Disasters Psychiatry: Current Needs in Managing Climate Change

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Overview

- Didactic Content
  - Global Health Effects of Climate Change
  - Psychological & Behavioral Responses to Climate-Related Disasters
  - Populations with Increased Vulnerability
  - Preparing for and Responding to Disasters
- Small Group Case Discussions
- Mobile & Online Resources
Small Group Cases

Tom, 26 y.o., Chronic Bipolar
Single Room Occupancy, rented

Bethany, 31 y.o., PTSD
Single Family Home, owned

Angelica, 43 y.o., Depression
Two-bedroom apartment, rented
CLIMATE CHANGE: 
THE BIG PICTURE

Lise Van Susteren, M.D.
“ANCIENT SUNSHINE”
Extreme weather events

increasing in frequency and intensity

Hurricanes
Tornadoes
Blizzards
Heat Waves
...Floods
FIRES
HEAT WAVES

- Heat related illnesses including stroke
- Dehydration
- Sensitivity to psychotropics
The relationship between hot weather and crime is linear -- as it gets hotter, people get more aggressive.

- 4% between individuals
- 14% between groups
Extreme climate conditions

Global rise in temperature, drought, sea level rise
NASA Finds Drought in Eastern Mediterranean Worst of Past 900 Years

A new NASA study finds that the recent drought that began in 1998 in the eastern Mediterranean Levant region, which comprises Cyprus, Israel, Jordan, Lebanon, Palestine, Syria, and Turkey, is likely the worst drought of the past nine centuries.

Scientists reconstructed the Mediterranean’s drought history by studying tree rings as part of an effort to understand the region’s climate and what shifts water to or from the area. Thin rings indicate dry years while thick rings show years when water was plentiful.
Air pollution linked to...

- Asthma, Autism, Autoimmune disorders
- Dementia and Neurodegenerative diseases: (Alzheimers, Parkinson’s, ALS)
- In the ER: *Significant increases in panic attacks and threats to commit suicide*

For a more comprehensive review:
http://www.mdedge.com/clinicalpsychiatrynews/article/133804/schizophrenia-other-psychotic-disorders/hold-your-breath
Rising temperature and rising CO₂: growing food insecurity

- \(T\): 10% reduction for every 1 degree C
- \(CO₂\): associated with declining levels of zinc, iron, and magnesium in wheat, maize, and soy
How CO2 Levels Affect Human Cognition

Normalized cognitive function scores by participant and corresponding CO2 levels in their cubicle. The Green+ case had CO2 in the 500 ppm range due to high levels of outside air. It was compared to office settings in the 930 ppm range (yellow squares) and in the 1400 ppm range (orange triangles).

Source: Allen et al (2015), Environ Health Perspect
Infectious Diseases

Zika
Malaria
Lyme Disease
Dengue Fever
Chikungunya
Melting Siberian permafrost...
Impacts on Ecosystems

Oceans

Biodiversity
Species Loss

INDIVIDUAL AND COMMUNITY RESPONSE TO DISASTERS

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Psychological & Behavioral Responses to Disasters

Distress Responses
- Anxiety
- PTSD
- Depression
- Complex Grief

Health Risk Behaviors
- Change in Sleep
- Decreased Sense of Safety
- Irritability, Distraction
- Isolation, Avoidance
- Smoking
- Alcohol
- Over dedication
- Change in Travel
- Separation Anxiety

Psychiatric Disorders

SMALL GROUP BREAKOUT #1
(10-12 min)

The region experiences a 0.5 degree average temperature rise over the next two years.

1. What are some climate impacts of such a change in temperature?
2. What potential impacts will these have on the patient(s) life and health?
VULNERABLE POPULATIONS

Robin Cooper, M.D.
Poor people bear the brunt of climate change impacts while contributing little to the causes
The Social Determinants of Mental Health

Edited by
Michael T. Compton, M.D., M.P.H.
Ruth S. Shim, M.D., M.P.H.
Social Dimensions of Climate Change

Vulnerability ↔ Resiliency

- Exposure Vulnerability
- Population Sensitivity
- Adaptive Capacity
Populations of Concern
Mentally Ill and Substance Abuse
PREPAREDNESS & RESPONSE FOR DISASTER EVENTS

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https://health2016.globalchange.gov/

https://www3.epa.gov/climatechange/impacts/health-assessment.html

https://ncdmph.usuhs.edu/Documents/BehavioralHealthRecommendations-201401.pdf
Disaster Mental Health Preparedness & Response Mobile Resource

- SAMHSA Behavioral Health Disaster Response app (Free)
  - Pre-event preparation, on-the-ground assistance, post-event resources, more
  - Share resources (like tips for helping survivors cope) with others
  - Find local behavioral health services
  - Self-care support for responders

http://store.samhsa.gov/apps/disaster
Clinical Practice

• What’s your role?
  • Clinical care, consultant, responder

• What does you practice need?
  • Partnerships, record systems

• How to help your patients?
  • Family / school / work emergency plan
  • emergency “go kit”
  • trusted sources of info
  • “do and don’t” to manage exposure
Psychological First Aid (PFA)

