TOPIC:ALCOHOL AND DRUG ADDICTION

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TO

CHUKA UNIVERSITY STUDENTS

Definition of drug

- A drug is a substance that due to its chemical nature affects physical, mental, spiritual, and emotional functioning.
- Globally there has been rapid increase in production and consumption of alcohol and illicit drugs in the last two decades.
- There are emerging drugs with hidden names and are consumed for unknown purposes.

New drugs

- Use of emerging drugs is becoming a major social problem among adolescents and young adults in Kenya.
- They comprise combinations of two, three or four types of drugs .The new emerging drugs includes:
- *kuber, shisha, shashaman, mau, tambuu*, jet fuel, *kukumanga, mkorogo, mshomoro, rohypnol, Artaine* and *kamusi.*
- Excessive or inappropriate use of alcohol and these new drugs is a major public health problem globally as well as in Kenya.

Emerging drugs

- Emerging psychoactive substances are not controlled but are believed to cause similar or worse harm to those that are controlled.
- Many people particularly the youth take these drugs to get a ‘high’, without realizing the side effects.
- The discussion will focus more on the effects of all the drugs of abuse on the brain

Some reasons for alcohol and drug abuse

- People take drugs because they want to change something about their lives.
- Here are some of the reasons young people have given for taking drugs:
- To fit in
- To escape or relax
- To relieve boredom
- To seem grown up
- To rebel
- To experiment

Reasons continued.

- They think drugs are a solution. But eventually, the drugs become the problem.
- Difficult as it may be to face one's problems, the consequences of drug use are always worse than the problem one is trying to solve with them.
- The real answer is to get the facts and not to take drugs in the first place.

drugs addiction

- Addiction is a brain disease mostly characterized by an individual’s inability to control his or her thoughts about and intake of psychoactive substances hence affecting activities.
- It develops after psychoactive substances are repetitively consumed and the brain readjusts to their constant presence. This you become a slave to them.

Drug and alcohol prevalence

- The World Health Organization (WHO) estimates that the global burden of disease attributable to alcohol and illicit drug use amounts to 5.4% of the total burden of disease.
- NACADA report on alcohol and other drugs of abuse in schools further shows that there were 74.4% of students using alcohol in schools, 50.3% students consumed cannabis in their schools whereas 56.3% were abusing prescription drugs. Another 62.9% were abusing

khat whereas 58.1% were abusing cigarettes. This is a worrying trend because it will lead to a serious mental illness in our institutions and the society.

