सत्यमेव जयते

Ministry of Health And Family Welfare
Government of India

Azadi Ka Amrit Mahotsav

TRAINING MODULE FOR MEDICAL OFFICERS

National Programme on Climate Change and Human Health

MINISTRY OF HEALTH AND FAMILY WELFARE

National Programme on Climate Change and Human Health

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Chapter 1: **Climate Change and Mental Health**

Specific Learning Objectives:

- Mental health in context of climate change
- Interlinkages between climate change and mental health

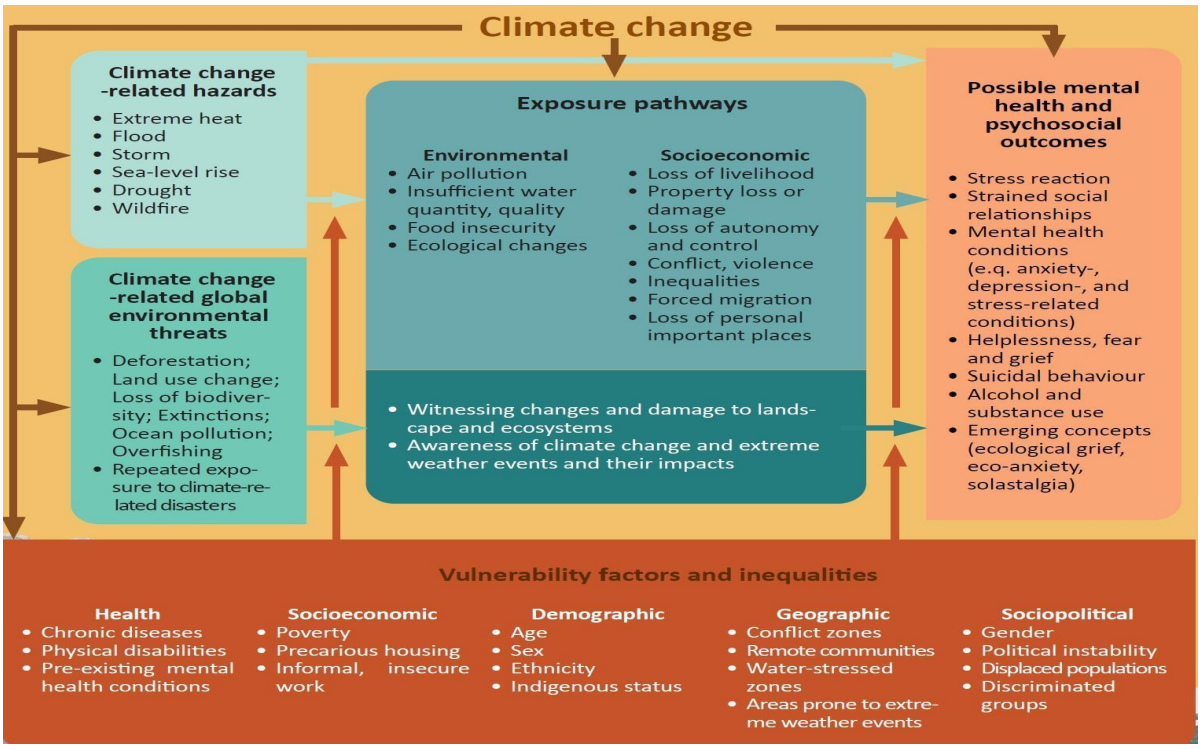
The United Nations Framework Convention on Climate Change (UNFCCC), Article 1, defines climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods." UNFCCC thus distinguishes between climate change attributable to human activities altering the atmospheric composition and climate variability attributable to natural causes. Climate change can occur in three forms for all living beings. First, these are slowly emerging changes and thus not identifiable without using special measures, e.g., the rise of environmental temperature and pollution. The second category includes acute events, considered disasters, e.g., floods, droughts, landslides and avalanches. Thirdly, humans are subjected to acute and long-lasting climatic changes due to migration, which can be voluntary or forced. These changes influence mental health as well as sleep. They increase the risk of mental health and sleep disorders.

Pathways by which climate change can affect people's mental health and psychosocial well-being

Not enough attention has been paid to mental health and psychosocial well-being in climate change literature, with studies on the topic emerging only since 2007. The connections between climate change, mental health, and psychosocial well-being have been discussed mostly within the health frameworks of emergency and disaster management, particularly in the context of extreme weather events. However, knowledge on the topic is growing, and strong arguments can be made for expanding this focus beyond these frameworks to recognize the role of Mental Health Psychosocial support within broader climate actions.

There are direct and indirect pathways by which climate-related hazards, long-term risks, exposure pathways and vulnerabilities interrelate to impact mental health. These factors do not act in isolation. Instead, hazards may overlap (e.g., cascading events such as storms followed by floods). People may simultaneously be exposed to contaminated water, food insecurity, and mosquito breeding sites. The vulnerabilities of the existing population may be exacerbated by climate hazards and long-term climate risks, resulting in aggravated inequities. The effects have considerable implications for mental health and well-being.

Fig 1 Interlinkages between climate change and mental health with environmental, social and economic determinants of health



The environmental, social and economic determinants of mental health (identified as exposure pathways in Figure 1) include air quality, water quantity and quality, food security and safety, income and livelihoods, ecosystem changes and a number of other social and economic pathways.

For example, air pollution during periods of high temperatures can cause respiratory diseases that increase demand for health care services, reduce mobility and the capacity to work, and can lead to mental health consequences that range from minimal stress and distress to the development of mental health conditions, particularly in low-income settings.

The case of prolonged droughts demonstrates a clear example of the impacts of climate change on these determinants. Droughts significantly disrupt agricultural production and lead to loss of livelihood, leaving many communities in poverty, a factor clearly linked with many common mental disorders. Droughts can also lead to water scarcity and food insecurity, both of which can negatively impact mental health and increase the risk for mental health conditions, the latter of which is associated with developmental delays, mental health issues and neurological problems that can result from malnutrition.

Both food and water scarcity can also further contribute to population displacement, which disrupts family relationships and can leave those displaced with fewer resources, services, and social support in the new community, all of which exacerbate mental health risks. Attention to the influence of climate change on determinants of mental health such as these is crucial for

both understanding the impact and for taking climate action.

Climate change may also lead to increased conflict, or aggravated conflict dynamics, particularly in regions dependent on agriculture, and to forced migration for some and forced immobility in challenging environments for others. Inevitably, conflict negatively impacts mental health and well-being, with one in five persons exposed to it experiencing a mental health condition and countless others enduring distress in the face of adversity.

Meanwhile, migration is also commonly viewed as a risk factor for mental health and psychosocial problems, though more research is needed with populations migrating for reasons other than conflict.

Why should we worry? There have been increasing efforts to better understand the mental health impacts of climate change. Individuals and communities may experience many intense emotions in the face of a changing climate, including sadness, fear, despair, helplessness and grief along with sleep disturbances. Various terms have emerged to describe these responses, particularly among youth affected by climate change, including climate change anxiety, solastalgia, eco-anxiety, environmental distress, insomnia, sleep apnea, ecological grief and climate-related psychological distress.

Mental Health: WHO defines mental health as "a state of well-being in which every individual realises his or her own potential, can cope with the stresses of life, can work productively and fruitfully and is able to make a contribution to her or his community".

Mental Health and Psychosocial Support: The composite term "mental health and psychosocial support" (MHPSS) is used in the Inter-Agency Standing Committee (IASC) Guidelines for MHPSS in Emergency Settings to describe "any type of local or outside support that aims to protect or promote psychosocial well-being and/ or prevent or treat mental disorder". The global humanitarian system uses the term MHPSS to unite a broad range of actors responding to emergencies and to underscore the need for diverse, complementary approaches in providing appropriate support.

Exercise

Q1. What is the United Nations Framework Convention on Climate Change (UNFCCC) definition of climate change?
a) Climate change is a change of climate that is solely due to natural causes.
b) Climate change is a change of climate that is attributed directly or indirectly to human activities that alter the composition of the global atmosphere.
c) Climate change is a change of climate that occurs only in developed countries.
d) Climate change is a change of climate that occurs in a specific geographic region.

Q2. What is one of the goals of the UNFCCC to address the impacts of climate change?
a) To mitigate the impacts of climate change by reducing emissions
b) To ignore the impacts of climate change
c) To increase the impacts of climate change
d) To limit the impacts of climate change to certain regions

Q3. What is the main reason for mental health and psychosocial well-being being impacted by climate change?
a) Changes in atmospheric composition
b) Natural climate variability
c) Exposure to climate-related hazards and long-term risks
d) All of the above

Q4. Which of the following is false about the pathway to climate related mental health problems?
a) Multiple hazards may occur simultaneously
b) Each climatic event can lead to multiple exposure pathways
c) Climate change doesn't directly cause a mental illness, but affects mental health by causing disruption to life
d) Factor related to changing climate interacts with population vulnerabilities and increases the chances of mental illness

Chapter 2: **Effects of climate change on Mental Health and Sleep Disorders**

Specific Learning Objectives:

- Mental health illnesses and sleep disorders linked to climate change
- Direct and indirect effects of climate change on mental health and sleep disorders
- Relationship between mental health and sleep disorders

Climate change can have harmful effects on health and mental health. Though most people will ultimately do well, many individuals impacted by extreme as well as slow emerging weather events experience a range of difficulties.

The mental health consequences of events linked to changing climate include

- Feeling sad or down
- Confused thinking or reduced ability to concentrate
- Excessive fears or worries or extreme feelings of guilt
- Extreme mood changes of highs and lows
- Significant tiredness, low energy, or problems in sleeping
- Detachment from reality (delusions), paranoia, or hallucinations
- Inability to cope with daily problems or stress
- Trouble understanding and relating to situations and people
- Problems with alcohol or drug use
- Excessive anger, hostility, or violence
- Suicidal thinking
- Disturbances of sleep

The impact of climate change on mental health can be either direct or indirect. Direct effects can be acute, sub-acute or long term depending on the type of climate related events. Indirect effects are usually long term. The psychological impacts resulting from these events can overlap and it is important to identify them.

Extreme weather events which are more frequent, intense, and complex under a changing climate can trigger

- Post-traumatic stress disorder (PTSD)
- Major depressive disorder (MDD)
- Anxiety
- Complicated grief, survivor guilt, vicarious trauma, recovery fatigue
- Substance abuse
- Suicidal ideation

Direct mental health problems due to impacts of climate change are as follows:

Acute Mental Health Impacts:

Acute weather events like heat waves, floods and drought can cause varied mental health issues in the people affected by them.

Heatwave

People with mental illness are three times more likely to run the risk of death from a heatwave than those without mental illness.

Floods

They bring mourning, displacement, and psychosocial stress due to the loss of lives and belongings. All these are risk factors for PTSD, depression, and anxiety.

Drought

Drought conditions lead to mental distress, anxiety, depression, suicide, and mental injuries to the immediately exposed, unprotected and helpless people.

Sub-Acute Mental Health Impacts:

These are seen in the individuals who indirectly experience the effects of climate change which can lead to anxiety related to uncertainty about the survival of humans, a sense of being blocked, disorientation, and passivity etc.

Long-Term Mental Health Impacts:

The increase in temperature can notoriously compromise the functioning of the central nervous system by directly affecting biochemical levels (altering levels of serotonin and dopamine) or by disrupting the homeostasis of thermoregulation.

Studies show higher risks of mental disorders correlated to warmer temperatures, specifically mania in the elderly, and a positive association with transient mental disorders and episodic mood disorders leading to increased hospital admissions. During an increase in temperature, there is a risk of mental states of aggression resulting in violence and self-harm, inflicted injury/homicide, and self-injury/suicide. Many studies showed no significant associations with cold temperatures.

Although knowledge of the links between increased temperature and mental health is still limited, evidence suggests that impacts could be felt at both the individual and community levels, with mental health outcomes ranging from psychological distress, depression, and anxiety, to increased addiction and suicide rates.

