

BIO-BEHAVIORAL INTERVENTIONS FOR SMOKERS LIVING WITH HIV



Thanks...

The Organizers



ACKNOWLEDGMENT



ASSISTANTS WILL BE ABLE TO

1. **SMOKING PREVALENCE**

Compare smoking prevalence in people with and without HIV.

2. **PRIORITY GROUPS**

Articulate the reasons why smokers with HIV are a priority group.

3. **INTERVENTIONS FOR SMOKING CESSATION**

Describe why tailoring and combination therapy is needed.

4. **RATIONALE BEHIND PATCH**

Understand the rationale behind PATCH design.

INTRODUCTION



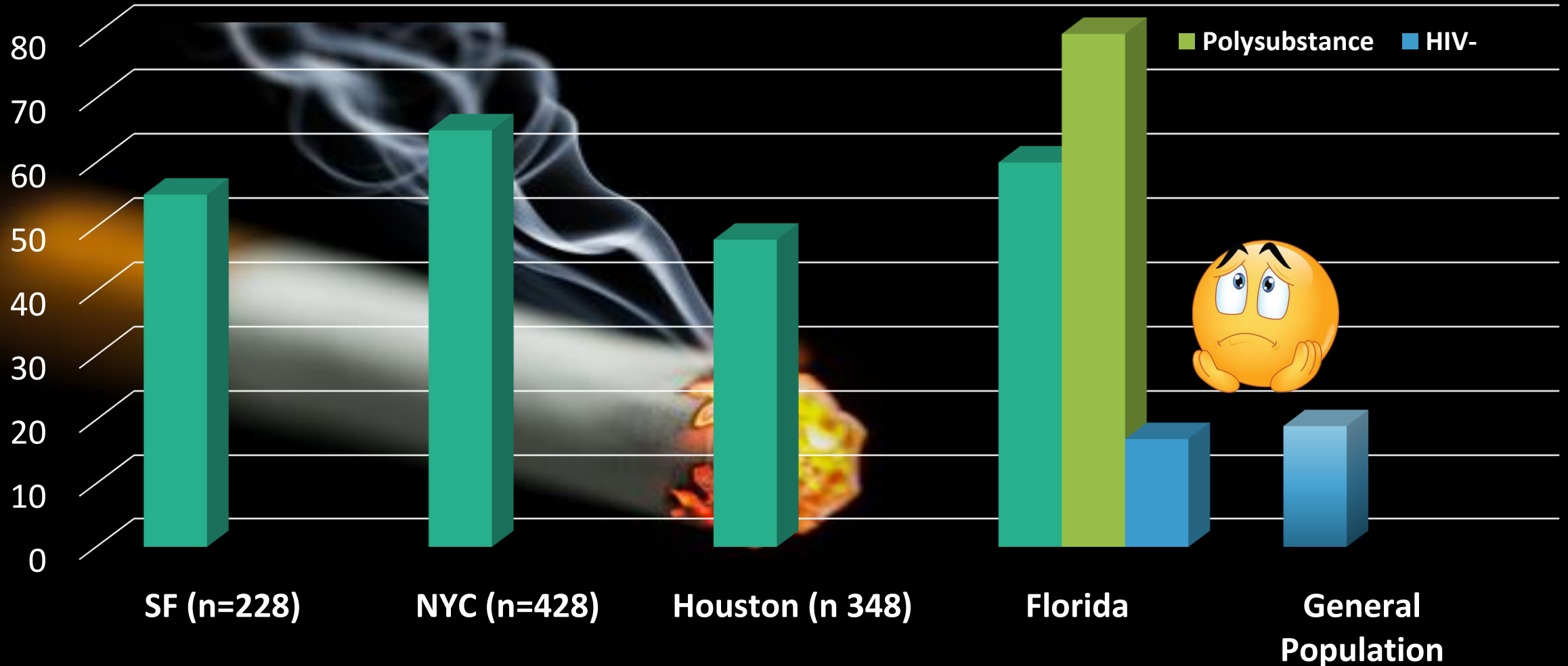
Why Is Tobacco Cessation Among PLWHA Now A Public Health Priority ?