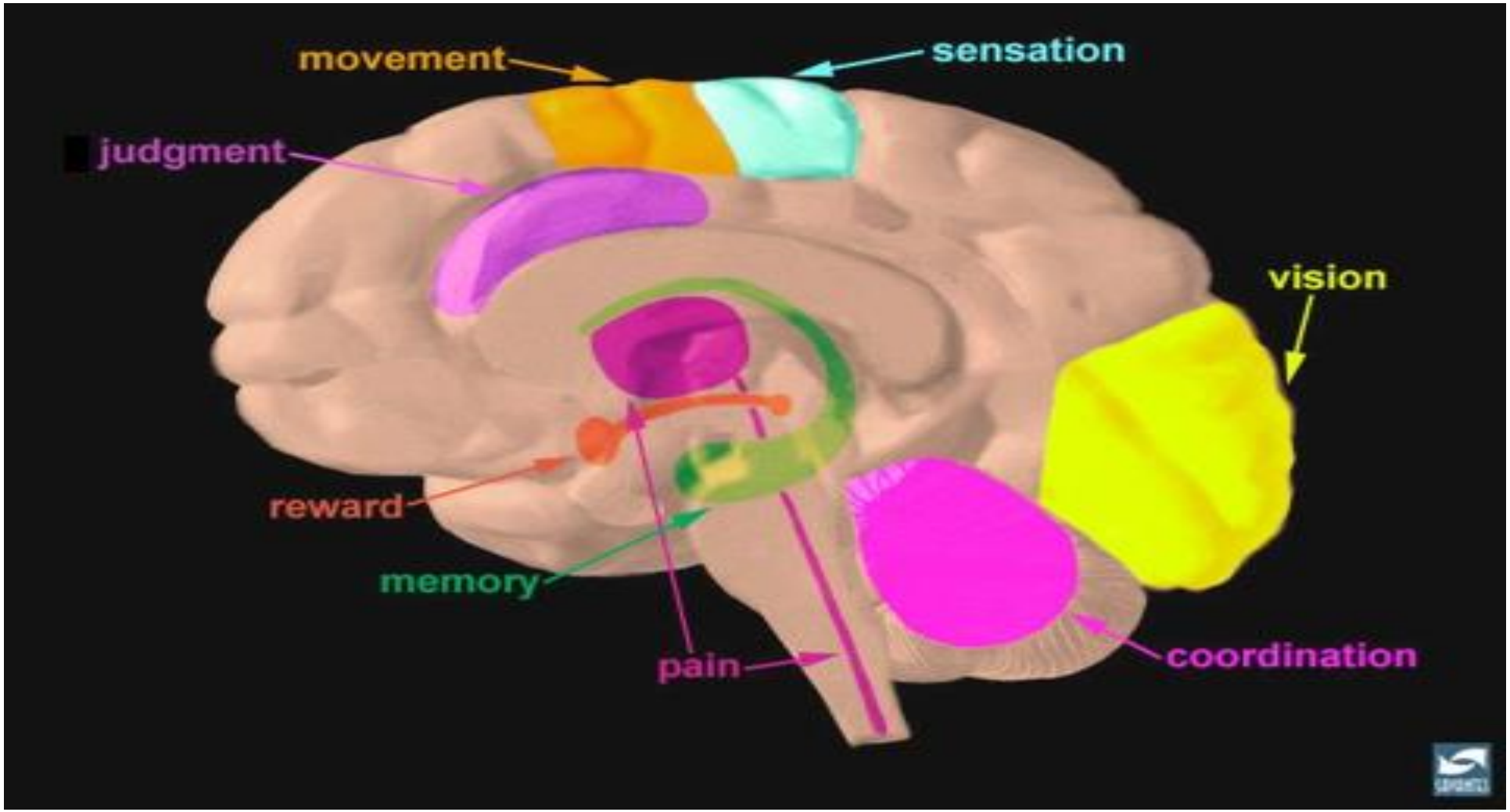
Drug dependence

- When the brain is exposed to psychoactive substances, the brain is overburddened and its functioning is altered.
- When an individual repeatedly consumes a psychoactive substance, the brain is in a constant state of imbalance.
- Physical dependence is established when the brain adapts to the constant presence of psychoactive substances.