Indirect mental health problems arising out of climate change with respect to socio-political, economic, demographic, geographic, environmental threats etc

Climate change impacts agriculture, infrastructure and livability which consecutively affects professions, quality of life, and the capacity of people to move. Loss of personal and professional identity, loss of social support systems, loss of a sense of control and autonomy, and other mental health repercussions such as emotions of helplessness, dread, and fatalism are all possible outcomes of these effects. Stress and worry are also connected to physical health issues, including a compromised immune system. Worrying about climate change's real or potential impacts can cause stress, leading to stress-related problems, including substance

misuse, anxiety disorders, and depression.

Climate change likewise has mental health impacts at the community level-remote communities. Certain disadvantaged communities, such as indigenous communities, children, and communities' dependent on the natural environment, can experience disproportionate mental health impacts. After ecological and environmental changes in a country, economic crises can occur and increase suicide rates and other mental and behavioral disturbances, especially among the working population. Many potential long-term impacts of climate change, such as population migration, food scarcity, loss of employment, and loss of social support, have consequences on mental health.

Loss of plant biomass due to deforestation has a deeper impact on climate change and its associated consequences, leading to profound maladaptive disorders and depression. Additionally, direct heat could result in sleep disturbances, exhaustion, and heat stress associated with suicide.

Urban greens help maintain low temperatures in the city during summer months, improve air quality, and reduce stress levels. An ever-increasing number of studies show that living in green urban spaces leads to health benefits, including better mental health and a longer life expectancy. Older people in contact with parks and green spaces have been noted to be associated with slower cognitive decline. Landscape modification can induce individuals to develop a profound sense of loss of connection and detachment from the environment.

There has been emergence of new concepts related to mental health impacts of climate change such as climate anxiety/Eco-anxiety. Climate change-anxiety is referred to as eco-anxiety, climate distress, or climate anxiety, i.e. anxiety related to the climate crisis and the threat of environmental disaster. Symptoms associated with climate anxiety include- panic attacks, insomnia, obsessive thinking.

Overall, feelings of climate distress might also compound other daily stressors to negatively affect overall mental health, potentially leading to increased stress-related problems such as substance use disorders, anxiety disorders, and depression.

Impact of climate change on sleep

Recent scientific evidence suggests that slowly occurring climate changes, e.g., environmental temperature, changing weather, and pollution, e.g., air pollution and light pollution influences the sleep-wake schedule, and total duration of sleep facilitates the occurrence of sleep disorders like insomnia, insufficient sleep syndrome, and obstructive sleep apnea. The impacts of the above climatic changes with reference sleeping pattern is as below

Increase in temperature- extreme heat condition

Environmental temperature has a significant impact on human sleep. Increase in minimum temperature beyond

- 10°C has been found to reduce the duration of sleep at the individual level
- 15°C increases chances for early awakening
- 25°C leads to delayed sleep onset

These effects lead to insufficient sleep and have been more pronounced in women and the elderly. The average monthly increase in nighttime temperature increases the number of nights with insufficient sleep with more pronounced effects during summer, in the elderly, and among lower income groups. Effects of daytime temperature (maximum temperature) have also been studied, and it has been found that greater than 32°C

- Worsens sleep quality
- Reduces the length of actual sleep
- Reduces total sleep time
- Increases the number of awakenings

Light Pollution

Light pollution is known to disrupt the circadian rhythm and, thus, the sleep-wake cycle (Patel, 2019; Johnson et al., 2018). An increase of 10 units (nW/cm2sr) of sky brightness during the night has been found to

- Reduce sleep duration by 6 min/day
- Increases the risk of insufficient sleep (<7 hours) by nearly 14% in predisposed people

Increased nighttime skyglow *(defined as the ability to see only one-third to one-fourth of stars compared to what can be seen from an unpolluted natural nighttime sky)* has been found to hamper foetus growth resulting in developmental disorders. This effect is considered to be mediated by the disrupted circadian cycle and insufficient sleep.

Noise Pollution

Noise pollution occurring at nighttime as well as at daytime is associated with the individual group such as

In adults:

- Daytime sleepiness
- Habitual snoring
- Reduced slow-wave sleep
- Poor sleep efficiency
- Non-refreshing sleep

In Children and adolescents:

- Delayed bedtime
- Shorter sleep duration

The effect of noise pollution is likely to be mediated through stress-sympathetic hyperactivity and greater cortisol level

Air Pollution

Air pollution has adversely affected sleep. This effect may be immediate as well as long lasting. Air pollution during pregnancy can affect children's sleep. Exposure to particulate matter greater than 2.5 microns (PM 2.5) during 31-35 weeks of pregnancy reduces total sleep time in children aged 4-5 years. These children were found to sleep for 8 hours/day compared to the recommended 10-13 hours. Exposure to particulate matter and NO2 increases the risk of poor sleep quality and obstructive sleep apnea across ages. Effect of air pollution (PM 2.5, PM 10, and NO2) are mediated through:

Inflammation in upper and lower airway through:

- Direct effects of air pollution on the mucosa
- Allergy-mediated effects of pollutants

Change in neurotransmission in the brain due to pollutants

Temperature, season, and geographical area may influence the obstructive sleep apnea occurring in response to pollutants (PM 2.5, PM 10, and NO2)

Relationship between sleep and mental health issues

Sleep and mental health issues have a complex relationship

- Depression and anxiety increase the risk of insomnia, parasomnia, and poor sleep quality
- Post-traumatic stress disorders increase the risk for poor sleep quality and obstructive sleep apnea

Sleep disorders increase the risk of mental health issues

- Untreated insomnia can lead to depression, anxiety, addiction, and suicide
- Delayed sleep-wake phase disorder increases the risk for depression and addictive disorders

Sleep disorders may mimic psychiatric disorders

- Insomnia and restless legs syndrome may be mistaken for anxiety and depression
- Obstructive sleep apnea may be mistaken for depression, somatoform disorder, and fibromyalgia
- Parasomnia may be mistaken for sleep-related seizures and dissociative disorders

Untreated sleep disorders and mental health issues leads to NCDs

- Metabolic Syndrome
- Diabetes Mellitus
- Coronary Artery Disease
- Systemic Hypertension
- Pulmonary hypertension
- Stroke
- Obesity

Mental Health and Sleep disorders also have large socioeconomic impact

- Increased utilisation of healthcare resources
- Road traffic and industrial accidents
- Work absenteeism
- Reduced productivity
- Expenditure on the treatment
- Deteriorating quality of life

Exercise

Q1. False about impact of climate change on mental health are-

a) Effects of climate change can be acute, sub acute or chronic
b) Climate change causes disturbances in mood and functioning but not mental health disorders
c) Most people who suffer from a climate change-mental health issue will recover and ultimately do well
d) The psychological impacts resulting from these events can overlap and it is important to identify them.

Q2. True about effect of heat on mental health are-

a) People without mental illness are more likely to die due to a heat wave
b) Increase in temperatures increases the chances of hospital admissions
c) Colder temperatures are more commonly associated with mania
d) Increase in temperature leads to lower cases of aggression and harm to others

Q3. Which of the following has an effect on foetal growth

a) Increased nighttime skyglow
b) Decreased nighttime skyglow
c) Exposure to particulate matter greater than 2.5 microns
d) Exposure to particulate matter lesser than 2.5 microns

Q4. Which of the following is an effect of disturbed sleep on mental health?

a) Increase in the chances of depression
b) Decrease in work productivity leading to distress
c) Increase in addictions
d) All of the above

Q5. False about sleep disorders is-

a) Sleep disorders can cause socio-economic losses
b) Sleep disorders can mimic mental illness
c) Sleep disorders can increase the risk of diabetes
d) Sleep disorders are seen only as a part of mental illness

Chapter 3: **Impact of Disasters on Mental Health and Sleep Disorders**

Specific Learning Objectives:

- Disasters and its impact on mental health and sleep
- Post disaster and mental health and sleep disorder
- Relationship between mental health and sleep disorders

Disasters are large-scale events that are often unexpected and cause death, trauma, and destruction of property. Disasters affect millions of people around the globe every year. Many studies reported there were increased mental health consequences, such as depression, post-traumatic stress disorder (PTSD), anxiety and suicide among disaster survivors, especially for vulnerable populations.

According to WHO, disaster is "a severe disruption, ecological and psychosocial, which greatly exceeds the coping capacity of the affected community (WHO, 1992)." The following are the characteristics of a disaster:

- Sudden onset
- Unpredictability
- Uncontrollability
- Huge magnitude of destruction
- Human loss and suffering
- Greatly exceeding the coping capacity of the affected community

The impacts of a disaster can be immediate, sub-acute or long term as described in the table below

Type of impact	Mental Health issues
Immediate/Direct impacts (floods, hurricanes, wildfires, etc.)	Mental injuries to the immediately exposed, undefended and helpless people.
Sub-acute impacts	Indirectly witness the effects of climate change leading to anxiety related to uncertainty about the survival of humans, sense of being blocked disorientation, and passivity.
Long-term outcomes	Social and community outbreaks in the form of violence, struggle over limited resources, displacement, forced migration, post-disaster adjustment and chronic environmental stress.

Community's and individual's reactions to the disaster usually follow a predictable phase as shown below

Phases after disaster

Phases and mental health issues

Phases after a disaster	Duration	Characteristics
Occurrence of the disaster	Hours	Apathy, Disorientation, wandering Surprise, Fear, perplexity Anxiety, Helplessness
Heroic	Up to 1-2 weeks	Strong, direct feeling Heroism, Solidarity, Optimism
Honeymoon	2 weeks to 3 to 6 months	Great solidarity, Eagerness to rebuild Sharing of common experience
Disillusionment	2months to 2 years	Withdrawal, loneliness Anger, frustration Community disorganization Negativity, Hostility Impulsiveness, violence Alcohol and drug abuse
Reconstruction	A lifetime	Acceptance of losses Realistic assessment of the situation Search for alternatives to rebuild lives

(Cianconi, P., Betrò, S., & Janiri, L. (2020). The Impact of Climate Change on Mental Health: A Systematic Descriptive Review. Frontiers in psychiatry, 11, 74)

Immediately after the disaster, survivors in the community usually show altruistic behaviour in the form of rescuing, sheltering, feeding, and supporting fellow human beings. Hence this phase is called the heroic phase. This phase usually lasts from a day to weeks depending upon the severity, duration of exposure and availability of the relief sources from various agencies.

Once the relief agencies step in, survivors are relocated to safer places like relief camps. Free medical aid, free food and shelter, administrations' sympathy, compensation package, rehabilitation promises provides immense sense of relief and faith in survivors that their

community will be restored in no time and their loss will be accounted for through monetary benefits. Hence this phase is called honeymoon phase, which usually lasts for 2-4 weeks.

At the end of 2-4 weeks, relief materials and resources start weaning. Administration, relief agencies and NGO's involvement start fading. This brings the survivors to the ruthless world of post disaster life. The reality of complex process of rebuilding and rehabilitating appears a distant dream because of administration hurdles, discrimination, injustice and corruption. This harsh reality of the disillusionment phase provides a fertile soil for breeding mental morbidity which lasts for 3-36 months before the community restores to harmony. The role of mental health workers is immense during this phase.

The final phase is the restoration/reconstruction phase where the population accepts its losses and does the realistic assessment of the situation resulting in slowly rebuilding their lives from thereon.