Problems



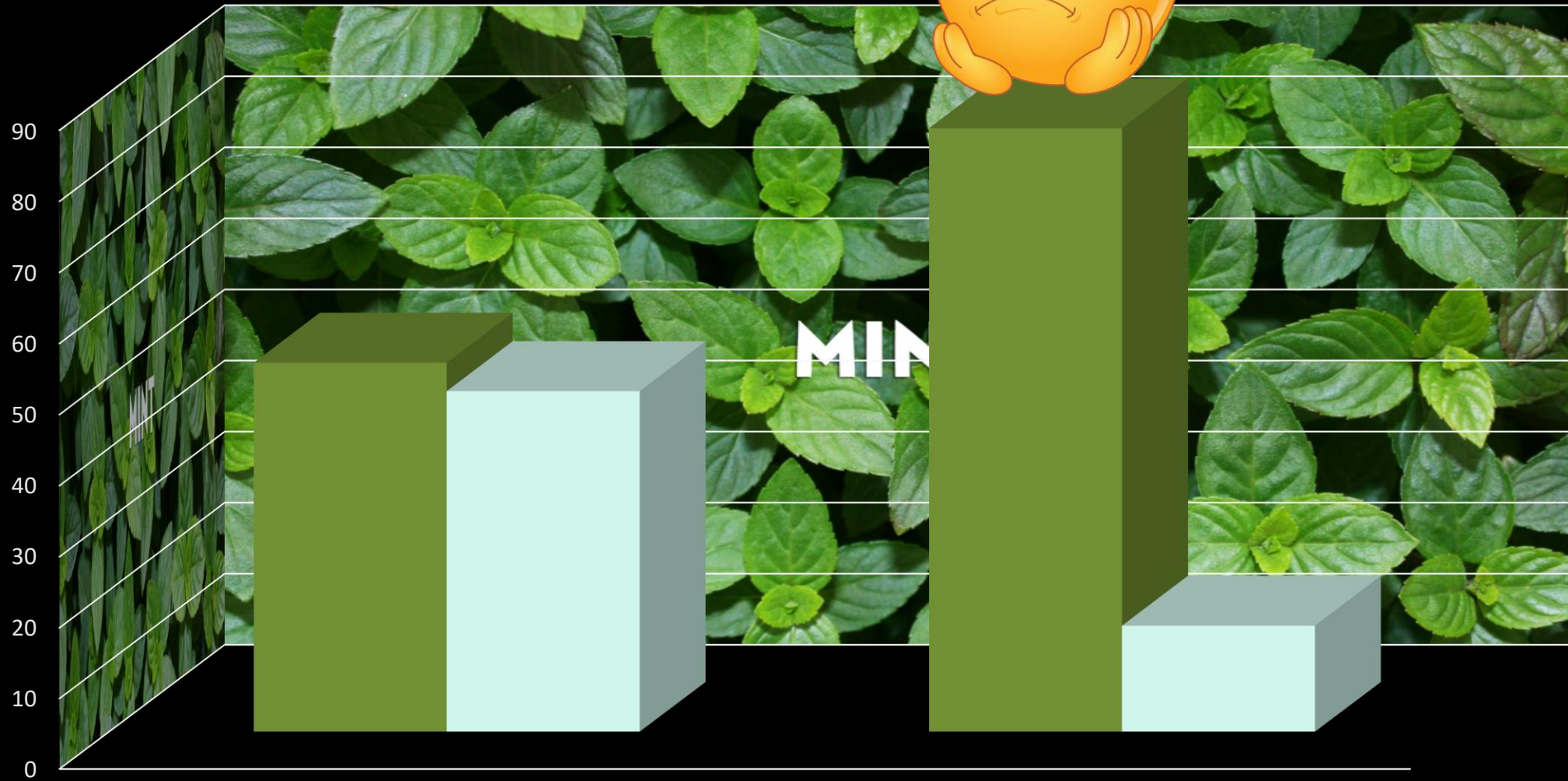
Prevalence of Smoking in Metropolitan Areas by HIV Status



