



# Substance abuse **(NICOTINE)**

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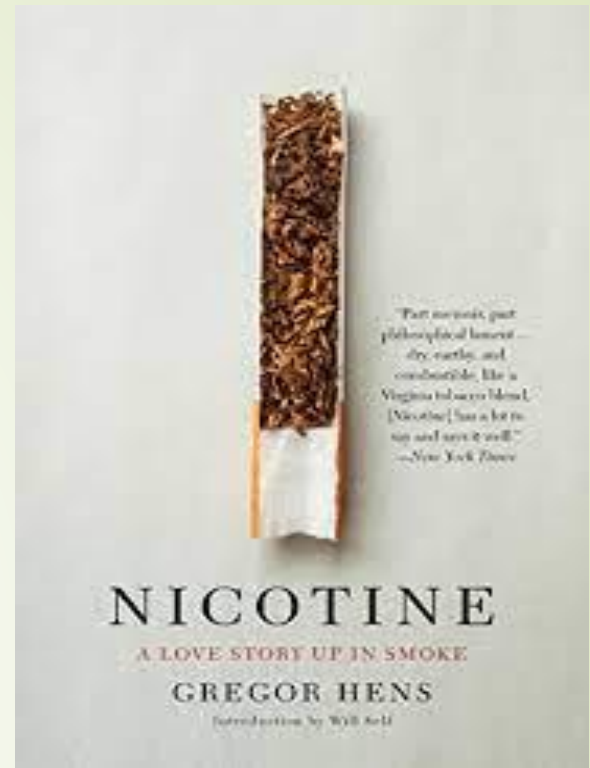
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# OBJECTIVES

- Forms of nicotine
- Physiological effects of nicotine
- Common food with nicotine content
- Nicotine absorption and metabolism
- Why should we treat tobacco use

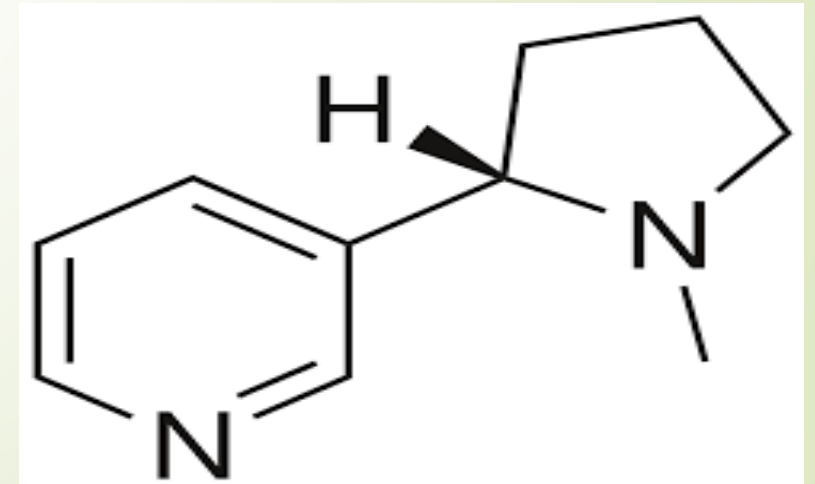


# INTRODUCTION TRN



## FORMS OF NICOTINE

- Nicotine is an pyridine pyrimidine alkaloid found naturally in tobacco plants, constitutes approximately 0.6 - 3.0 percent of dry weight of tobacco
- Nicotine is a brown liquid soluble in water and it is non polar solvents.



## FORMS OF NICOTINE

- The type of nicotine found in tobacco plants, comes from the nightshade family

Nicotine is synthesized in the roots of tobacco plants and it is then carried to the leaves, where it is stored in concentrations of between 2 to 8 percent by weight.





## PHYSIOLOGICAL EFFECTS OF NICOTINE

- . In large doses the nicotine is highly toxic
  - . Nicotine mood altering effects are different by report it is both a stimulant and relaxant
  - . Stimulus effect - release of norepinephrine
- First causing a release of glucose from the liver and epinephrine (adrenaline) from the adrenal medulla

# PHYSIOLOGICAL EFFECTS OF NICOTINE

And it cause feeling of relaxation By reducing the appetite and raising the metabolism and some smokers may lose weight as a consequence.

And it is cause depression - by blocked nerve activity



**Do you think the smoking  
have a bad effects on the  
heart ?**





# COMMON FOOD WITH NICOTINE CONTENT

- . Tomato
- . Potato
- . Eggplant
- . Cauliflower
- . Peppers and capsicums
- . Tea



# NICOTINE ABSORPTION & METABOLISM

- . The most common way to get nicotine into your bloodstream is through inhalation
- . Nicotine taken in by cigarette or cigar smoking takes only 10-15 seconds to reach the brain but has a direct effect on the body for only ~30 minutes
- . It can be absorbed by the body from smoke that has been taken into the lungs, or through the skin

# NICOTINE ABSORPTION & METABOLISM

. And it rapidly crosses the blood-brain barrier, appearing in brain tissue



## NICOTINE ABSORPTION & METABOLISM

- . About 80 percent of nicotine is broken down to cotinine by enzymes in your liver
- . Nicotine is also metabolized in your lungs to cotinine and nicotine-N-oxide Cotinine and the remaining nicotine is filtered from the blood by your kidneys and excreted in the urine