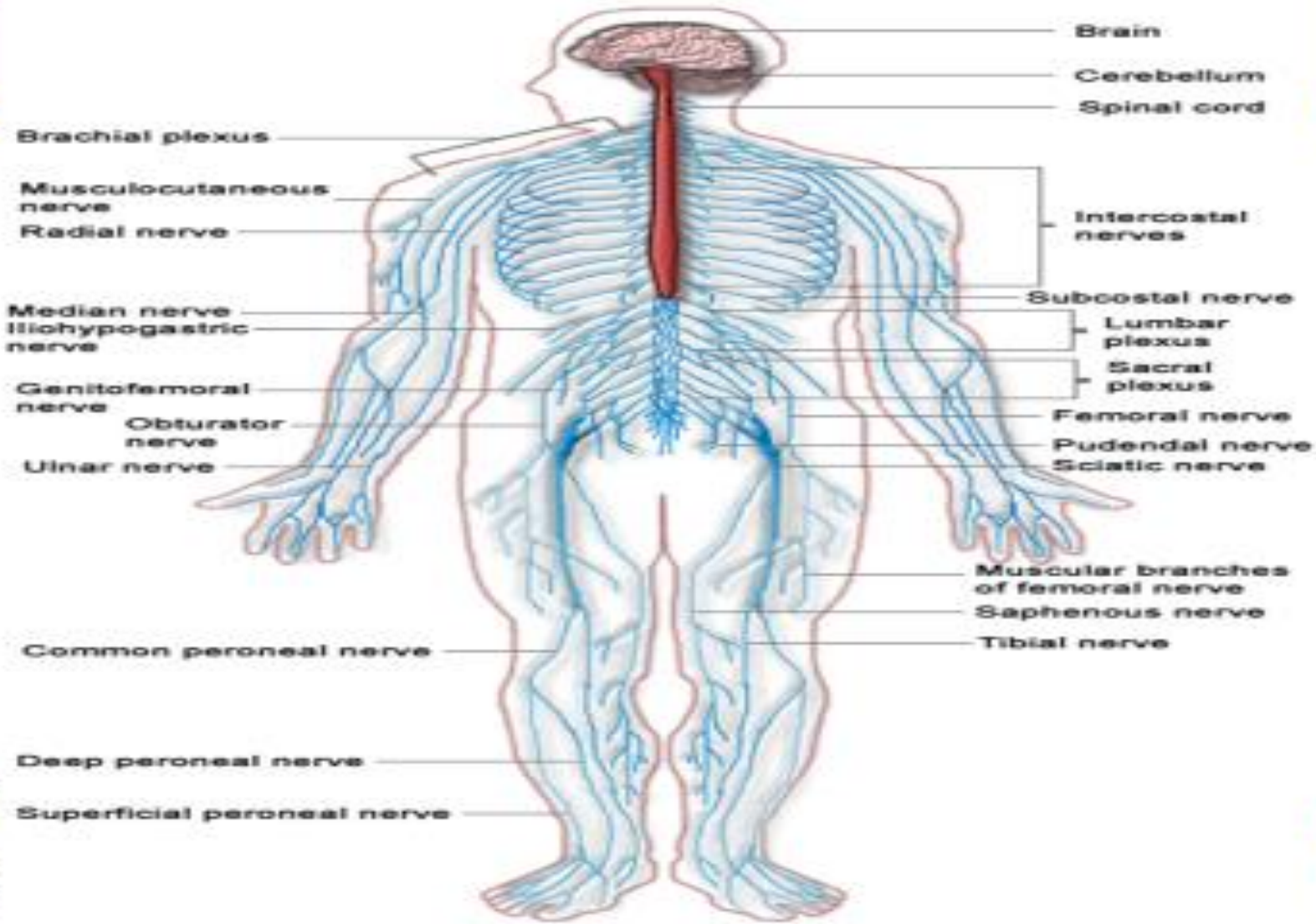
The brain

- The brain is made up of many parts (100 billion brain cells) with interconnected circuits that all work together as a team.
- Different brain circuits are responsible for coordinating and performing specific functions.
- Networks of neurons send signals back and forth to each other and among different parts of the brain, the spinal cord, and nerves in the rest of the body (the peripheral nervous system) as shown in the diagram below.