Types of Cigarettes



..Difficult to quit



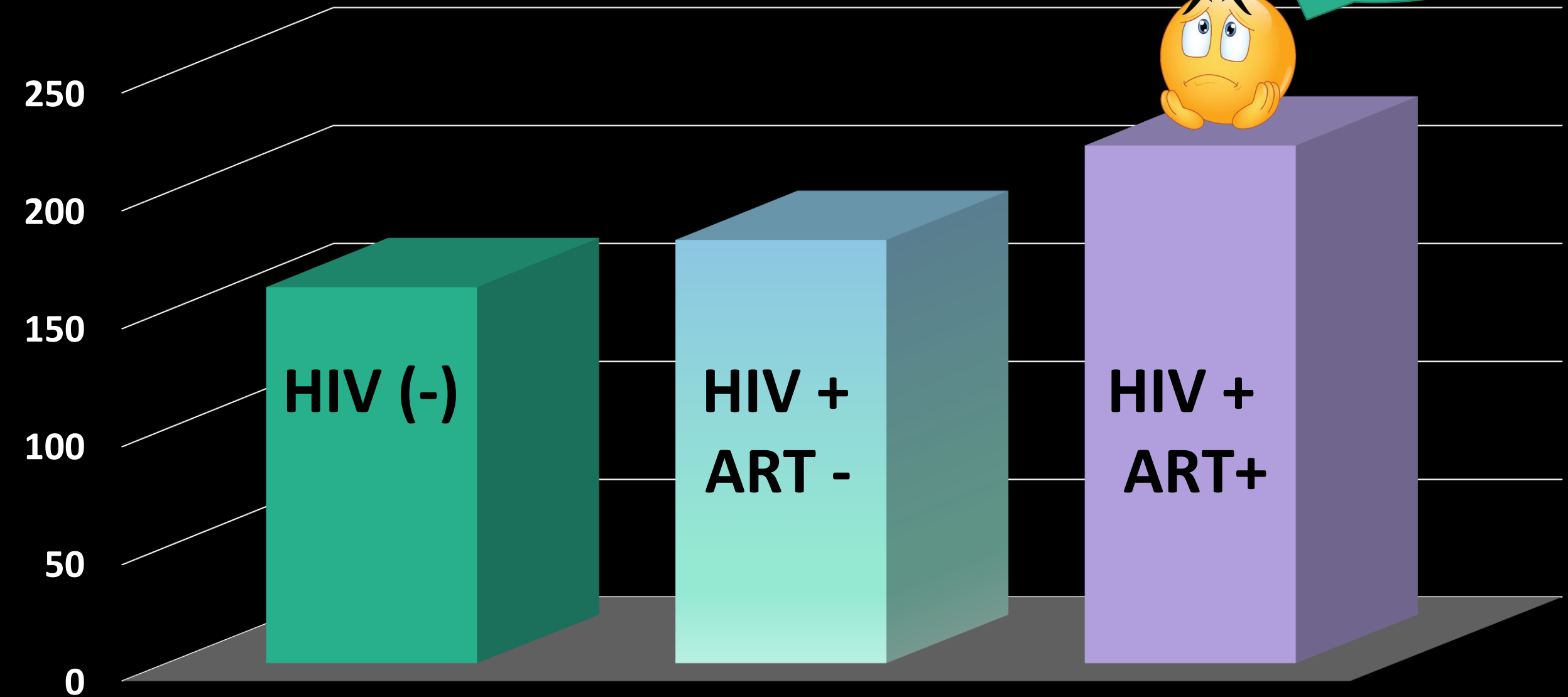
General Population

PLWHA

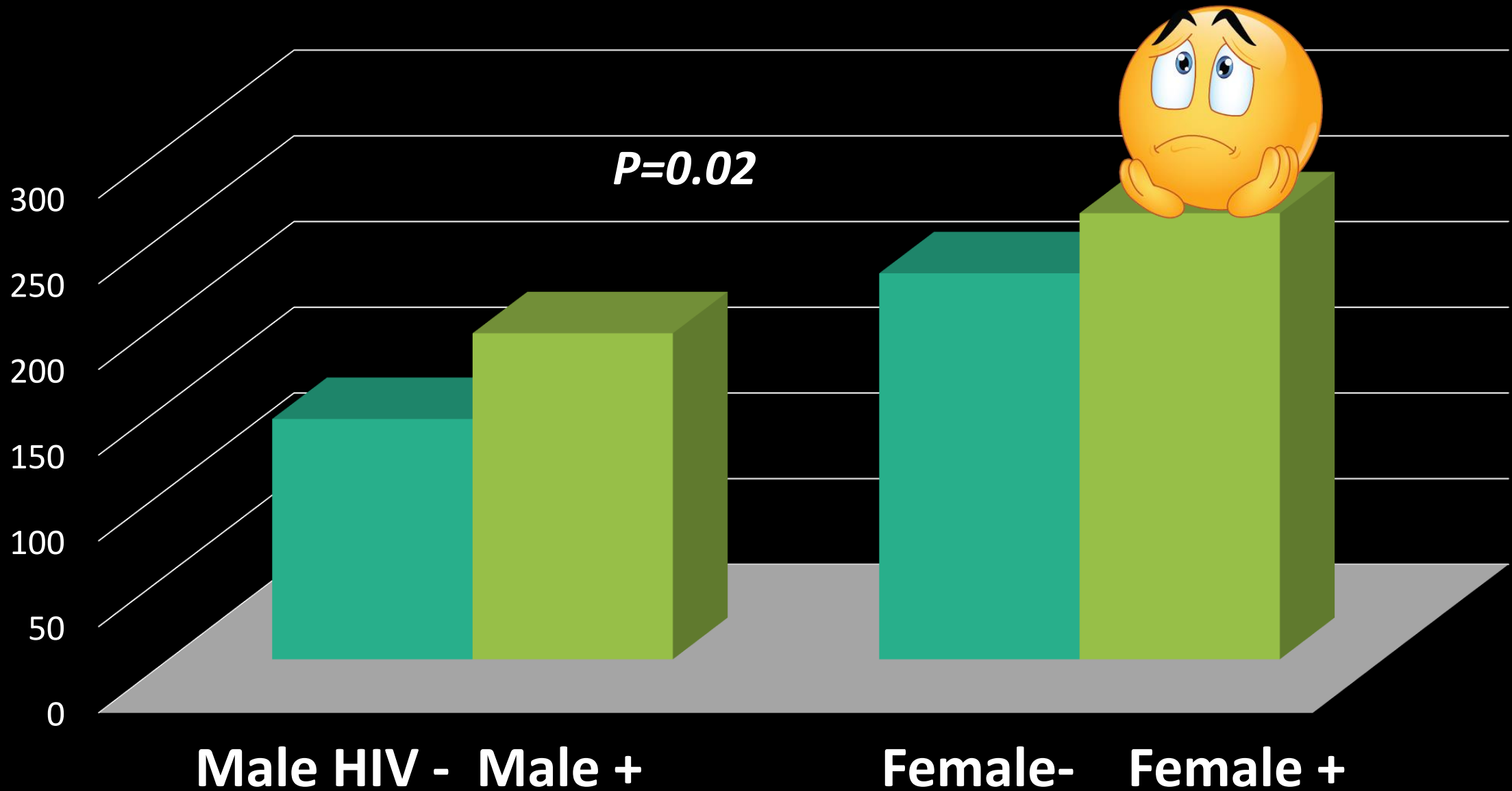
■ Mentholated

■ Non-Mentholated

Cotinine Levels by HIV Status & ART



Cotinine Levels by HIV & Gender



Unique Health Consequences

As dire as the health risk appears for the general population of smokers, the impact of smoking among PLWH is significantly higher