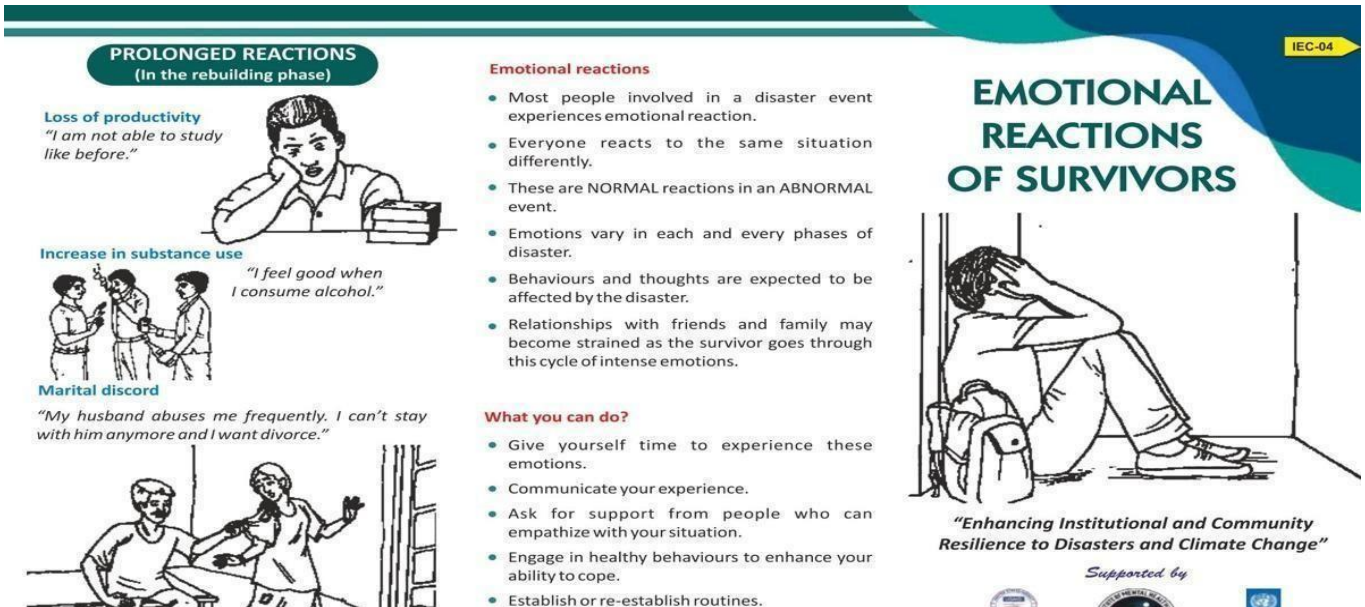
Mental Health and Sleep Disorders

Disasters can also result in various mental health issues such as

- Adjustment disorders
- Depression
- Post-traumatic stress disorder (PTSD)
- Anxiety disorders
- Non-specific somatic symptoms
- Substance abuse

Grief reactions are normal reactions in abnormal situations. Normal grief resolves over a period of a few months. However, validation of their emotions needs to be done and following to be addressed

- Survivors guilt
- Fear of losing control of emotions
- Becoming mentally ill
- Substance use
- Death wishes and suicidal ideas
- Abnormal grief reactions can be delayed, absent, oscillating grief responses.



Disasters can affect sleep not only immediately but also for years to come and may give rise to sleep disorders. This has been proven in several scientific studies. Unfortunately, this is a lesser-assessed issue in India.

Earthquakes and Tsunamis have a long-lasting effect on sleep. A number of studies have shown that direct and indirect exposure to an earthquake has been associated with sleep disturbances among children and adults for years, even in the form of difficulty falling asleep shorter sleep, poor quality sleep and daytime dysfunction because of poor sleep

Risk factors for sleep disturbances include evacuation and damage to the home, crowded shelters, after evacuation, post-traumatic stress symptoms and young age at the time of the event. These sleep disturbances in turn increase the risk for suicide.

Exercise

Q1. Which of the following is not a characteristic of a disaster?

a) Sudden
b) Unpredictable
c) Within coping capacity
d) Uncontrollable

Q2. Match the following with the phases of a disaster.

Reconstruction	When relief agencies provide free medical aid, free food and shelter and other services to survivors
Heroic Phase	Aid from administration and relief agencies starts fading
Disillusionment	Reality assessment and acceptance
Honeymoon Phase	Survivor's altruistic behaviour after a disaster

a) 1-iv, 2-iii, 3-ii, 4-i
b) 1-iii, 2-ii, 3-i, 4-iv
c) 1-iii, 2-iv, 3-ii, 4-i
d) 1-ii, 2- iii, 3-iv, 4-i

Q3. True among the following-

a) A disaster is an acute event and can't have long term outcomes
b) Feeling sad and distressed after the death of a loved one is always a sign of mental illness
c) Survivor's guilt need not be addressed in counselling
d) Delayed grief is a type of abnormal grief

Q4. What you should not tell someone who is going through emotional distress after a disaster

a) Avoid making major life decisions
b) No point in talking about it and making it a big deal
c) Reach out for professional help
d) Give yourself time to experience these feelings

Q5. True about sleep disturbances caused by a disaster include-

a) Disasters like earthquakes can have long lasting effects on sleep
b) Disturbances seen in sleep include of difficulty falling asleep, shorter sleep, poor quality sleep
c) Migration and staying in shelter homes increases the chances of sleep disturbance
d) All the above

Chapter 4: **National Programme on Climate Change and Human Health (NPCCHH)**

Specific Learning Objectives:

- Introduction to National Programme on Climate Change and Human Health
- Understanding vision, goals and objectives of NPCCHH
- Structure and functions of State, District and National level

National Programme on Climate Change and Human Health (NPCCHH) launched in 2019 under National Health Mission (NHM) and it is implemented in 36 States/UTs. At the national level, the central component functions at National Centre for Disease Control (NCDC) for implementation and monitoring of programme activities. NCDC is the nodal agency for implementation NPCCHH activities and MoHFW is the nodal Ministry for addressing Health Mission of Prime Ministers Council for Climate Change.

Vision: Strengthening of healthcare services for all the citizens of the state especially vulnerable like children, women, elderly, tribal and marginalised population against climate sensitive illnesses**.**

Goal: To reduce morbidity, mortality, injuries and health vulnerability due to climate variability and extreme weathers

Objective: To strengthen health care services against adverse impact of climate change on health.

Specific Objectives

Objective 1:

To create awareness among the general population (vulnerable community), health-care providers and Policy makers regarding impacts of climate change on human health.

Objective 2:

To strengthen the capacity of the healthcare system to reduce illnesses/ diseases due to variability in climate.

Objective 3:

To strengthen health preparedness and response by performing situational analysis at state/ district/ below district levels.

Objective 4:

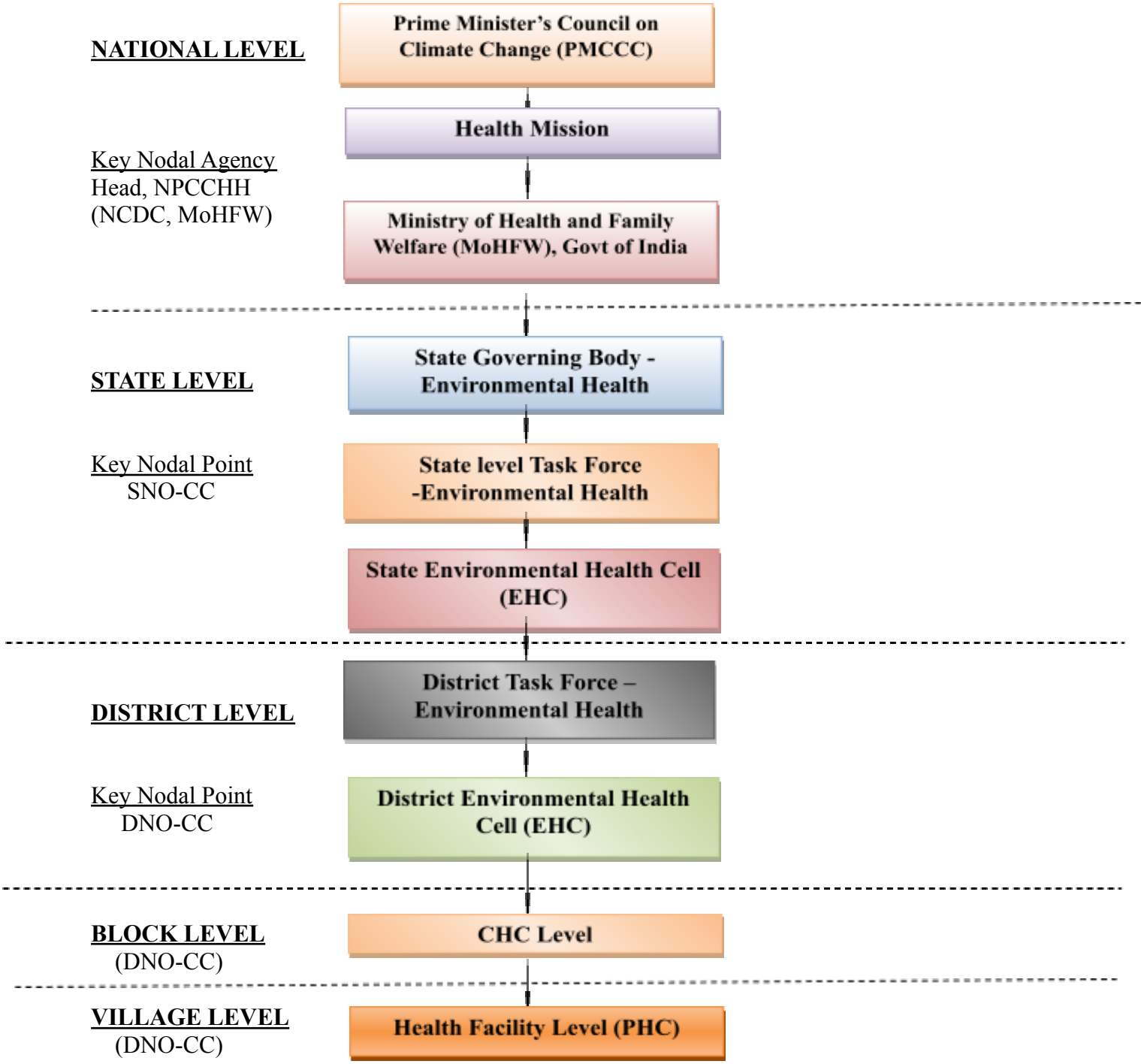
To develop partnerships and create synchrony/ synergy with other missions and ensure that

health is adequately represented in the climate change agenda in the state in coordination with the Ministry of Health & Family Welfare.

Objective 5:

To strengthen state research capacity to fill the evidence gap on climate change impact on human health

NPCCHH: Organisational Framework



Management Structure of NPCCHH

Central Level:

National Programme on Climate Change & Human Health functions at central level functions at Center for Environmental and Occupational health, Climate Change and Health – CEOH & CCH Division, NCDC for overall implementation of the programme in the country. CEOH&CCH provides technical inputs and support to State and UTs on the programme components - awareness generation, capacity building, strengthen health care preparedness, intersectoral coordination and research and development. Director, NCDC is the Technical Head for the programme functioning and Additional Director & HoD CEOH&CCH coordinates the programme activities in State/UTs. Joint Director, Deputy Director, Medical Officer, Sr Consultants and Technical Officer are the human resource under the programme.

Functions of the Central level

- Execution of the components of NPCCHH.
- Monitor progress of implementation of all the components of the programme.
- Obtain reports from States on various activities under the programme
- Production and dissemination of prototypes standard guideline, manual, modules, IEC materials for training and awareness generation on climate change and health issues
- Intersectoral coordination with central agencies, NGO and other organisations
- Support States and UTs for development of health adaptation plan and operational guidelines for climate sensitive health issues.
- Organising periodic review meetings, field observations, workshops, meetings regarding implementation of NPCCHH.
- Strengthening health care preparedness through green measures and surveillance systems
- Strengthening of health care system by involving premiere institutes and organisations for development of guideline, training manual, IEC etc

State Level:

The States are responsible for implementing programme activities in conformity with the National guidelines through the State Environment Cell established at Department of Health and Family Welfare. State Environment Cell is supported by State Nodal Officer and Consultant at the State level for rolling out the programme activities.

- Awareness generation through IEC, mass media on climate sensitive health issues
- Organising and coordination of all training, capacity building programmes, meetings on climate sensitive health issues
- Analysis of all data received form the district and transmitting to the centre
- Coordination with other related programs in the State /District on climate change and human health along with intersectoral coordination
- Implementation of State Action Plan on Climate Change and Human Health
- Monitor programme, review meetings, field observations.

- Timely issue of warning/ alerts to health professionals and related stakeholders as well as general public through campaign or using mass media
- Social mobilisation against preventive measures through involvement of women self-help groups, community leaders, NGOs etc.

State level Committee: The State to constitute State Governing Body for policy decision with respect to climate change and human health and State Level Task Force for implementation of the State Action Plan for Climate Change and Human Health (SAPCCHH) in their State/UT.