The brain function



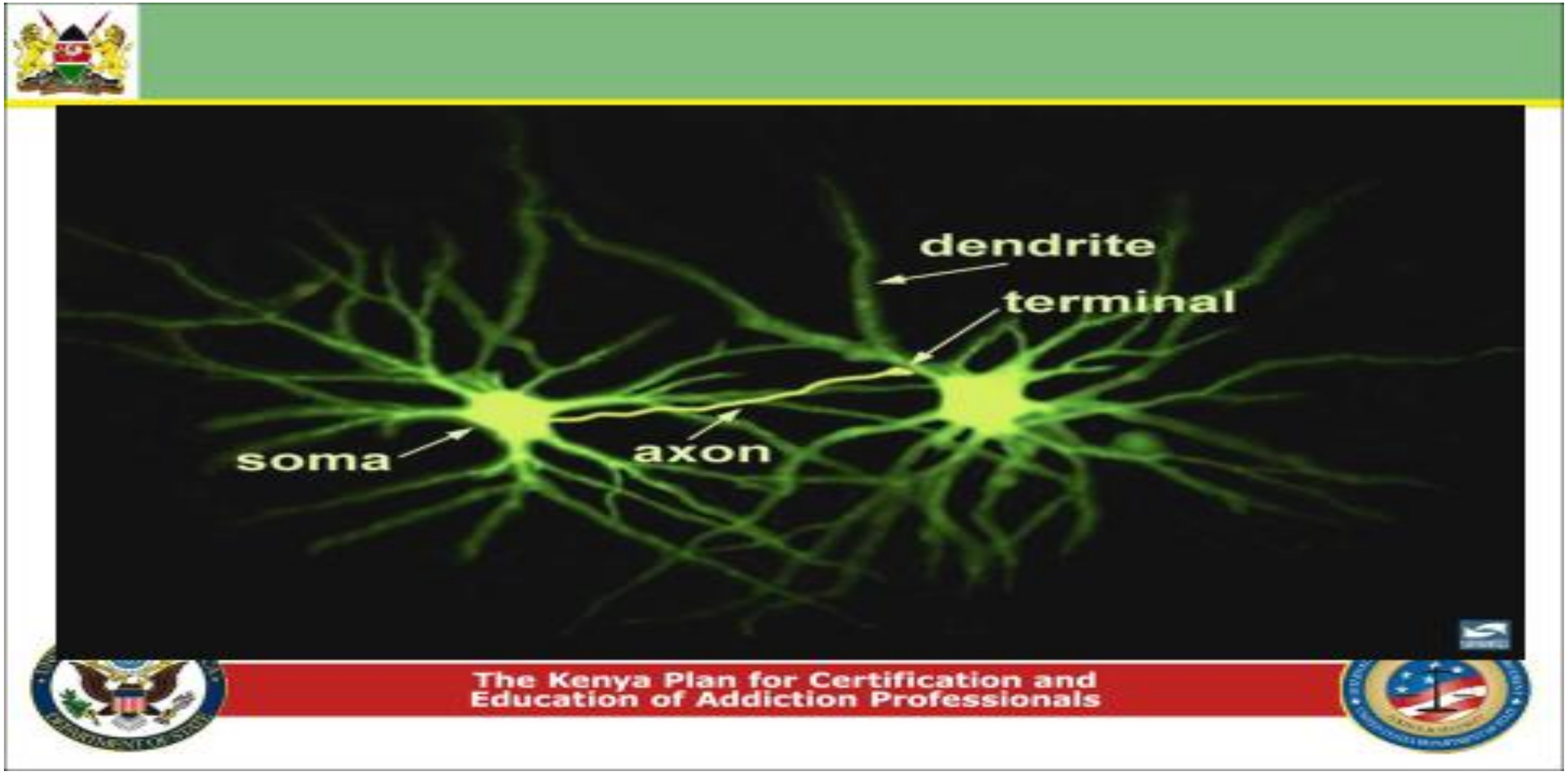
Peripheral nervous system



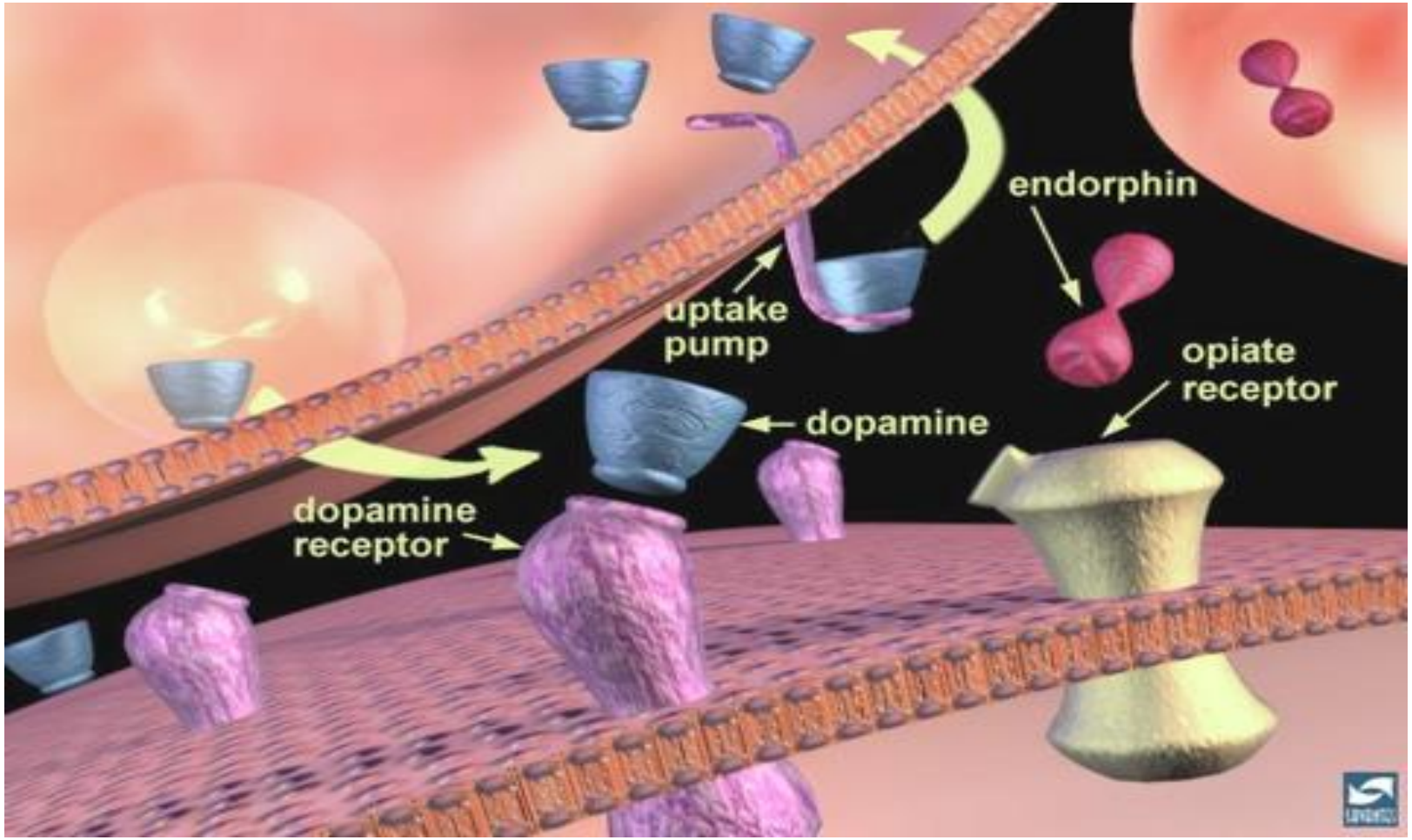
The brain

- To send a message, a neuron releases a *neurotransmitter* into the gap (or *synapse)* between it and the next cell.
- The neurotransmitter crosses the synapse and attaches to receptors on the receiving neuron, like a key into a lock.
- This causes changes in the receiving cell.
- Other molecules called *transporters* recycle neurotransmitters (that is, bring them back into the neuron that released them), thereby limiting or shutting off the signal between neurons.

The neuron


dendrite
terminal
soma
axon
The Kenya Plan for Certification and
Education of Addiction Professionals

Dopamine,receptor uptake (transporters)



How do drugs work in the brain

- Drugs interfere with the way neurons send, receive, and process signals via **neurotransmitter**s.
- Some drugs, such as **marijuana** and **heroin**, can activate neurons because their chemical structure mimics that of a natural neurotransmitter in the body.
- This allows the drugs to attach onto and activate the neurons. As in the diagram above.
- Although these drugs mimic the brain's own chemicals, they don't activate neurons in the same way as a natural neurotransmitter, and they lead to abnormal messages being sent through the network.