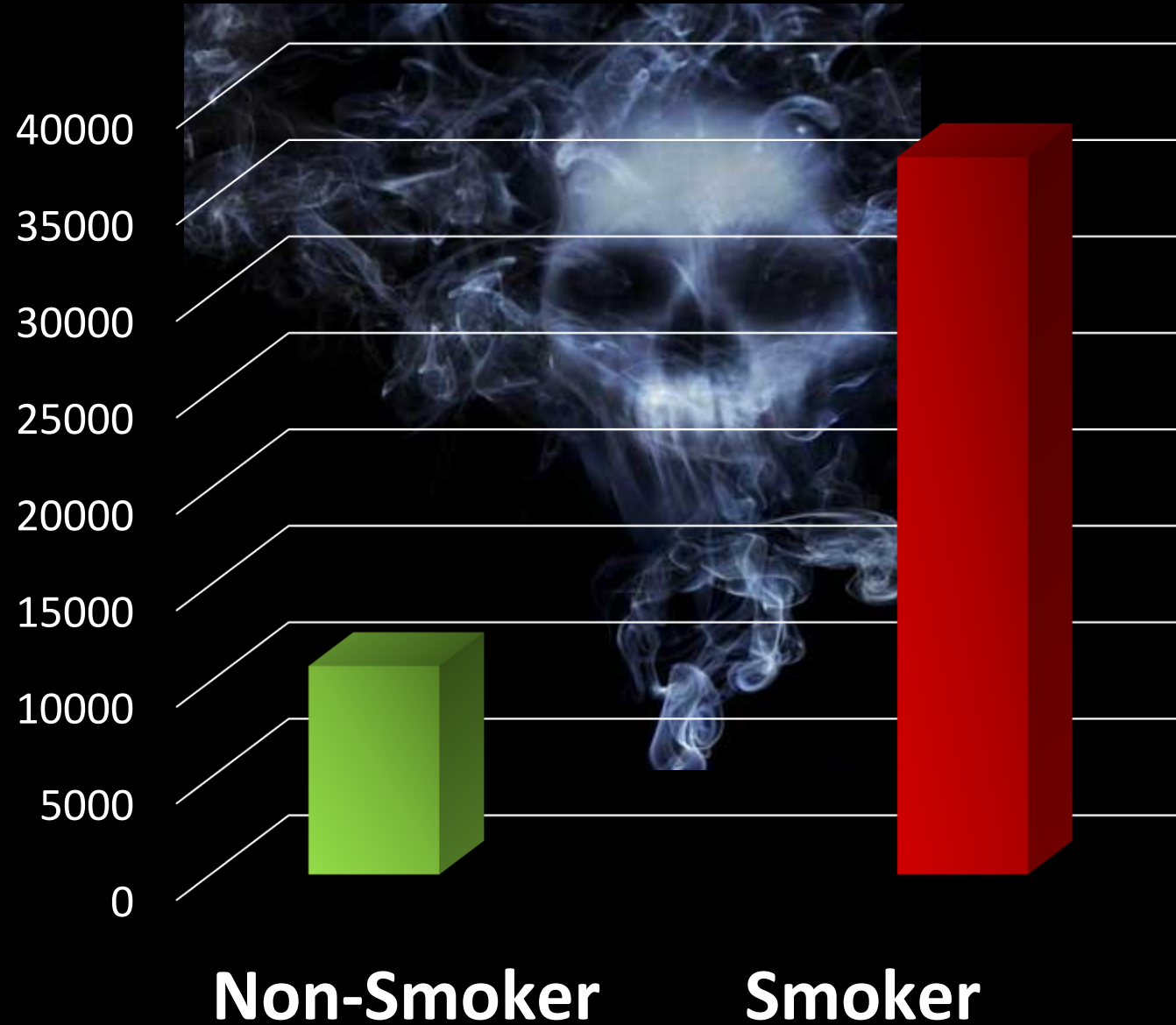
Unique Health Consequences

When compared with the general population PLWHA are more susceptible to tobacco-related illnesses such as:

- **Cardiovascular disease**
- **Cancer (3-5 increase risk)**
- **Pulmonary disease (COPD, bronchitis)**