District Level:

The focal point of all programme related activities at the periphery is the District Environmental Cell established at Office of Chief Medical Officer. District Environmental Cell is headed by District Nodal Officer plays a key role in functioning of the programme activities

- Awareness generation through IEC, mass media on climate sensitive health issues
- Vulnerability assessment and risk mapping of climate sensitive health issues
- Organise training/ workshop and meetings with respect to climate sensitive health issues
- Implementation of District Action Plan on Climate Change and Human Health.
- Maintain physical, financial, epidemiological profile for climate sensitive health issues.
- Timely issue of warning/ alerts to health professionals and related stakeholders as well as general public through campaign or using mass media
- Social mobilisation against preventive measures through involvement of women self-help groups, community leaders, NGOs etc.

District level Committee: The District to constitute the District Level Task Force for implementation of the District Action Plan for Climate Change and Human Health.

Exercise

Q1. Which of the following is the nodal agency for NPCCHH?

a) NIMHANS
b) NCDC
c) Environmental Health cell
d) IMD

Q2. Which of the following is not true about functioning at the state level?

a) State Environment Cell is established at Department of Health and Family Welfare

b) State Environment Cell is lead by the Director, NCDC

c) State Environment Cell analyses all data received form the districts and transmits it to the centre

d) State Environment Cell issues timely warning/alerts to health professionals and related stakeholders as well as general public

Q3. The district environmental health cell is established at-

a) the DMHP

b) centre for environment and human health

c) office of the medical officer

d) office of the climate change consultant

Q4. Which of the following is not true about functioning at the district level?

a) District environmental cell does vulnerability assessment and risk mapping of climate sensitive health issues

b) They organise training/workshops with respect to climate sensitive health issues

c) It is lead by a climate change consultant

d)The District Level Task Force ensures implementation of the District Action Plan

Chapter 5: **Implementing NPCCHH Activities**

Specific Learning Objectives:

- Awareness generation
- Capacity building
- Intersectoral coordination

Awareness generation through IEC

Information, education and communication (IEC) materials are intended to raise awareness among the general public of each individual's personal responsibility for action to reduce inequalities affecting the mental health and psychosocial well-being of different gender groups caused by effects of climate change. The educational component of these IEC materials contains approaches and tips on how to address such inequalities and how to contribute on individual, family and community levels to the betterment of mental health and well-being of all.

IEC materials such as brochures, posters, audio, video developed by NIMHANS on the impact of climate change on mental health (Annexure 2). These IEC materials are to be utilised to raise awareness among general public and health care professionals in addressing climate change and mental health issues. Some of the IEC materials as an illustration are shown below

Fig1: IEC material – brochure on impacts of climate change on mental health and sleep

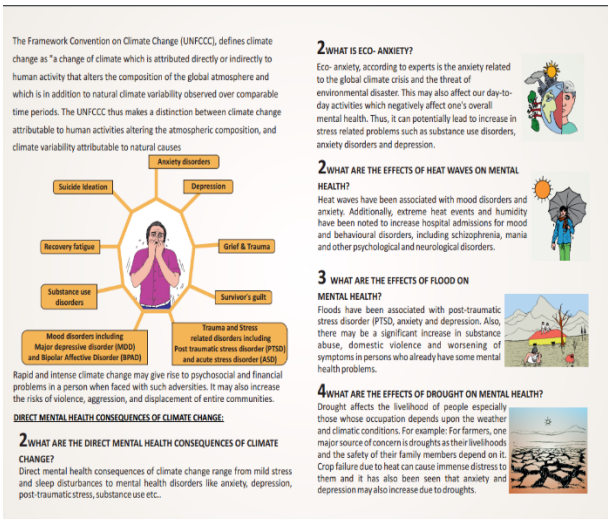
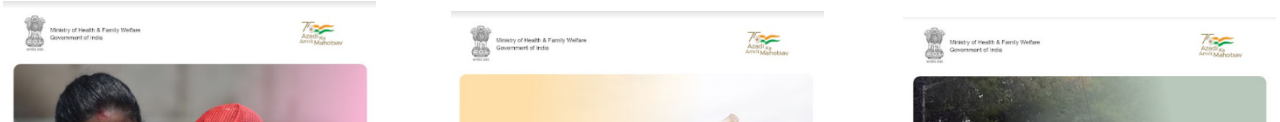


Fig 2: IEC posters- Effects of Climate change and vulnerable population mental health



IEC dissemination activities in the area of climate change and mental health are as below

Climate change and its impacts on mental health
The effects of climate change can include feelings of sadness, guilt, tiredness, mood changes, sleep disturbances, problems with substance use etc.

Mental health effects of climate change on vulnerable population
The populations groups of children, women, elderly, pre-existing mental health conditions, etc are more vulnerable to the mental health effects of climate change

Stress management techniques
Activities related to the reduction of Mental health issues – at an individual and community level to handle stress and build resilience building etc.

Sources of help
Availability of various sources of help for psychological issues arising due to climate change (acute/long term)

Emerging concepts
Awareness generation about newer concepts of mental health problems arising due to climate change like eco-anxiety, eco-grief, Solastalgia etc

Responsibilities of Medical officer

- Dissemination of IEC materials to the stakeholders and community levels
- Organise periodic IEC campaign, sensitization programme at schools, community level, vulnerable populations
- Observing environment and health events such as World Health Day, World Mental Health Day, International Day for clear air for blue skies etc
- Monitoring and supervision of IEC activities

Capacity Building

Training programmes to be organised with the focus on the following

- impacts of climate change on mental health and sleep,
- social determinants affecting the mental health in context of climate change,
- mental health and sleep disorders associated with change in climate,

- extreme weather events such as disasters, heat wave etc,
- preparedness and response of the healthcare facilities and promotion of health

The above areas are to be sensitised to the health care professionals and to the community level through regular training programmes. This manual comprises all the above chapters with illustrations and learning objectives and lessons learnt enlisted in the document.

Responsibilities of Medical officer

- Organise training programme to healthcare professionals such ASHA, ANM, Healthcare workers and at the community level- vulnerable population
- Organise sensitization programme for schools, social groups, self-help groups etc
- Monitoring and supervision of capacity building activities

Intersectoral Coordination

Since climate variability is not limited to one part of the health sector and relates to many dimensions/sectors, there is need for coordination with other sectors such as government and non-government for effective action to achieve sustainable health outcomes. The intersectoral coordination with rural development, urban development, women and child department, agriculture, forest department etc

Responsibilities of Medical officer

- Coordination with various national health programmes, government departments and non-government agencies with respect to climate change and mental health.
- Organise meetings with the various departments and agencies
- Coordination with National Mental Health Programme for integration of climate change variables

Health system strengthening

Climate-related hazards and vulnerabilities interrelate to impact mental health and sleep. The Medical Officer play a key role in managing the response with respect to mental health disorders by utilising the Clinical schedules of Primary Care Psychiatry (Annexure 1) in association with the National Mental Health Programme as per Comprehensive Primary Mental Health Services under Ayushman Bharat.

ANNEXURE

Annexure 1: Clinical Schedules of Primary Care Psychiatry (CSP) V2.3 for Medical officers

Clinical Schedules for Primary Care Psychiatry: Version 2.3 (COVID-19)

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- ✓ *This schedule is prepared for the clinical use of **Primary Care Physicians** (PCPs) to screen during this Corona Virus outbreak and aftermath of the outbreak.*
- ✓ *In India, PCPs are also referred to as 'General Practitioners' (GPs), 'Family Physicians/Doctors' (FPs/FDs), 'General Doctors' (GDs)etc.*
- ✓ *This contains guidelines for screening, referral, early diagnosis, first line treatment and routine follow-up of an **ADULT** patients with psychiatric disorders at routine **OUT-PATIENT** primary health care or GPs clinics.*
- ✓ *The contents of this schedules are an adopted version of psychiatric classification, diagnostic criterias, & treatment guidelines for wider utilization by GPs of India.*

WHAT ARE THE EXPECTATIONS FROM GPs/PCPs during this Corona Virus outbreak?

A. ***In first contact/ new patients with or without Corona Virus Exposure***

- ✓ *GPs should be able to do rapid screening in all adult patients for possible psychiatric disorders.*
- ✓ *GPs should be able diagnose & provide a first line of treatment that consists of medication and brief counselling.*
- ✓ *If patient shows improvement with treatment in 3 - 4 weeks, consider following them up under their own care.*
- ✓ *If case diagnosis is unclear, consider referral to a psychiatrist.*

B. ***In stable patients referred by a psychiatrist for routine follow-up***

- ✓ *Along with patients, family/friends are a reliable source of information for better follow up.*
- ✓ *Enquire about clinical condition on every visit, check for common side effects, and prescribe same medications when clinical condition is same or when there is no worsening.*
- ✓ *If any patient does not improve, worsens, does not take regular medication, has severe side effects, becomes suicidal or aggressive, consider referring them back to psychiatrists.*
- ✓ *Consider referral to a psychiatrist for second opinion whenever patients/families concern about how long the medication should continue, despite your advice for a particular period!*

WHAT KIND OF PATIENTS IN GENERAL PRACTICE ARE LIKELY TO HAVE PSYCHIATRIC DISORDERS?

*Any patient/s who are likely to get **repeated prescriptions** from GPs for the following medication has higher probability of having psychiatric disorders. These medications are*

1. *Analgesics/Pain killers (Diclofenac, Ibuprofen, Nimesulide, etc)*
2. *Multivitamins in tablets/capsules/tonic bottle forms*
3. *Tonic seekers & Energy syrups*
4. *Antacid / H2 Blockers /Proton Pump Inhibitors (Ranitidine, Omeprazole, Pantoprazole, etc)*
5. *Benzodiazepines (Alprazolam /Diazepam/ Chlordiazepoxide/ Nitrazepam, etc)*
6. *Repetitive Infusion of Intravenous fluids on demand from patients/family*

Hence, it is suggested that GPs shall pro-actively search for psychiatric disorders in these kinds of patients in their clinical practice during this Corona Virus outbreak.

Part I: SCREENER / CASE RECORD FORM

Hospital No: ..... **Date:** ..... **Aadhaar No:**
Name: ..... **Age:** ..... years, **Gender:** .....
Postal address with parent/Guardian name:

Any pre-existing medical illness and treatment history — YES/NO (record details, if YES)
Any Pre-existing mental illness (including substance use) and treatment history — YES/NO (record details, if YES)

Presenting complaints with its duration:

1. ..... 2. .....
3. ..... 4. .....

Physical examination findings: .....

Can you explain above symptoms and signs with known medical illness?

YES / NO

If YES	If NO, < 2 weeks	If NO, ≥ 2 weeks
Please proceed with your diagnosis & your Rx	If illness is ***< 2 weeks,*** *reassure & ask patient to follow-up if symptoms persists*	If illness is ***≥ 2 weeks,*** *check for possible* ***psychiatric disorders*** *as below!!!*

Please begin with these general enquiries!

1	How is your sleep?	Normal / Disturbed
2	How is your appetite?	Normal / Disturbed
3	How is your interest in doing your daily work?	Normal / Disturbed

Now, begin with specific questions for possible psychiatric disorders!!!!