# WHY WE NEED TO TOBACCO CONTROL

- . Tobacco control is also one of the 16 essential services monitored by the WHO to achieve universal health coverage UHC
- . 1 in 5 deaths in the USA are due to smoking
- . And 1 in 3 cancer deaths are caused by smoking
- . 70% of smokers want to quit
- . And Less than 10% succeed without assistance
- . The association between smoking and mental health conditions

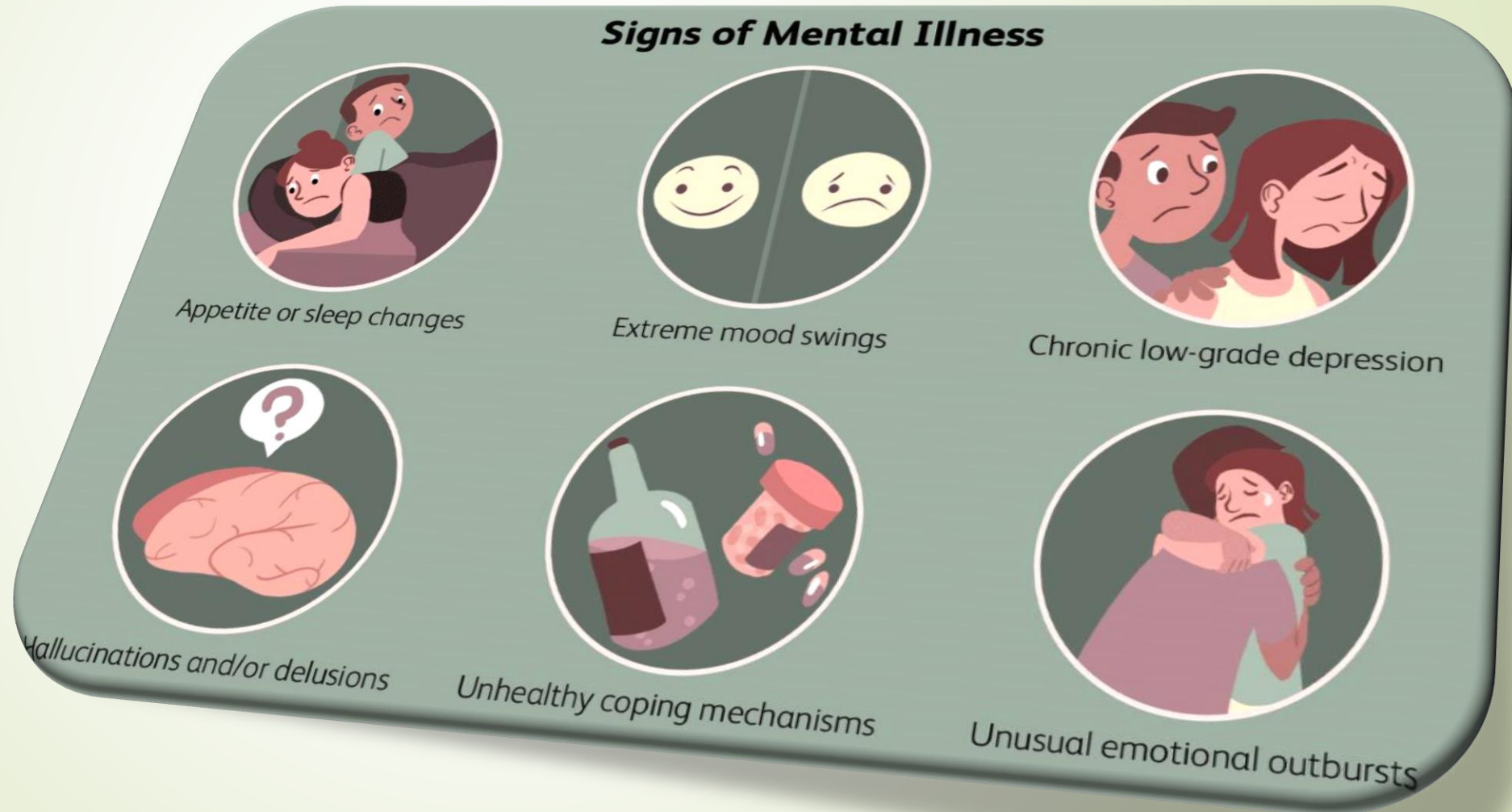




WHAT  
DO YOU  
KNOW  
ABOUT  
POOR  
MENTAL  
HEALTH?



- 1) Long term mental health condition
- 2) Severe mental health condition



# Smoking as a risk factor for people with poor mental health

16

## Smoking prevalence in adults (18+)

**16.4%**  
GPPS\*

all adults

**28.0%**  
GPPS\*

anxiety  
or depression

**34.0%**  
GPPS\*

long term mental  
health condition

**40.5%**  
GPES\*

serious  
mental illness

16.4% of all adults in England have poor mental health

1) Nicotine is soluble in water and in non polar solvents

2) Nicotine is synthesized in the roots of tobacco plants

3) Food with Nicotine Content few common vegetables, mostly from the (nightshade) family

## CONCLUSION

4) Nicotine can be absorbed by the body from smoke and it is highly toxic

5) About 80 percent of nicotine is broken down to cotinine by enzymes

6) Risk factor of smoking on mental health condition



# References

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- 6) GPPS\_GP Patient Survey, 2014-2015
- 7) GPES\_General Practice Extraction Service, 2014-2015



THANK YOU