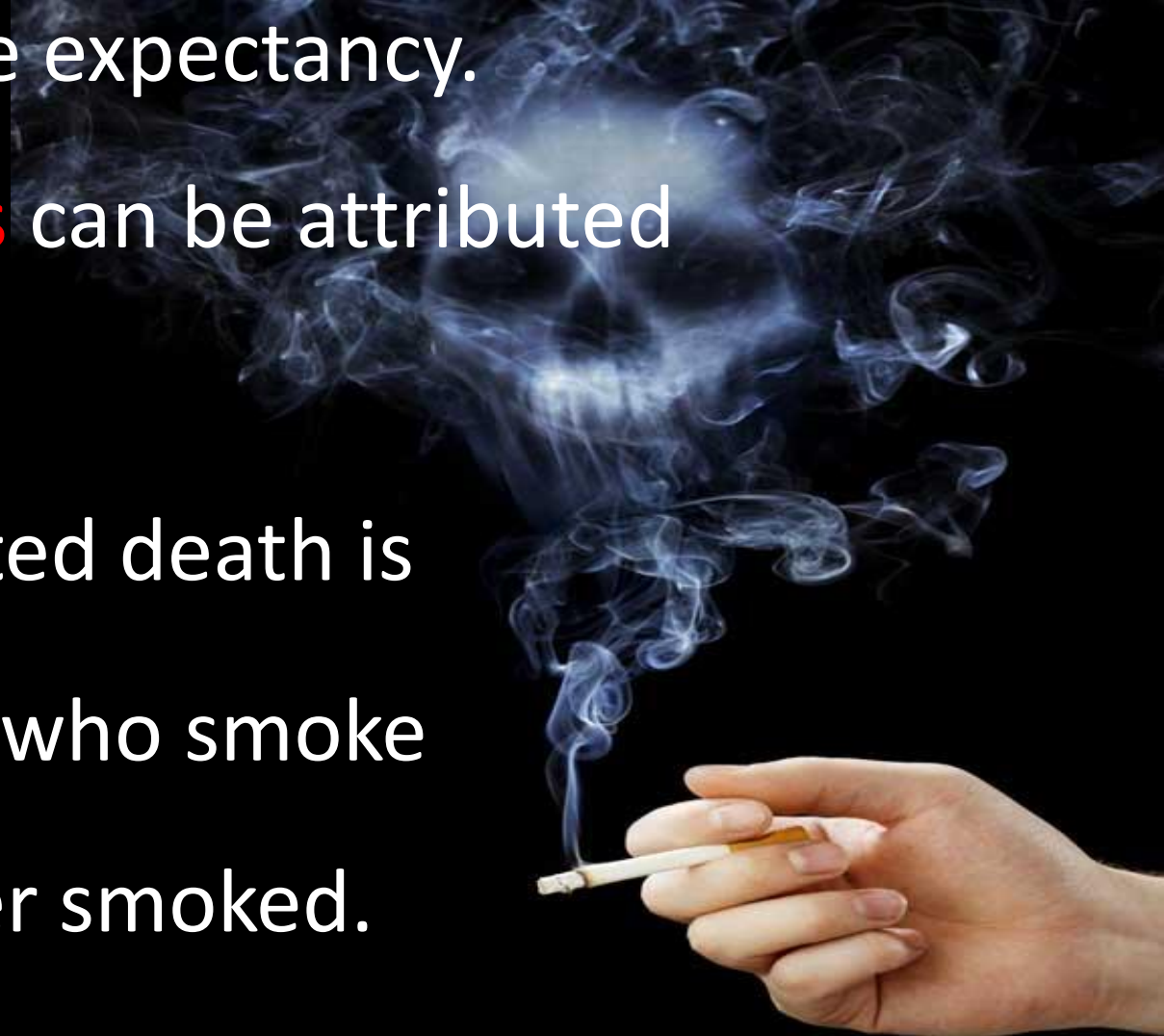
SMOKING AFFECTS VIRAL RESPONSE

Despite similar ART adherence (90% vs. 80%), smokers were twice more likely to fail at achieving undetectable viral loads (OR=1.4; 95% CI 1-2.1, p=0.04).



PLWHA are loosing more years to smoking than to HIV.

1. They lose over six years of life expectancy.
2. Approximately **61% of deaths** can be attributed to smoking.¹
3. The chance of non-AIDS-related death is **5 times greater** for PLWHA who smoke compared to those who never smoked.



1. Helleberg, M., et al (2012). A Nationwide Cohort Study. Clinical Infectious Diseases, 56(5), 727-734.

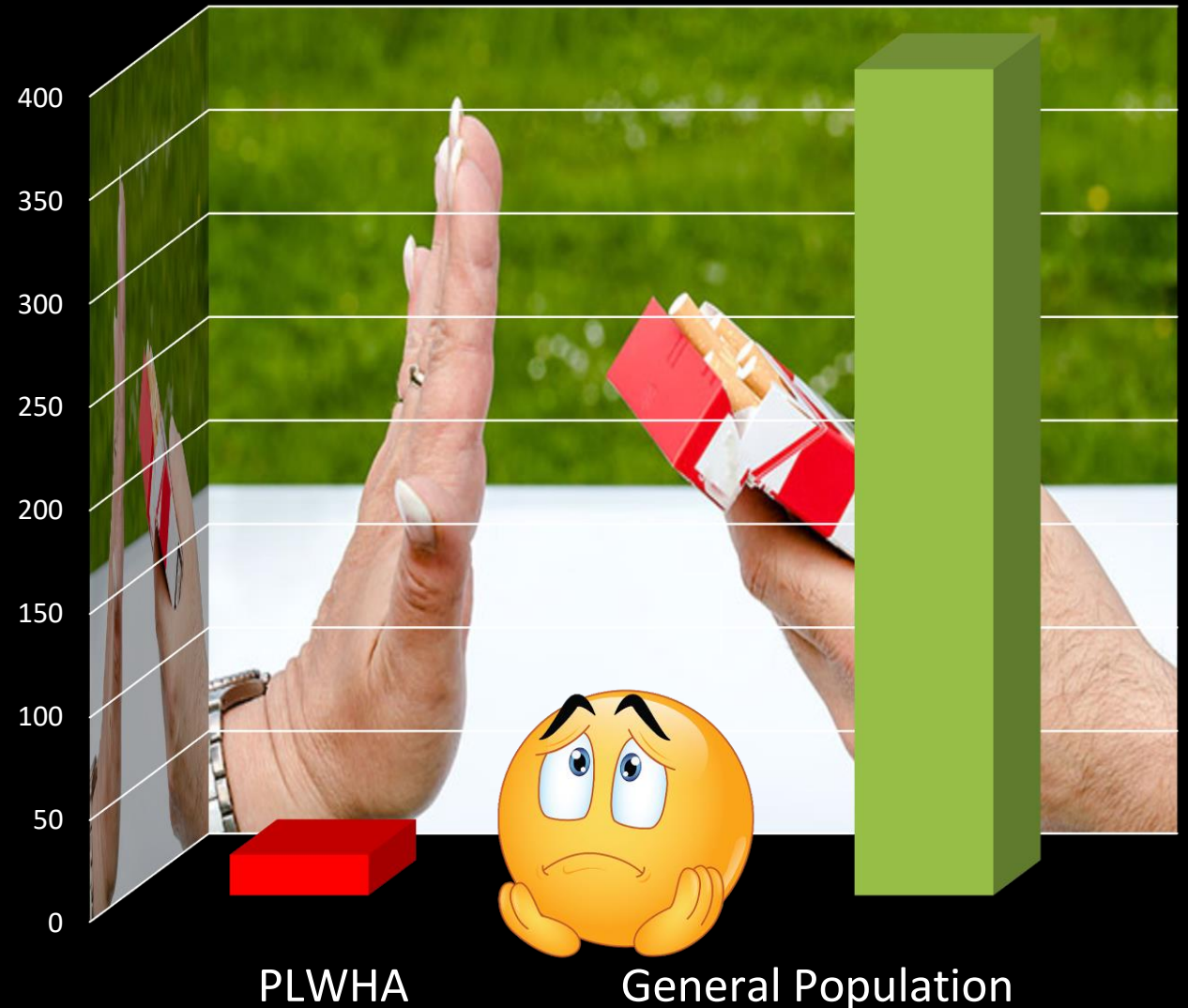


SOLUTION- Trials

SMOKING CESSATION TRIAL IN PEOPLE WITH/WITHOUT HIV

*There is a paucity of
controlled trials among PLWH.*

Chew, D., *AIDS Research and Treatment*, 2014, 237834.
<http://doi.org/10.1155/2014/237834>