4	*In the past year, are you drinking alcohol heavily or regularly?*	*YES / NO*	If YES to any, check for ***Alcohol Disorder***
5	*In the past year, are you not getting sleep without alcohol?*	*YES / NO*	
6	*In the past year, does your hands/body parts tremble whenever you abruptly reduce or stop using alcohol?*	*YES / NO*	
7	*Do you use Beedi/Cigarettes/Gutka or other tobacco products within an hour of getting up from bed in the early morning?*	*YES / NO*	If YES, check for ***Tobacco Addiction***
8	*In the past few weeks, did you get sudden attacks of fear or anxiety?*	*YES / NO*	If YES to any, check for ***Panic disorder (PD)***
9	*In the past few weeks, does the above attack/s come without any reason/s?*	*YES / NO*	
10	*In the past few months, are you often getting tensed/stressed out without any reason or for small trivial reasons?*	*YES / NO*	If YES to any, check for ***Generalized Anxiety Disorder (GAD)***
11	*In the past few months, are you unable to control or stop this tension, thoughts, images, flash back episodes or memories of a particular event?*	*YES / NO*	
	Note*: If 'YES' to any of the above items 8 to 11 and it is primarily attributed to infection or apprehension of infection of Corona Virus to self or loved ones check for* ***'Adjustment Disorder'*** *(less than one month) or* ***'Acute Stress Reaction'*** *(less than one month) or* ***'Post Traumatic Stress Disorder'*** *(more than one month)*		
12	*In the past few weeks, have you been feeling tired all the time?*	*YES / NO*	If YES to any, check ***Depressive disorder***
13	*In the past few weeks, have you lost interest or pleasure in your regular daily activities?*	*YES / NO*	
14	*In the past few weeks, have you been feeling sad / depressed?*	*YES / NO*	
15	*In the past many months, does this patient have any physical symptom/s (listed in diagnostic criteria of Somatization disorder) which is unexplainable with current medical knowledge or with depression/anxiety?*	*YES / NO*	If YES to any, check for ***Somatization Disorder***
16	*In the past many months, has this patient shown signs of doctor shopping (repeatedly consulting you or other doctors) for these similar physical symptoms?*	*YES / NO*	
17	*In the past few weeks, does he/she has irritability, talking or smiling to self / suspiciousness/hallucination/delusions/poor self-care/aggressive behaviour?*	*YES / NO*	If YES to any, check for ***Psychotic Disorder***
18	*In the past few days, did he/she have suicidal, self-harm or aggressive behaviour*	*YES / NO*	[$] *PFA & Refer*

Note: *Items 1-15 for patients, 17 for family & friends, 17 & 18 for clinical interpretation of doctors*

[$] Provide ***Psychological First Aid*** & refer to a psychiatrist

Behavioural observation/s: .....

Diagnosis: *(Tick appropriately)*

1	**Alcohol Disorder:** *Harmful use (Frequent / Infrequent type)/ Addiction*
2	**Tobacco Addiction**
3	**Common Mental Disorders (CMDs)/ Neurosis**
	a. Predominantly Depressive Disorder
	b. Predominantly Anxiety Disorder (Panic Disorder/Generalized Anxiety Disorder/Adjustment Disorder/ Acute Stress Reaction/Post Traumatic Stress Disorder)
	c. Predominantly Somatization Disorder
	d. Mixed Disorder (Depressive, anxiety or somatic symptoms)
4	**Severe Mental Disorders (SMDs)/ Psychotic Disorders:** *Acute / Episodic / Chronic*
5	**Other**.....

Rx plan:

1. Prescription	*2. Brief counselling or Psychological First Aid provided: YES / NO*
3. Follow-up notes with dates	

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Part II: MANAGEMENT GUIDELINES

I. DIAGNOSTIC GUIDELINES

- ✓ The diagnoses of psychiatric disorders are based on cluster of symptoms and signs described below.
- ✓ Many medical illnesses in clinical practice can present as typical psychiatric disorders. Hence, it is advisable to ***rule out these medical conditions*** based on clinical symptoms and signs of medical illness, if present.
- ✓ Thyroid and cardiac dysfunctions are common medical conditions which can mimic psychiatric disorders.
- ✓ If medical illness is found, priority to be given on treatment of this medical condition.

Alcohol Disorders:

Alcohol Harmful use*- (Two types: Frequent /Infrequent) [Frequent type: ≥ 4 drinking sessions per month]*

1. Heavy alcohol use leading to socio-occupational and/or health problems, even if not regular use

Alcohol Addiction

1. Regular use of alcohol almost every day, especially early morning drinking
2. Experience of withdrawal symptoms whenever he/she reduces or stop alcohol such as tremors, sleep disturbance, sweating, palpitation, etc.

Tobacco Addiction

Person uses any tobacco products regularly and/or heavily and unable to control its quantity

DIAGNOSTIC CRITERIA OF PANIC DISORDER

The characteristics of attack of severe anxiety or fear **(panic attack)** as follows

1) Repetitive (more than one attack) 2. Spontaneous (sudden onset without any reasons) and 3) Unpredictable

These panic attacks are usually associated with

1. Sudden onset of palpitations, chest pain, difficulty breathing/choking sensations, dizziness, dry mouth, and feelings of unreality are common.
2. There is also a secondary fear of dying, losing control, or going mad.
3. Having a fear of *'anticipatory attack'* leading to avoidance of certain situations where these attacks occurred.
4. These attacks begin abruptly, reach a peak in minutes and resolution occurs in 10-20 minutes.

However, panic attack which is not spontaneous and predictable could be panic attack as a part of GAD/Depressive disorder, may not be panic disorder per se.

DIAGNOSTIC CRITERIA OF GENERALIZED ANXIETY DISORDER

An experience of excessive and uncontrollable anxiety /tension/worries/nervous with no obvious or trivial reasons for many months (often for ***> 6 months)***. ***The characteristics of these anxiety /tension/worries/nervous are***

1. Generalized in nature (involving several aspects of life involving family, health, finances, or work, such as family tragedy, ill health, job loss or accidents even when there are no obvious signs of trouble).
2. Persistently (present throughout day)
3. Free floating anxiety (means anxiety does not have an obvious cause / without pinpointing any source of worry/anxiety, but with capability to move on freely without being connected to one cause/source of anxiety **(unattached/uncommitted to a cause/a situation /independent of a cause, but capable of relatively free movement)**

These anxiety symptoms usually present with the following multiple symptoms.

1. ***Mental tension / Apprehension*** (nervousness or exaggerated and uncontrolled *"worries about future misfortunes"* of everyday events and problems, feeling "on edge", difficulty in concentrating, etc.);
2. ***Physical / Motor tension*** (being restless fidgeting, *tension headaches*, trembling, *inability to relax, trouble sleeping*);

Physical arousal / Autonomic over-activity *(light-headedness*, sweating, tachycardia or tachypnoea, *epigastric discomfort, dizziness*, dry mouth, etc.).

DIAGNOSTIC CRITERIA OF ADJUSTMENT DIORDER

1. *Triggered by stressful event (within one month) such as exposure to Corona Virus*
2. *Sadness, anxiety, anger or worry (or mixture of these)*
3. *Feeling of inability to cope or plan ahead or continue in the present situation*

DIAGNOSTIC CRITERIA OF ACUTE STRESS REACTION (< one month) or POST TRAUMATIC STRESS DISORDER (>one month)

1. Exposure to severe traumatic event
2. Intense fear or horror or intense panic anxiety or anger outburst
3. A constant state of hyperarousal or complete emotional numbness
4. *Autonomic signs of (tachycardia, tachypnoea, tremor, sweating, flushing) are commonly present.*
5. Intrusive recurring thoughts or images of the traumatic event
6. Reliving the event in nightmare or flashbacks
7. Active Avoidance of people, places, and things connected with the traumatic event

DIAGNOSTIC CRITERIA OF DEPRESSIVE DISORDER

The **core symptoms** are 1. *Depressed mood*
2. *Loss of interest or pleasure in activities that were usually pleasurable earlier &*
3. *↓ Energy level or ↑fatigue/tiredness.*

Additional symptoms

1. *Disturbed sleep*
2. *Disturbed appetite*
3. *↓Concentration & Attention*
4. *↓ Activity/thinking level*
5. *↓Sexual interest*
6. *↓ Self-esteem /self-confidence*
7. *Ideas or acts of self-harm or suicide*
8. *Ideas of guilt and unworthiness*
9. *Bleak and negative view of future*
10. *Weight loss*

Presence of ***at least 2 of above core symptoms*** and ***at least 3 of additional symptoms*** pervasively (in almost all activities) & persistently (present throughout the day) **for more than TWO WEEKS** confirm the diagnosis of "depressive disorder".

DIAGNOSTIC CRITERIA OF SOMATIZATION DISORDER

These patients presents with various physical complaints without a physical explanation determined by a full history and physical examination. These symptoms may be single, multiple and variable physical symptoms referred to any part or system of the body.

Following list includes the commonest symptoms.

1. Pain symptoms at multiple sites (such as abdominal, back, chest, dysmenorrhea, dysuria, extremity, head, joint, rectal) is often present.
2. Gastrointestinal sensations (pain, belching, regurgitation, vomiting, nausea, etc.),
3. Abnormal skin sensations (itching, burning, tingling, numbness, soreness, etc.) and blotchiness.
4. Sexual and menstrual complaints (ejaculatory or erectile dysfunction, hyperemesis of pregnancy, irregular menses, menorrhagia, sexual indifference) are also common.

For definite diagnosis of somatization disorder

1. For many months (at least 6 months) of symptoms of illness explained above
2. Doctor shopping (repeated visit to doctor/s and/or repeated investigation reveals no abnormality).
3. Some degree of social and family dysfunction.

DIAGNOSTIC CRITERIA OF PSYCHOSIS- Acute *(up to 6 months)****/Chronic*** *(> 6 months)* ***/Episodic*** *(more than one episode)*

1. Agitation or restlessness
2. Bizarre behaviour
3. Hallucinations (false or imagined perceptions, e. g., hearing voices)
4. Delusions (firm beliefs that are plainly false, e. g., patient is related to royal family, receiving messages from television, being followed or plan to kill/harm)
5. Social withdrawal (sitting alone, not interacting with others, etc)
6. Low motivation or interest, self-neglect (poor self-care, not going for work, etc)
7. Un-understandable speech
8. Over cheerfulness/ Over talkativeness/ reduced sleep/ hyperactivity/ grandiose thinking

II. INVESTIGATIONS GUIDELINES

- ✓ Laboratory or radiological investigations are NOT used routinely in psychiatric disorders
- ✓ The need for investigations depends on clinical findings to exclude other medical conditions which can explain psychiatric symptoms
- ✓ Serum thyroid stimulating hormone (TSH), & Electrocardiogram (ECG) are commonly used investigations
- ✓ CT/MRI of Brain are rarely used in routine clinical psychiatry.

III. TREATMENT GUIDELINES

A. General Treatment Guidelines of psychiatric medications

- ✓ ***Onset of action*** *is slow, i.e., around 2 to 3 weeks and takes 4 to 6 weeks for full action.*
- ✓ ***Longer course of medications:*** *Once improvement occur with any medication, there is a need to continue medication at* ***same dose*** *for at least 6 months.*
- ✓ ***DO NOT stop medications abruptly*** *until & unless it is an emergency such as severe side effects, etc*

No	Diagnosis	First line Rx	Probable duration of Rx
1	**CMDs**		
A	Adjustment Disorder and Acute Stress Reaction	BZDs + Counselling	2-3 weeks
B	Predominantly Depressive Disorder	SSRI ± BZDs + Counselling	SSRI for 9 -12 months BZDs for initial 2-4 weeks
C	Predominantly Anxiety Disorder	SSRI ± BZDs + Counselling	
D	Post-Traumatic Stress Disorder	SSRI / TCA± BZDs + Counselling	
E	Predominantly Somatization Disorder	TCA + Counselling	2 year
F	Mixed Disorder (Depressive, Anxiety/Somatic symptoms)	TCA > SSRI + Counselling	1-2 year
2	**SMDs/ Psychosis**		
A	Acute	Atypical antipsychotics	6-9 months
B	Chronic	Atypical antipsychotics	2 years
C	Episodic	Need psychiatrist referral	Variable
3	**Alcohol Disorder**		
A	Alcohol Harmful use – Not so frequent type	Counselling + B1 vitamin	Follow up advised
B	Alcohol Harmful use – Frequent type	SOS Naltrexone 25 mg ½ hour before every drinking session	
C	Alcohol Addiction	Anti-craving medications + B1 vitamin ± BZDs detoxification	9-12 months
4	**Tobacco Addiction**	NRT/Bupropion	3-6 Months

B. **Medications (Anti-depressants and Antipsychotics)**

Antidepressants (All are oral adult dose in mg) This is an empirical guideline for the clinical use of antidepressants at primary care.