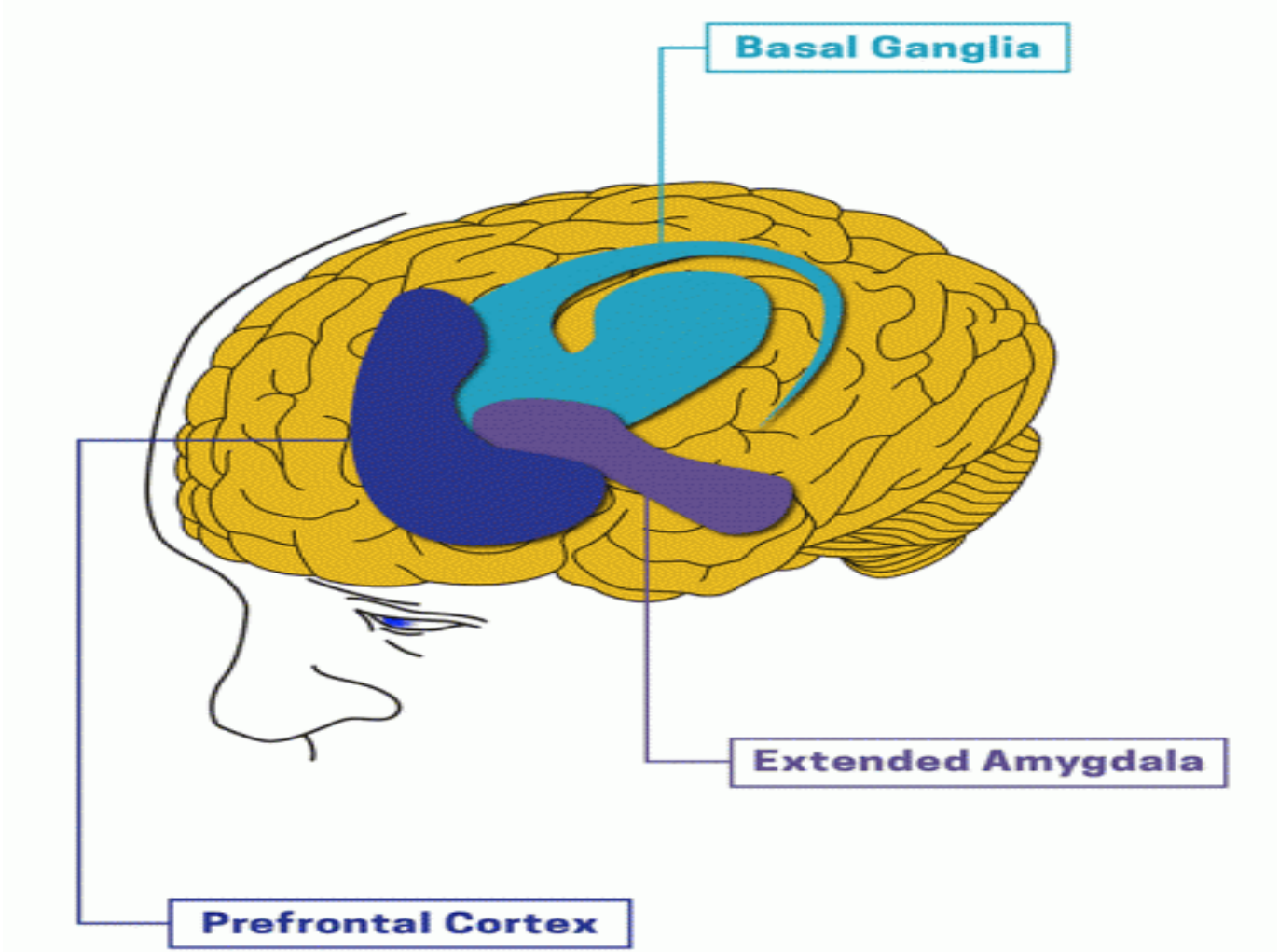
The brain

- Other drugs, such as amphetamine (miraa) or cocaine, can cause the neurons to release abnormally large amounts of natural neurotransmitters or prevent the normal recycling of these brain chemicals by interfering with transporters.
- This too amplifies or disrupts the normal communication between neurons. The receptor receives and passes the wrong message.

The of the brain that are affected by drug

- Drugs can alter important brain areas.
- Brain areas affected by drug use include:
- ***The basal ganglia,***
- play an important role in positive forms of motivation, including the pleasurable effects of healthy activities like eating, socializing, and sex, and are also involved in the formation of habits and routines.
- This part is negatively altered.

Brain parts mostly affected



Source: Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health

The extended amygdala

- ***The extended amygdala:*** mediates emotions (love, fear, rage, anxiety) and helps identify danger.

it plays a role in stressful feelings like anxiety, irritability, and unease, which characterize withdrawal after the drug high fades and thus motivates the person to seek the drug again.

The prefrontal cortex

- ***The prefrontal cortex*** powers the ability to think, plan, solve problems, make decisions, and exert self-control over impulses
- drugs like opioids affect other parts of the brain, such as the brain stem, which controls basic functions critical to life, such as heart rate, breathing, and sleeping explaining why overdoses can cause depressed breathing and death.
- Damage to the frontal lobe/prefrontal cortex results in emotional and personality changes.

How does dopamine reinforce drug use?

- Our brains are wired to increase the odds that we will repeat pleasurable activities.
- The neurotransmitter dopamine is central to this. Whenever the reward circuit is activated by a healthy,
- pleasurable experience, a burst of dopamine signals that something important is happening that needs to be remembered.
- This dopamine signal causes changes in neural connectivity that make it easier to repeat the activity again and again without thinking about it, leading to the formation of habits.

euphoria

- The drugs produce intense euphoria, caused by surges of dopamine. dopamine "teach" the brain to seek drugs at the expense of other, healthier goals and activities .
- Cues in a person’s daily routine or environment that have become linked with drug use because of changes to the reward circuit can trigger uncontrollable cravings whenever the person is exposed to these cues such as bars ,drug dens or their friends.