INTERVENTION CHALLENGES

- Risk Perception
 - HIV & Menthol
- Withdrawal Discomfort
 - Levels of Nicotine
- Gaining Weight



INTERVENTIONS

BEHAVIORAL

Motivational

Cognitive Behavioral

PHARMACOTHERAPY

Bupropion

Varenicline

Nicotine Replacement

Self help

Telephone

BEHAVIORAL

Group Therapy

Individual
Therapy

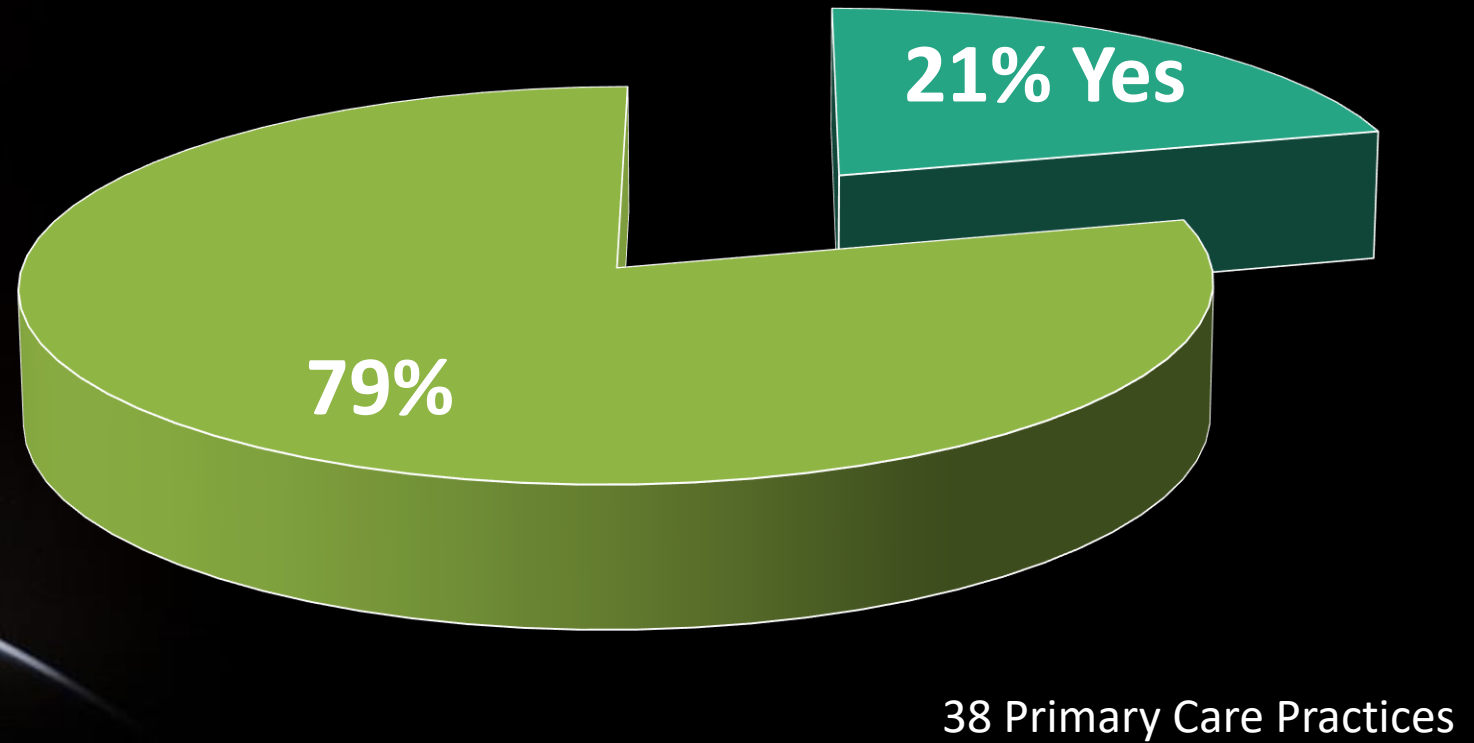
Quit Lines & Cell Phone Interventions may be effective

However many are low income and lack access to continuous telephone service.





Are physicians doing smoking cessation interventions?



Why Not?

1. BEFORE THE DATA WAS CONTRADICTORY
2. CONSIDERING THE COMPLEXITY OF HIV MANAGEMENT
3. SMOKING CESSATION WAS A LOW PRIORITY
4. THEY HAVE NOT BEEN TRAINED
5. REIMBURSEMENT



**WHAT HAVE BEEN
DONE IN THE PAST**



Interventions for PLWHA

Multifaceted Interventions: Combination of motivational interviewing/counseling techniques and pharmacotherapy.

Varying Degrees of Tailoring, and the distribution of smoking-cessation self-help materials.

Use of Technology: Internet or Cell Phone

The use of theory to develop smoking-cessation interventions was limited.

Cui et al., 2012; Elzi et al., 2006; Fuster et al., 2009; Ingersoll et al., 2009; Lloyd-Richardson et al., 2009; Moadel et al., 2012; Vidrine et al., 2006 and 2012.

QUITTING RATES

Quit rates of 10 prior randomized trials conducted with PLWHA or a combination, yielded quit rates ranging from 4% to 16%.

