free-standing treatment

- Adjunct to work with a clinician

- Can be offered while people are waiting for appointments to become available

Mobile Interventions

- Approximately 95% of all individuals in the U.S. own a cellphone and 77% of Americans own a smartphone (Pew Research Center, 2017)
- 83% of individuals report that they never leave their house without their phone (Bakker, et al., 2017)
- Smartphones provide options for new types of data collection and provision of suggestions for intervening in real time
- Can help reach patients who are not typically able to access mental health services

Mobile Interventions

- Mobile Interventions are being increasingly used
  - Apps to monitor symptoms
  - Apps that provide a single skill (e.g., meditation, mindfulness, cognitive restructuring)
  - Minimal coaching
  - Individual therapy

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Challenges

- High attrition rates—one study estimated that guided interventions have a 26% attrition rate while unguided interventions have a 72% attrition rate (Richards and Richardson, 2012)

- Variable quality of apps and programs
    - Many apps and iCBT programs do not have any empirical support
    - Lack of involvement of mental health experts in development of content
    - Privacy concerns with patient data collected by apps

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iCBT for Children and Adolescents

- Programs do exist, but there has not been as much research on iCBT for children and adolescents as on iCBT for adults

- Specific challenges
  - Content needs to be tailored to different cognitive abilities, reading levels, developmental levels
  - Parents need to be involved in treatment

iCBT for Children and Adolescents

- Meta-analysis looked at 24 studies of iCBT for children and adolescents for 11 different disorders and found moderate between-group effect sizes when compared with wait list control group (Vigerland, et al., 2016)

- Recent meta-analysis of technology mediated CBT (eCBT) for anxious children and adolescents found that eCBT had similar outcomes to in-person CBT and out-performed wait list (Podina, et al., 2020)

iCBT for Children and Adolescents

- Can use gamified content to increase engagement

- Younger people are accustomed to using smartphones/technology

Impact of COVID-19 Pandemic

- Pandemic has accelerated pace of adopting technology
- Clinicians quickly had to move from in-person visits to telehealth
- Increased mental health needs due to social isolation, economic hardship, grief, stress
- Temporary changes to licensing laws, coverage of telehealth
- Push for these changes to continue after pandemic

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Future Directions

- Sensors on phones and wearable devices can be used to personalize treatment and suggest skills/tools to patients at times when they are needed in the real world (just-in-time adaptive interventions)

- Chatbots and personal voice assistants may be used to automate delivery of care

- Clinicians may be increasingly "prescribing" the use of iCBT to patients

- Currently, most iCBT programs are not covered by insurance but this may change in the future as these programs become more widely available and gain more empirical support

Hot off the presses

- Banbury Forum was a group of national and international expert stakeholders that convened to discuss the adoption of digital mental health treatments (DMHTs) in 2019 and 2020
  - Insurance companies and payers
  - Employers
  - Patients
  - Researchers
  - Policy Makers
  - Health Economists
  - DMHT companies
  - Investment Community

Banbury Forum Recommendations:

- Guided DMHTs should be offered as a treatment option to all patients with depression, anxiety and PTSD

- DMHT products and services should be reimbursable to support integration into the U.S. health care landscape

- An evidence standards framework should be developed for DMHT products

(Mohr, et al., 2021)

Conclusions

- There is a mental health crisis in the U.S.

- iCBT and other technology can help

- There is a need for more guidance and research on technology in mental health

- There is great potential and considerable risk, so we need to move ahead with caution

- Clinicians need to understand which programs have empirical support and provide adequate privacy protections for patients

Resources

-Professional Organizations, such as the Association for Behavioral and Cognitive Therapies (ABCT), the Association for Psychological Science (APS), the American Psychological Association (APA) have special interest groups devoted to the use of technology in clinical settings

Resources to Evaluate Apps

- Psyberguide (psyberguide.org)

- Beacon (beacon.anu.edu.au)

- Anxiety and Depression Association of America (adaa.org/finding-help/mobile-apps)