Why are drugs more addictive than natural rewards?

- The brain of someone who uses drugs adjusts by producing fewer neurotransmitters or by reducing the number of receptors that can receive signals.
- the result, the person's ability to experience pleasure from naturally rewarding (i.e., reinforcing) activities is also reduced.
- The person feels flat, without motivation, lifeless, and/or depressed, and is unable to enjoy things that were previously pleasurable.
- The person needs to keep taking drugs to experience even a normal level. The person need to take larger amounts of the drug to produce the familiar high—an effect known as *tolerance.*

Addiction replaces God

- Addiction is misguided because it seeks to replace God with objects or attachments that command our allegiance
- At the heart of the addictive process is a restless spirit that is seeking answers but has set off in the wrong direction.
- The path is an outer-directed search that denies one’s true self while caught in the web of idolatry and self-deception.
- Denial is the hallmark of the addictive process.

spiritual sickness

- Addiction tells us we can have it now, a message reinforced in the wider culture in a wide variety of ways every day.
- The insecurity and emotional malnutrition bred by an anxious, violent, and competitive society has resulted in many damaged orphans of the spirit.
- Alcoholism is a soul sickness or a form of spiritual bankruptcy.
- Addiction is one state of being, albeit misguided, that also seeks meaning, peace, and transcendence.

Hallucinogens :marijuana

- persistence perception disorder. This affects visual perception resulting in hallucinations or perception such as echoes or visual distortion.
- The active ingredient in marijuana is called THC.
- It alters the way information is processed and how memories are formed.
- _THC messes with brain areas called the **cerebellum** and **basal ganglia**, which regulate balance, posture, coordination, and reaction time.

Examples of drugs: Stimulants

- These include cocaine and methamphetamine.
- They affect the dopamine, receptors and the uptake of neurotransmitter.
- This is a diminished ability to feel pleasure if the drug is not used.
- This leads to: depression, suicidal thoughts and self-destructive actions.
- loss of appetite, lack of sleep, alertness, increased energy ,fatigue, depression, paranoid ideation and depersonalization as people ‘come down’ from the high.

Effects of marijuana on the brain

- THC may increase the risk of:
- depression, Intense anxiety, fear, distrust, or panic, **acute psychosis**, which includes hallucinations, delusions, and a loss of the sense of personal identity.
- Marijuana can change the structure of sperm cells, cause temporary sterility in men.
- can also disrupt a woman's menstrual cycle.. smokes marijuana or hashish may give birth prematurely to an undersized,
- underweight baby.
- Marijuana **smoke contains 50% to 70%** more cancer-causing substances than tobacco smoke

Marijuana cont.

- children of marijuana users have been born with reduced initiative
- lessened abilities to concentrate and pursue life goals.
- prenatal (before birth) use of the drug may result in birth defects,
- mental abnormalities
- increased risk of leukemia (cancer of the bone marrow) in children.

Short-term effects

- Short-term memory problems
- Severe anxiety,
- Paranoia
- Increased risk of stroke
- contract sexually transmitted infections than non-users (for females)

Marijuana cont.

- Hallucinations
- Loss of sense of personal identity
- Lowered reaction time
- Increased heart rate (risk of heart attack)
- reality (psychosis),
- Panic Problems with coordination (impairing safe driving or playing sports),Sexual problems (for males

Long-term effects

- Decline in IQ (up to 8 points if prolonged use started in adolescent age)
- Poor school performance and higher chance of dropping out
- Impaired thinking and ability to learn and perform complex tasks
- Lower life satisfaction

Long term effects

- Potential development of opiate abuse
- Relationship problems, intimate partner violence
- Antisocial behavior including stealing money or lying
- Financial difficulties
- Greater chances of being unemployed or not getting good jobs

Heroin -Short-term effects

- Cause a rush”
- Slowed breathing
- Clouded mental functioning
- Nausea and vomiting
- Sedation; drowsiness
- Hypothermia (body temperature lower than normal)
- Coma or death (due to overdose)

Long-term effects

- Bad teeth
- Inflammation of the gums , constipation , cold sweats , itching
- Weakening of the immune system , coma , respiratory (breathing)
- Illnesses , muscular weakness, partial paralysis ,
- reduced sexual capacity and Long-term impotence in men ,
- menstrual disturbance in women,
- Inability to achieve orgasm (women and men) ,
- loss of memory and insomnia

Heroin effects cont.