Short and small



Ledgerwood, et al 2016 A Literature Review and Synthesis. Nicotine & Tobacco Research
Cui et al., 2012; Elzi et al., 2006; Fuster et al., 2009; Ingersoll et al., 2009; Lloyd-Richardson et al., 2009; Moadel et al., 2012; Vidrine et al., 2006; Vidrine et al., 2012. Chew D

SUMMARY

- High Prevalence
- Vulnerability
- Biological Differences



EXAMINING PATCH

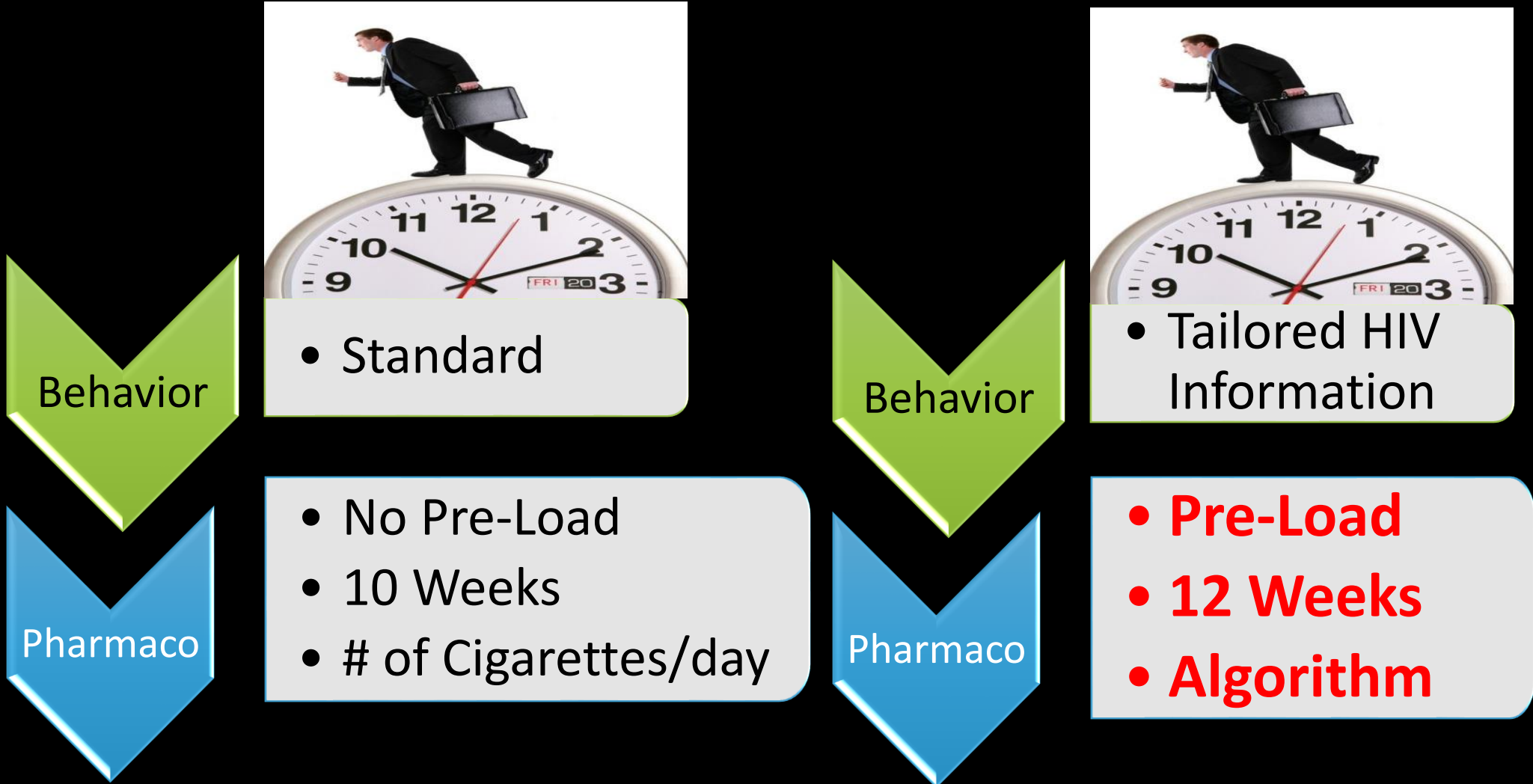


PATCH ADDRESSING THE NEEDS OF PLWH

- ✓ **SPECIFIC KNOWLEDGE**
- ✓ **TIME (Adapt & Convenient)**
- ✓ **SUPPORT**
- ✓ **NICOTINE LEVELS**