Landmark article:
Five Essential Elements of Immediate and Mid-Term Mass Trauma Intervention: Empirical Evidence
*Psychiatry, 70(4), 2007*
Authors: Steven Hobfoll plus 19 others
Very diverse/credible authors

**The Five Elements:**
- Sense of Safety
- Calming
- Sense of Self- and Community Efficacy
- Connectedness
- Hope / Optimism
Psychological First Aid Mobile Resource

• PFA Mobile app (Free)
  • Summaries of the 8 core PFA actions
  • Match PFA interventions to specific stress reactions of survivors
  • Get mentor tips for applying PFA in the field
  • Self-assess to determine your own readiness to conduct PFA
  • Assess and track victims' needs to simplify data collection and referrals

https://www.ptsd.va.gov/professional/materials/apps/pfa_mobile_app.asp
Biopsychosocial Interventions

• Psychoeducation / Normalization
  • Expected reactions and when to seek help
  • “Normal reaction to an abnormal stressor”

• Social Support
  • Use and build support networks

• Optimize Sleep & Enhance Calming
  • Sleep Hygiene/Meds, Diaphragmatic Breathing, Progressive Muscle Relaxation, Visual Imagery
Disaster behaviors have very real life and death implications.

Risk & Crisis Communication
- Open, honest, timely, ongoing
- Build credibility, trust, collaboration

The Science of Science Communication...
Know your audience. Talk so people understand.


SMALL GROUP BREAKOUT #2
(18-20 min)

A category 4 hurricane is approaching our coastal city with predicted sustained winds of 125 mph and a predicted storm surge of 7 feet.

1. What concerns do you have for your patient in the days leading up to the storm?
2. What concerns do you have for your patient after the storm?
3. What action steps you could take as a psychiatrist to help the patient and/or larger community?
CLOSING THOUGHTS
What Can We Do?

Climate Change and Health: A Framework for Action

Healthy Communities Strategies
- Policies, laws, building systems, community services, healthy housing

Healthy Policies, Systems, and Environmental Change
- Social inequalities: race, ethnicity, class, discrimination, stress, gender, social isolation

Social Inequities
- Inequities: education, income, health, employment

Policy Systems, and Environmental Change
- Community capacity building, community engagement, partnerships, advocacy, communications, surveillance and monitoring

Institutional Power
- Government, schools, corporations, businesses, NGOs, faith organizations

Intervention strategies
- Policies, systems, and environmental change

Climate Change and Health Processes and Strategies

Living Conditions
- Physical, transportation, housing, residential, migration, urbanization, soil, weather, green space

Health Risks and Exposures
- Participate in health, injury, disease, violence, sudden death

Safety Net
- Health, food, wellness, economic, housing, education, retail

Health Education
- Preventing disease, physical activity

Risk Education
- Adolescent, teen, tobacco, urbanization, social determinants

Health Behaviors
- Nutrition, physical activity, exercise, smoking, stress, management, substance use

Medical, Public Health, Preparedness
- Adverse management, emergency, evacuation, wellness, environmental monitoring

Health and Inequities Impacts
- Chronic disease, cardiovascular disease, diabetes, injury, infectious diseases, HIV, reproductive outcomes

Health and Social Costs
- Disability and death

Individual and Community Climate Change Vulnerability or Resilience
- Interaction of factors, including social determinants, coping mechanisms, exposure, and susceptibility

Climate Processes and Strategies

Greenhouse Gas Emissions
- CO2, methane, black carbon, other short-lived greenhouse gases

Global Climate Impacts
- Warming, ocean acidification, sea level rise, ocean, biodiversity, agricultural productivity, food security

Intermediate Factors
- Environmental changes, climate change, health and social impacts

Climate Change Health Impacts
- Extreme weather events, heat, precipitation, drought, flooding, saltwater intrusion, wildfires

Other Environmental Impacts
- Forests collapse, biodiversity loss, resources depletion

Developed by the Public Health Institute's Center for Climate Change & Health. © Public Health Institute 2014
Strategies & Levels of Intervention

- Individual Patient Management
- Systems of Care
- Public Health Advocacy
Organizations & Resources

- American Psychiatric Association Disaster Committee & District Branches
  - https://www.psychiatry.org/psychiatrists/practice/professional-interests/disaster-and-trauma
  - https://www.psychiatry.org/about-apa/meet-our-organization/district-branches

- American Psychiatric Association Position Statement on Mental Health and Climate Change

- Climate and Health Assessment: Mental Health and Well-Being

- Curriculum Recommendations for Disaster Behavioral Health Professionals

- Medical Society Consortium on Climate & Health
  - https://medsocietiesforclimatehealth.org/

- Health Care Without Harm
  - https://noharm.org

- Climate For Health
  - http://climateforhealth.org

- Physicians for Social Responsibility
  - http://www.psr.org

- Carbon Footprint Calculator
  - http://www.nature.org/greenliving/carboncalculator/
QUESTIONS