Name	Initial dose	Max dose (GPs)	Max dose (Psy)	Common side effects (usually dose dependent)			Sexual side effects	Remarks, if any
				Sedation	Orthostatic hypotension	Anticholinergic		
Selective Serotonin Reuptake Inhibitors (SSRI)								
Fluoxetine	20	40	80	± insomnia	0	0	++	Preferably in morning
Escitalopram	10	20	30	±	±	0	±	Hyponatremia especially in old age
Citalopram	20	30	60	±	±	0	±	
Sertraline	50	100	200	±	±	0	Delayed ejaculation	Safe in old patients & medical comorbidities
Paroxetine CR	12.5	25	37.5	+	0	±	Retrograde ejaculation	Agitation
Fluvoxamine	25	100	300	±	±	±	Anorgasmia	
Newer antidepressants								
Duloxetine	20	30	60	±	±	±		Dry mouth, ↓ appetite
Venlafaxine ER	37.5	75	225	±	±	±	↓sexual drive	BP monitoring
Desvenlafaxine	50	100	400				Sexual dysfunction	
Mirtazapine	7.5	15	45	+++	+	±	Very less	
Burpropion	150	300	450	Activating	0	0	Very less	Priapism & seizure at higher dose
Tri Cyclic Antidepressants								
Amitriptyline	10	50	300	+++	+++	+++	++	Avoid in old patients & comorbidities
Imipramine	25	75	300	++	++	++	++	
Dotheipin				+++	+++	++	++	Relatively Cardio safe
Clomipramine	25	75	300	++	++	++	++	
Nortryptyline	50	50	200	+	++	+	+	

Severity of side effects is graded as 0 = Absent; ± = Probable/Very little; + = Mild; ++ = Moderate; +++ = Severe. Anticholinergic side effects are dry mouth, constipation, blurred vision, urinary retention, giddiness, etc. Max-Psy: Maximum dose used by psychiatrist, Max-GPs: Maximum dose recommended for General Practitioners.
*There is a risk of **manic switch** (< 5%) with antidepressants (TCA > SSRI); to be managed by stopping antidepressants and refer to a psychiatrist.*

ANTIPSYCHOTICS- ORAL (All are in adult dose in mg). *This is an empirical guideline for the clinical use of antipsychotics by GPs.*

Name	Initial dose	Max dose (GPs)	Max dose (Psy)	Common side effects (Mostly dose dependent)					Remark
				Sedation	Hypotension	EPS	Weight gain	↑ Prolactin	
Atypical Antipsychotics *[Safer than typical antipsychotics]*									
Risperidone	2	4	8	+	++	+	++	+++	
Olanzapine	5	10	30	++	+	±	+++	+	
Quetiapine	25	200	800	++	±	0	++	0	
Aripiprazole	7.5	15	30	0	0	0	±	0	
Paliperidone				0	+	+	++	+++	
Amisulpride	100	200	800	±	+	+	+	+++	
Levosulpride	50	100	300						
Clozapine*	25	100	600	+++	+++	0	+++	0	Seizure risk above 600 mg, Agranulocytosis (at any dose), cardiomyopathy
Typical Antipsychotics									
Chlorpromazine	25	100	600	+++	++++	+	++	++	Anticholinergic side effects
Flupenthixol	1	3	6	+	+	++	++	++	
Haloperidol	0.5	10	30	+	+	+++	+	+++	Cardio safe

** EPSE means Extrapyramidal side effects are graded as 0 = Absent; ± = Probable/Very little; + = Mild; ++ = Moderate; +++ = Severe.*
Increased prolactin lead to Amenorrhea, galactorrhoea and other sexual side effect
****Clozapine to be begin under supervision of a psychiatrist***

Antipsychotic- Depot Preparations$

No	Name	Route	Dose (in mg)	Frequency
1	Inj Fluphenazine Decanoate	IM	12.5 to 100	Every 2 to 4 weeks
2	Inj Flupentixol Decanoate	IM	20 to 60	Every 2 to 4 weeks
3	Inj Haloperidol Decanoate	IM	25 to 100	Every 4 weeks
	Inj Zuclopentoxol Decanoate	IM	200 to 400	Every2 to 4 weeks
4	Inj Olanzapine Pamoate	IM	150 to 300	Every 4 weeks
5	Inj Risperidone Consta	IM	25-50	Every 2 weeks
6	Inj Paliperidone Palmitate	IM	39, 78, 117, 156, and 234	Every 4 weeks

$To be given only for patients who does not take medicine regularly leading relapses. These depot injections preferable to begin by a psychiatrist and follow up may be done with their GPs

*

C. EXTRA-PYRAMIDAL SIDE EFFECTS (EPS) includes

No	Name	Description	Likely onset*	Rx
1	Dystonia	Twisting of arms/legs/eye balls	Within few hours (10 minutes to 4 hours)	Inj Phenargan (Promethazine) 25 /50 mg deep IM/ slow IV or Diazepam 10 mg IM/ slow IV *STAT* & then begin tab. Trihexyphenidyl 2-4 mg for 2 to 3 weeks
2	Akathisia	Motor restlessness	Within few days (1 to 4 days)	Reduction or change of offending drug. Beta blocker like Propranolol up to 40 mg/day or Benzodiazepines (BZDs). i.e., Clonazepam 0.5 – 1 mg
3	Drug Induced parkinsonism	Tremor & slowness	Within few weeks (1 to 2 weeks)	Trihexyphenidyl 2 to 6 mg. It is often added as prophylactic agent

* *after of administration of antipsychotics*

D. BENZODIAZEPINES tablets

No	Name	Type	Dose /day	Addiction potential	Schedule
1	Clonazepam	Long acting	0.5-6 mg	±	OD /BD
2	Diazepam	Long acting	5-30 mg	+++	OD /BD
3	Chlordiazepoxide	Long acting	10- 100 mg	++	OD /BD
4	Nitrazepam	Long acting	5-20 mg	++	OD /BD
5	Lorazepam	Short acting	0.5-2 mg	++	BD/TDS
6	Oxazepam	Short acting	15-60 mg	++	BD/TDS
7	Alprazolam	Short acting	0.25 – 4 mg	++++	BD/TDS

E. Counselling

- ✓ *It shall be brief in duration (to be completed in < 5 minutes).*
- ✓ It is one of the non-medication treatment modality practiced by all doctors in their everyday practice, often without their knowledge.
- ✓ Similarly, same thing shall be offered for patients with psychiatric disorders also.
- ✓ *The core contents of counselling shall include an education about illness and setting realistic expectations from treatment and practical tips to handle stressors, whenever present.*
- ✓ Counselling shall include information about nature of illness, when to expect benefit from medication, how long to continue, and need for repeated follow up.
- ✓ Sleep hygiene to be discussed
- ✓ Please provide practical tips to handle stressor whenever present.
  - ➢ ***Psychotherapy (talk therapy) is a specialised form of counselling aimed to relieve symptoms which takes multiple sessions of 40 -60 minutes each.***
  - ➢ ***Please don't confuse counselling with psychotherapy which psychiatrists practice.***

F. ALCOHOL AND TOBACCO DISORDERS

A general guideline

1. *Please do remember patients with alcohol & tobacco addiction need* ***MANY TREATMENT ATTEMPTS*** *as several relapses (may be 3 – 4 times) are common and relapses are rule than exception (even with proper treatment) for complete stopping.*
2. For any kind of alcohol & tobacco disorders, advice always to stop completely. If willing for Rx, follow below guidelines
3. ***If patient/s not willing to stop,*** *a) Never force any patient/s to begin treatment, b) Inform about availability of medications to stop, c) Counsel about benefits of abstinence and damages of continued use, d) Always ask them to come whenever they wish to stop. These steps build up better doctor-patient relationship for long term treatment for addiction Rx.*
4. Encourage their friends & family to cooperate and help patient for multiple treatment attempts.

Alcohol Disorders

Alcohol harmful use (Infrequent type)- Counselling includes benefits of stopping and loss (short term and long term) of continued use. You may prescribe thiamine supplementation. Advise for regular follow up.

Alcohol harmful use (Frequent type)- SOS use of Naltrexone 25 mg ½ an hour before every drinking session (Sinclair method). This method gradually reduces the harm by reducing the quantity of alcohol and eventually helps to stop alcohol completely.

Alcohol Addiction:

1. Detoxification with BZDs only if there are withdrawal symptoms (Diazepam preferred up to 40 mg/day on 1st & 2nd day, 30 mg/day for 3rd & 4th day, 20mg/day for 5th & 6th day, 10mg/day for 7th & 8th day, then stop).
2. Thiamine supplementation up to 300 mg/day for first 3 months.
3. ***Anti-craving medications*** (gradual hike is advised) such as Topiramate to 100 mg/day, Baclofen up to 40 mg/day, Acamprosate up to 999mg/day (333 mg TDS) may be used for 9 months to 1 year.

These anti-craving medications can be given from first day of Rx. They reduce craving, reduce quantity of alcohol even if person drink alcohol on it. Hence, anti-craving medications can also be given even if person is continued to drink alcohol, this help reduces/prevents withdrawal symptoms / hangover / craving of next morning.

> ***Disulfiram*** *is an aversive drug (NOT an anti-craving) not advisable for use at primary care level. In case GPs prefer, please use with caution preferably after informed consent from patients and supervision by a family member. Start ONLY after 5 days of completely stopped alcohol. Dose is 250 mg OD preferably in the morning.*

Tobacco Addiction

1. Nicotine Replacement Therapy (NRT)
   Nicotine transdermal patch to apply on clean, dry, non-hairy area of skin (typically upper arm or shoulder) in 21/14/7 mg regimen: 21 mg OD for 6 weeks, then 14 mg patch OD for 2 weeks & then 7 mg patch OD for 2 weeks) and
   Nicotine gum to be used in chew and park technique (2 & 4 mg: Max 16 mg/day, to be used hourly for first 2 weeks then gradual taper and stop in 3 months). Please be aware that nicotine gum has poor acceptability and unpredictable effects, i.e., may not get desired effects.
2. **Bupropion** is available in 150 & 300 mg tablets. To be given preferably in morning; begin 150 mg for first 5 days & then 300 mg for 3 to 6 months.
3. **Varenicline** is expensive. Days 1-3: 0.5 mg OD, days 4-7: 0.5 mg BD, then 1 mg BD for 3 to 6 months.

G. MANAGEMENT OF PSYCHIATRIC DISORDERS IN COMORBID MEDICAL ILLNESS

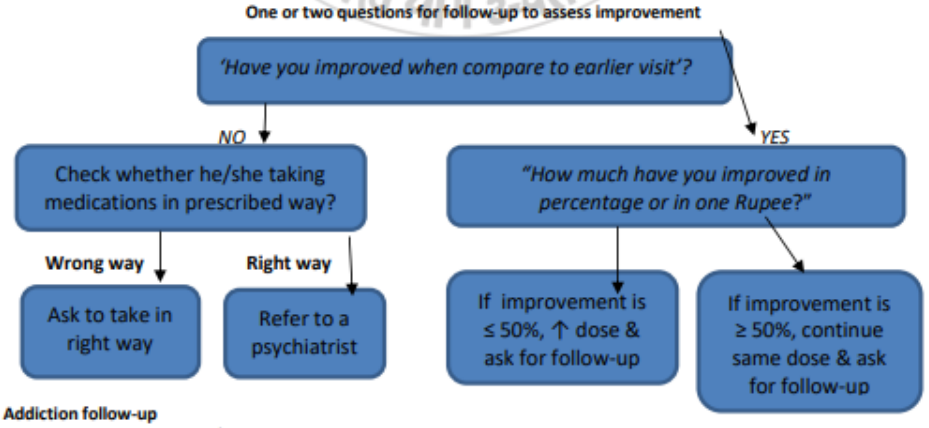
- ✓ *Psychiatric disorders can be present in patients of diabetes mellitus, essential hypertension, ischaemic heart disease, stroke, cancers, etc.*
- ✓ *Avoid poly-pharmacy.*
- ✓ *Begin low (dose), go slow (for escalation of dose)*
- ✓ *However, this schedule contains reasonably safe medications which to be prescribed at lower dose which is considered in safe always.*
- ✓ *If doubt, refer to a psychiatrist.*

H. TREATMENT OF PSYCHIATRIC DISORDERS IN PREGNANCY AND LACTATION

- ✓ *General rules of Pregnancy and Lactation is applicable for psychiatric disorders also such as avoid in first trimester, caution in 2nd & 3rd trimesters.*
- ✓ *Preferable to refer to a psychiatrist*