- intellectual performance , Introversion , Depression
- Pustules on the face ,
- Loss of appetite
- Introversion,
- Depression, Pustules on the face Loss of appetite,
- Insomnia and
- Abscesses from use of needles pockmark.

Abscesses from use of needles pockmark

khat

- Khat is a natural stimulant from the Cathaedulis plant
- After ingestion of khat, one may present with euphoria of affective blunting, hypervigilance,
- anxiety, tension, anger, impaired judgement and changes in sociability.
- Other signs and symptoms may include high heart rate or low heart rate, papillary dilation, elevated or lowered blood pressure, sweating or chills, nausea or vomiting and evidence of weight loss.

depressants: Alcohol

- It is classed as a depressant, meaning that it slows down vital functions—resulting in slurred speech, unsteady movement, disturbed perceptions and an inability to react quickly.
- Depending on how much is taken and the physical condition of the individual, alcohol can cause:
- l Slurred speech

Effects of alcohol

- Drowsiness
- Vomiting
- Diarrhea
- Upset stomach, Headaches
- Breathing difficulties
- Distorted vision and hearing and loss of coordination

Effects of alcohol

- Decreased perception and coordination
- Unconsciousness
- Anemia (loss of red blood cells)
- Coma
- Blackouts (memory lapses, where the drinker remember events that occurred while under the influence**)**

Long term effects

- Unintentional injuries such as car crash, falls, burns, drowning
- Intentional injuries such as firearm injuries,
- sexual assault, domestic violence
- Increased on-the-job injuries and loss of productivity
- Increased family problems, broken relationships
- Alcohol poisoning
- High blood pressure, stroke, and other
- heart-related diseases

Long term effects of alcohol

- High blood pressure, stroke, and other heart-related diseases.
- Liver disease
- Nerve damage
- Sexual problems
- Permanent damage to the brain
- Vitamin B1 deficiency, which can lead to a disorder characterized by amnesia, apathy and disorientation
- l Ulcers

Long term effects of alcohol

- Alcohol has claimed the lives of many gifted artists, musicians and writers over the past decades.
- When consumed by pregnant mothers, alcohol enters the bloodstream, passes through the placenta and enters the fetus
- (unborn child).Alcohol can damage a fetus at any stage
- of pregnancy, but is most serious in the first few months.

Tobacco

- Nicotine is present in tobacco products.

Tobacco products come in various forms such as cigarettes, shisha, ‘kuber’, ‘snuff’ and chewable forms. Active smoker losses 6 minutes per cigarettes silent smoker 4 minutes while third party three minutes.

- Tobacco kills one out of two long-term users, or one person every six seconds globally.
- It contains about 5000-7000 chemicals.
- About 50-70 of them are carcinogenic causing about **25 different cancers**

Strategies to reduce Misuse of Alcohol

- Awareness creation -the dangers of using and misusing alcohol and drugs should be clearly spelt out .
- Providing alternative activities such as employment ,
- Enforcing the “Mututho” laws .
- Conducting joint outreach programs
- using families as role models
- Teaching church members on issues of alcohol and drug abuse .
- Rehabilitation

Spiritual healing

- **Bill Wilson,** one of the cofounders of Alcoholics Anonymous, referred to alcoholism as a **soul sickness or a form of spiritual bankruptcy**. The ministers of the Gospel are called upon to lead the journey to spiritual freedom.
- One way that twelve-step recovery speaks of spirituality is getting out of oneself and beginning to order one's life in relationship to a higher power.
- Only Christ Jesus can heal the soul and set the captive free.

summary

- NACADA in collaboration with the Ministry of Education, Science and Technology should support learning institutions to come up with institution-based alcohol and drug abuse policies that holistically address the aspects of promoting free drug environments; early identification of persons with substance use disorders; focus on extra-curricular activities; and evidence based preventive strategies of dealing with cases of drugs and substances abuse in learning institutions;

summary

- NACADA in collaboration with county governments should undertake elaborate public education and awareness campaigns aimed at sensitizing the community and families about the risks, protective factors and dangers of alcohol and other substances of abuse.
- There is need for NACADA and the county governments to allocate more resources to establish more treatment and rehabilitation centers across the country.