IV. FOLLOW UP GUIDELINES

Frequency of follow-ups: *First follow-up at 2 weeks (to assess side effects), second at 4 weeks (to assess effects), and then every month (for maintenance).*



Addiction follow-up

1. *Check whether he/she stopped completely or not. If stopped completely, continue anti-craving Rx for 9-12 months*
2. *If not stopped completely, consider increasing the dose of anti-craving medication*
3. *Refer to psychiatrist, in case person goes back for repeated drinking episode despite on adequate dose of anti-craving Rx*

1.Rx for Depressive & Anxiety Disorders

1. Tab. FLUOXETINE 20mg, 1-0-0 2. Tab. CLONAZEPAM 0.25mg ***OR*** Tab. DIAZEPAM 5mg, 0-0-1 X 10days & then **STOP**	**OR**	1. Tab. ESCITALOPRAM 10mg, 0-0-1 2. Tab. CLONAZEPAM 0.25mg ***OR*** Tab. DIAZEPAM 5mg, 0-0-1 X 10days & then **STOP**	**OR**	Tab. AMITRYPTILINE 25mg, 0-0-1/2 X 4days 0-0-1 X 4days 0-0-2 (continue)
Counselling to include, Begin its action: 2-3 weeks, Full action: 4-6 weeks & Course of treatment: 6-9 Months				
Follow up @ 1 Month	**If improvement, follow-up yourself.**			**If NO improvement, Refer to Psychiatrist.**

2. Rx for Somatization Disorder

Tab. AMITRYPTILINE (25mg) 0-0-1/2 X 4days 0-0-1 X 4day 0-0-2 (continue)	**Counselling to include,** Begin its action: 2-3 weeks, Full action: 4-6 weeks & Course of treatment: 2 years.	
Follow up @ 1 Month	**If improvement, follow-up yourself.**	**If NO improvement, Refer to Psychiatrist.**

3. Rx for Psychotic disorders

1. Tab. RISPERIDONE 2mg,0-0-1 X 4days 0-0-2 (Continue) 2. Tab. THP 2mg, 1-0-0	**OR**	Tab. OLANZAPINE 5mg,0-0-1 X 4days 0-0-2 (Continue)
Counselling to include, Begin its action:2-3 weeks, Full action:4-6 weeks &Course of treatment:6-9 months		
Follow up @ 1 Month	**If improvement, follow-up yourself.**	**If NO improvement, Refer to Psychiatrist.**

Prepared by Tele Medicine Centre, NIMHANS Digital Academy, Dept of Psychiatry, NIMHANS, Bengaluru
For feedback & clarification - manjunatha.adc@gmail.com

4. Rx for Alcohol Addiction

1. Inj. OPTINEURON FORTE (containing thiamine 33mg) 1 ampule deep IM once a day for 5days. 2. Tab. DIAZEPAM 10mg,1-1-2 X 2days 0-1-2 X 2days 0-0-2 X 2days 0-0-1 X 2days then **STOP** 3. B-Complex tablet containing a high dose of THIAMINE (100mg/day) 0-0-1 for 3months.	4. Tab. BACLOFEN 10mg, 0-0-1 X 1day 1-0-1 X 1day 1-1-1 X 1day 1-1-2 (Continue) **OR** Tab. TOPIRAMATE 25mg, 0-0-1 X 2days 1-0-1 X 2days 1-0-2 X 2days 2-0-2 (continue)
Counselling: Please refer to page-7 of CSP. **Follow up after 10 days.**	**Treatment course with anti-craving medicines for 9months to 1year.**

5. Rx for Tobacco Addiction

Tab. Bupropion XL (150mg) 1-0-0 X 5days 2-0-0 (continue)	
Counselling: Please refer to page-7 of CSP.	**Treatment course for 4-6 months.**
Follow up once every 30 days.	

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Prepared by Tele Medicine Centre, NIMHANS Digital Academy, Dept of Psychiatry, NIMHANS, Bengaluru
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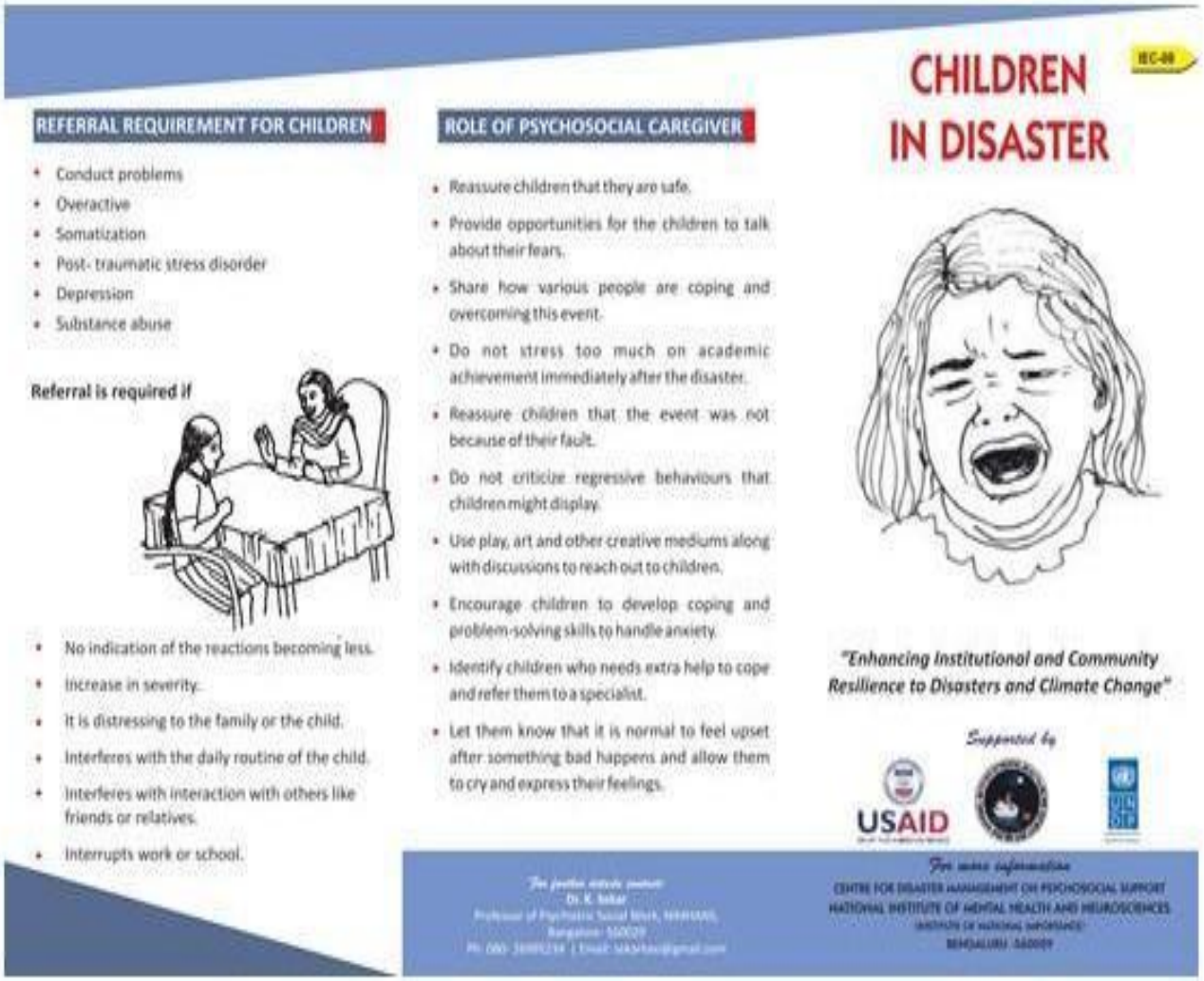
Annexure 2: Addressing special populations during a disaster

This section looks into the most vulnerable sections of society to climate change and mental illnesses. These include children, the elderly, persons with disability, and marginalised populations.

Children in Disaster



CHILDREN IN DISASTER

Children experiences displacement, loss, death and destruction due to disaster that affects the disruption of their relationship and familiar environment. This leads to physical and emotional insecurity among them.

Events that bothers children in disaster

- Familiar environment become suddenly scary and unfamiliar.
- Living with the adults who are equally worried and concerned.
- Struggle to deal with unusual circumstances.
- Loss of own belongings, like toys, books, dresses and pet.
- Loss of loved one, parents, sibling, any other family members and friends.
- Continued threat to the sense of well-being.

IMPACT OF DISASTER ON CHILDREN

Pre-school (1–5 years)

- Temper tantrums
- Crying – whimpering or screaming
- Clinging
- Regressive behavior
- Easily frightened/ angry
- Sleep disturbances

School Age (6–11 years)

- Aggressive
- Bed-wetting
- Change in appetite
- Nightmares
- Sadness and apathy
- Disobedience

Adolescence (12–18 years)

- Isolation/Depression
- Irritability
- Risk-taking behavior
- Substance abuse

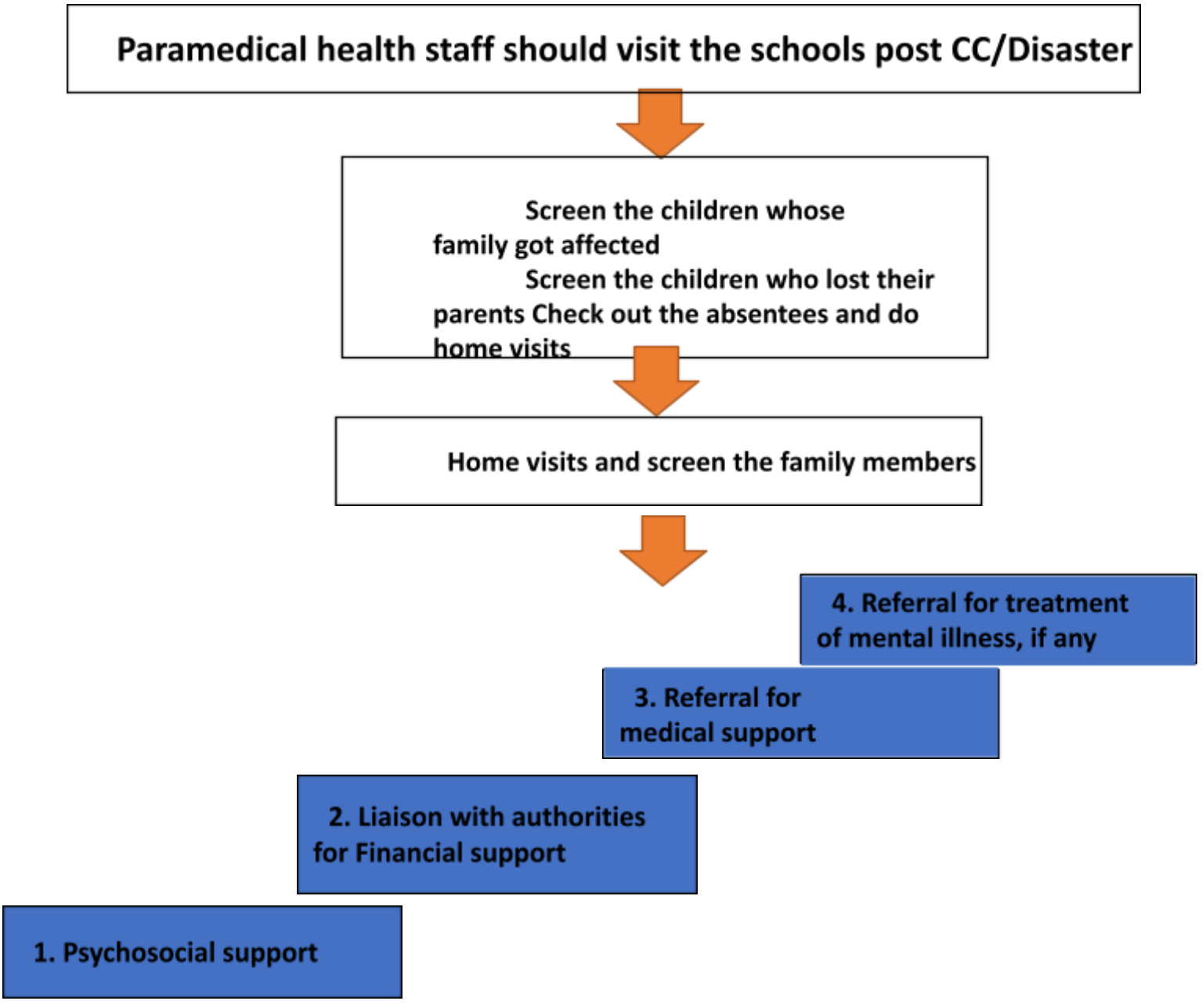
MEDIUMS TO WORK WITH CHILDREN

Children can be aided in recovery through the use of various mediums suiting their age group. They are :

- Facial expression cards
- Thematic card
- Clay modelling
- Drawing
- Family of dolls
- Family portrait
- Writing

- Children use play to express themselves.
- Effective use of the materials can help children to act out feelings.
- Children not only express themselves but also learn a lot of new things while playing.
- While playing or drawing, they express their frustration, fear, tension, anger and insecurities.

Post CC/Disaster: Action plan – School/ Orphanage visits



Elderly in Disaster

Elderly in Disaster

Following a natural disaster, elderly is considered as vulnerable population in the same way as children. Like children, the frail elderly is often unable to advocate for their own interests because of physical impairments, cognitive limitations, or a combination of both.

Elderly at high risk because they are

- Less mobile .
- Separated from families.
- Decreased sensory awareness.
- Prone to illness and injuries.
- Chronic medical conditions.
- Having less access to medication.
- Cut off from services.
- Socioeconomic limitations.
- Suffering from psychological distress.
- Have specific nutritional and health needs.
- Prone to risk, abuse and neglect.
- Physical disabilities.
- Having weak functional capacity.
- Increased dependency.
- Social isolation.

How can you help elderly?

- Keep a list of medications.
- Connect to required resources and services.
- If available, keep them with loved ones.
- Link with access to health care.
- Listen to their experience and leadership roles taken in emergencies.
- Consider older people's knowledge and experience in developing coping strategies following disaster.
- Create neighbourhood communities of elderly.
- Talk to medical provider about an emergency back-up plan.
- Create a list of special needs.
- Consider them as valuable resources to provide emotional support to other disaster victims.

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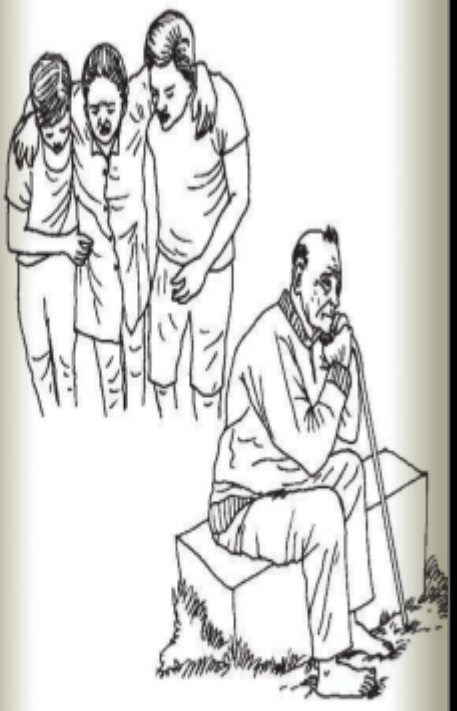
IEC-10

Person with Disablity & Elderly in Disaster



"Enhancing Institutional and Community Resilience to Disasters and Climate Change"

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For more information
CENTRE FOR DISASTER MANAGEMENT ON PSYCHOSOCIAL SUPPORT
NATIONAL INSTITUTE OF MENTAL HEALTH AND NEUROSCIENCES
(INSTITUTE OF NATIONAL IMPORTANCE)
BENGALURU -560029

Post CC/Disaster: Action plan – Old age home visits

Paramedical health staff should visit the old age homes in the allocated premises - post CC/Disaster

Screen the people who are already known case of mental illness

Screen the people who lost their family members in CC/disaster

Screen them for worsening of medical illnesses (check their BP & Blood sugar)

Perform home visits and screen the concerned affected family members

4. Referral for treatment of mental illness, if any

3. Referral for medical support

2. Liaison with authorities for financial support

1. Psychosocial support

Person with Disabilities in Disaster

Person with Disabilities in Disaster

Disasters can have an impact on disability, by disproportionately affecting persons with existing disabilities and by creating a new generation of persons with disabilities.

Consequences of a disaster

Survivors with existing disabilities

- In comparison to a non-disabled peer, they are at more risk.
- Losing of assistive devices.
- Difficulty in accessing basic needs.
- Dependency increases.

Survivors with newly acquired disabilities

- Loss of livelihood.
- Untreated fractures & infected wounds leading to long lasting disabilities.
- Referral to appropriate health facilities gets delayed.
- Scarcity of rehabilitation personnel & infrastructure to cater the needs.

The types of disabilities as per the Rights of Persons with Disabilities Act, 2016

1. Blindness
2. Low-vision
3. Leprosy Cured persons
4. Hearing Impairment
5. Locomotor Disability
6. Dwarfism
7. Intellectual Disability
8. Mental Illness
9. Autism Spectrum Disorder
10. Cerebral Palsy
11. Muscular Dystrophy
12. Chronic Neurological conditions
13. Specific Learning Disabilities
14. Multiple Sclerosis
15. Speech and Language disability
16. Thalassemia
17. Hemophilia
18. Sickle Cell disease
19. Multiple Disabilities including deaf-blindness
20. Acid Attack victim
21. Parkinson's disease

What responses should be taken after a disaster?

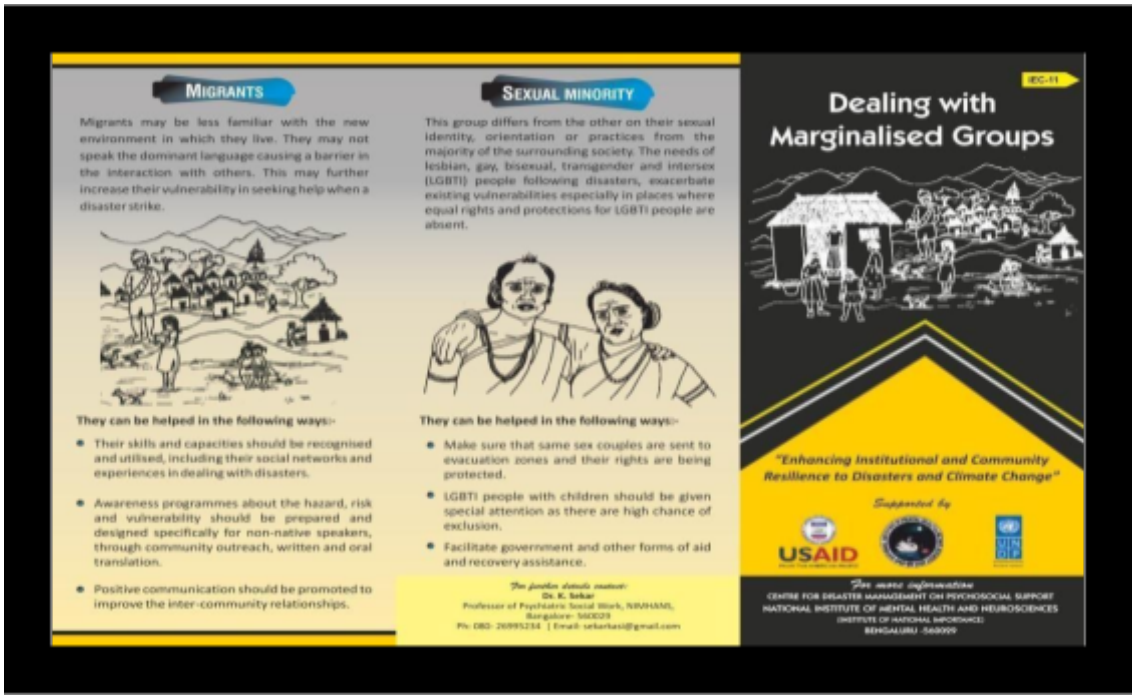
The acute phase

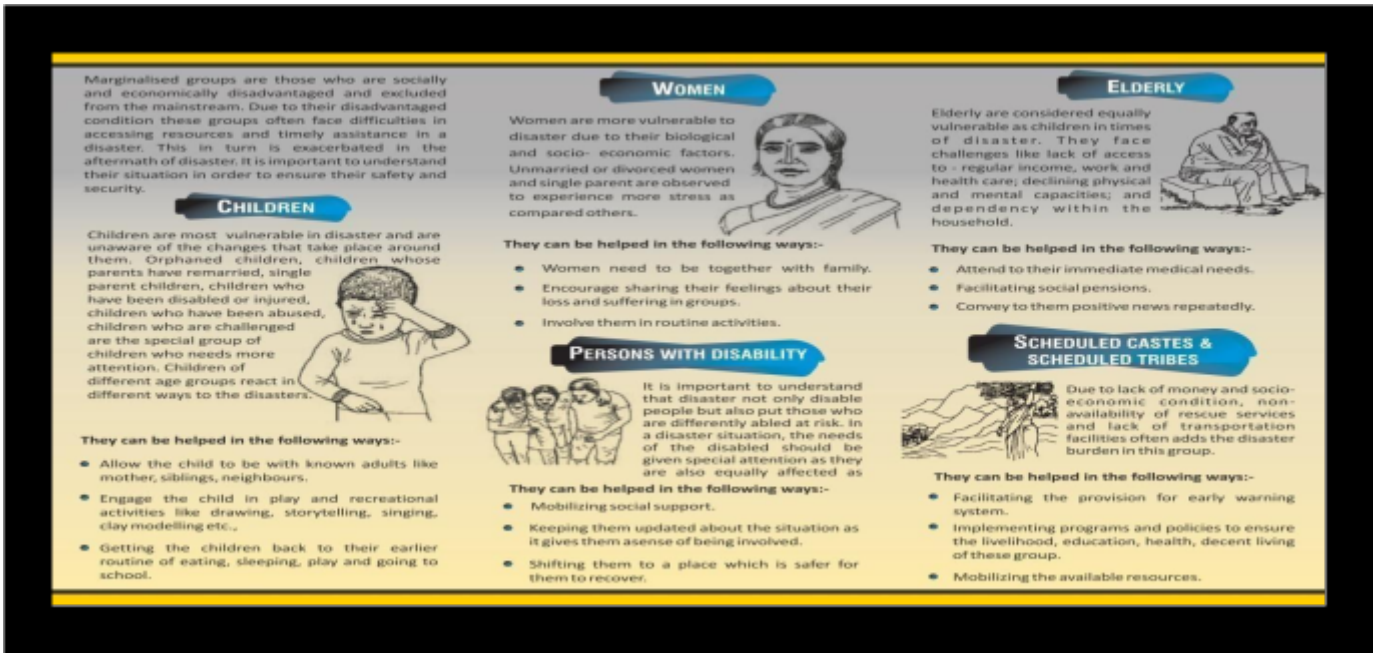
- Identify persons with existing disabilities and connect them with temporary shelters.
- Referral to specific health care needs.
- Identify the people with injuries and provide trauma care services.
- Implement curative and therapeutic interventions.
- Connect with service agencies.
- Provide multidisciplinary care.

The reconstruction phase

- Identification of the exiting capacities and skills.
- Assessing the immediate and long-term needs.
- Mobilise community resources.
- Initiate community-based rehabilitation services.
- Provide medical services & therapies if required.
- Attending to the social needs.

Dealing with Marginalised Population





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LEARNING POINTS:

The Indian subcontinent is vulnerable to slowly occurring changes in climatic conditions and consequent disasters leading to a significant impact on humans

There is emerging evidence of the impact of climate change on mental health and sleep

Screening and early identification of mental health and sleep issues related to climate change is very important

Medical officers can play a key role not only in the diagnosis and management of these medical conditions but also awareness regarding issues leading to climate change

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Azadi Ka Amrit Mahotsav

सत्यमेव जयते

Ministry of Health And Family Welfare
Government of India

National Programme on Climate Change and Human Health

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NATIONAL CENTRE FOR DISEASE CONTROL
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