EXAMINING PATCH

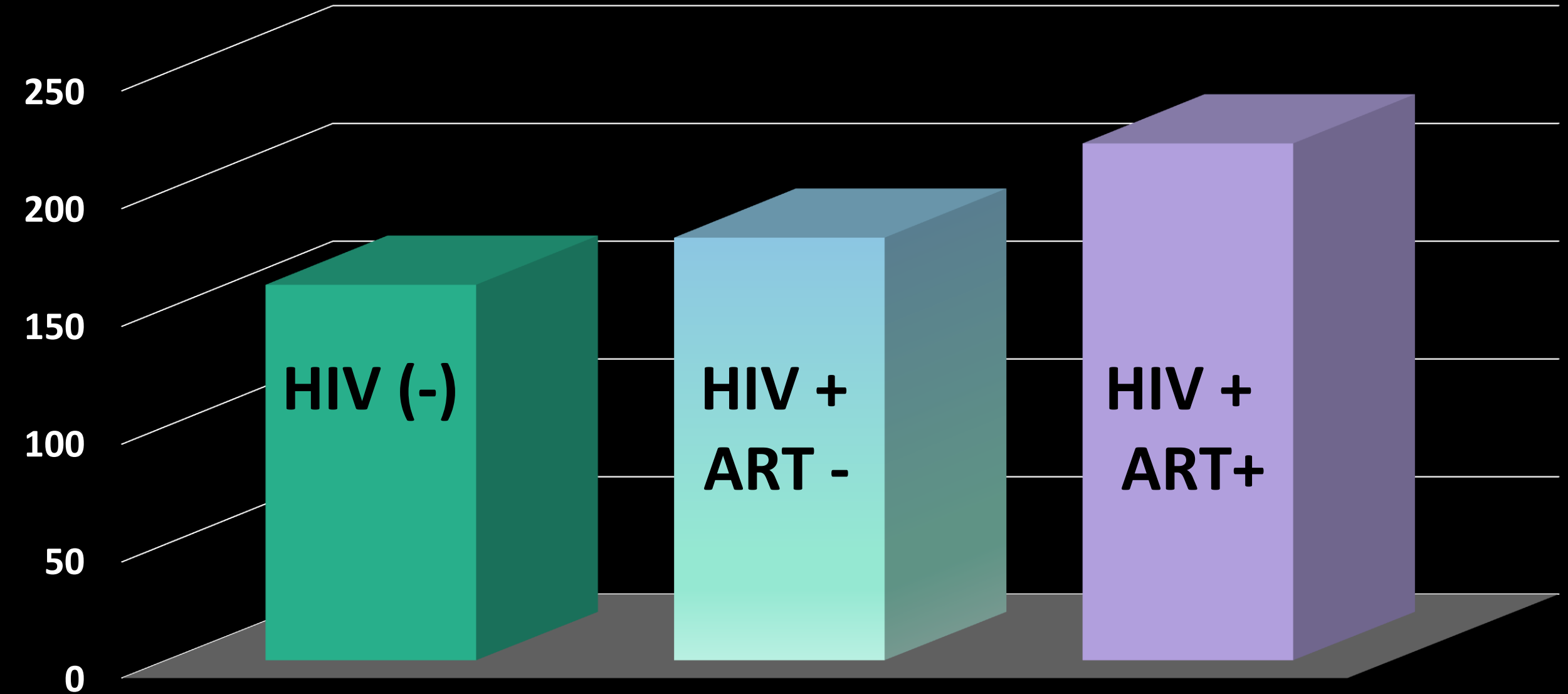


PHARMACOTHERAPY

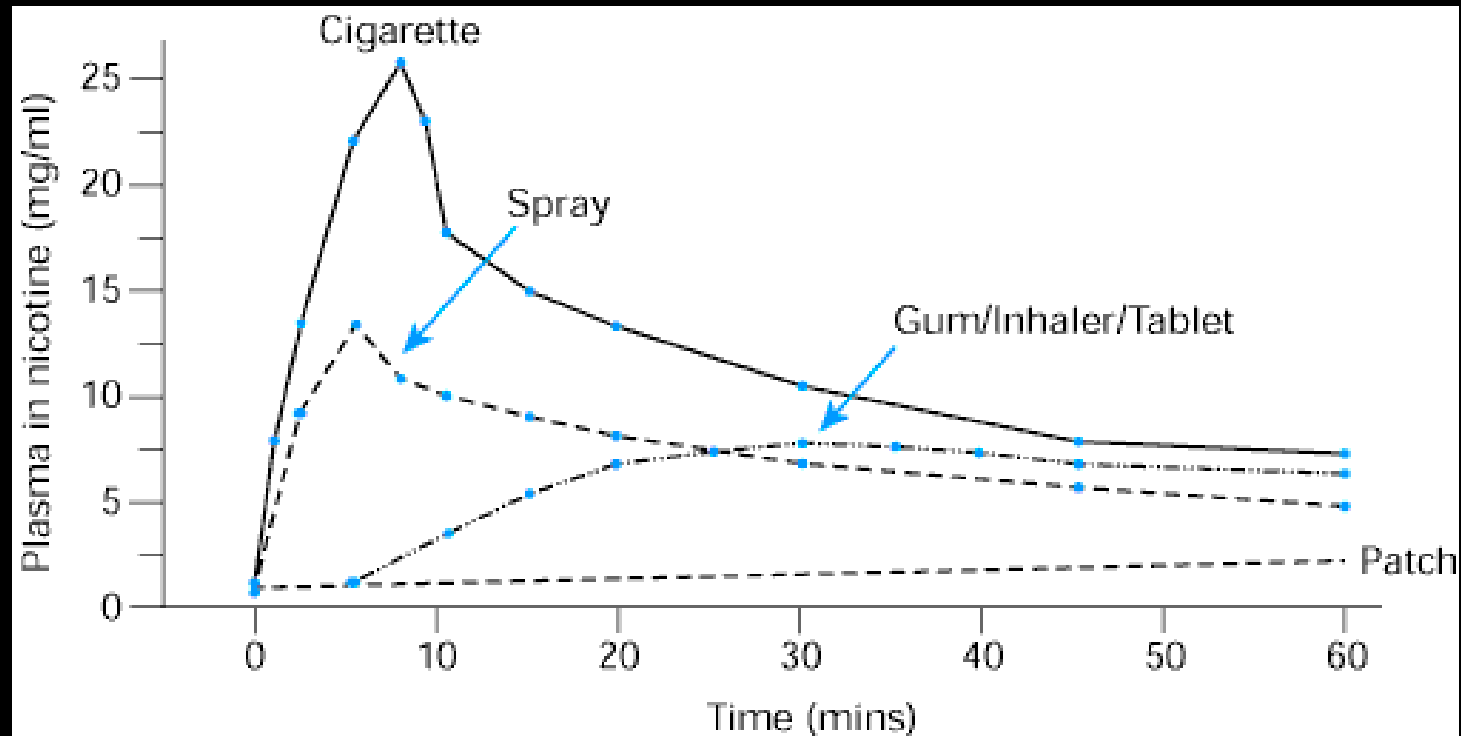
Bupropion	Side effects, interference with
Varenicline	ART

Nicotine Replacement

Cotinine Levels by HIV Status & ART



PHARMACOLOGICAL



Assess for Eligibility

N=625

**Randomization
Standard Arm n=160**

1 Month Follow-up

3 Month Follow-up

6 Month Follow-up

12 Month Follow-up

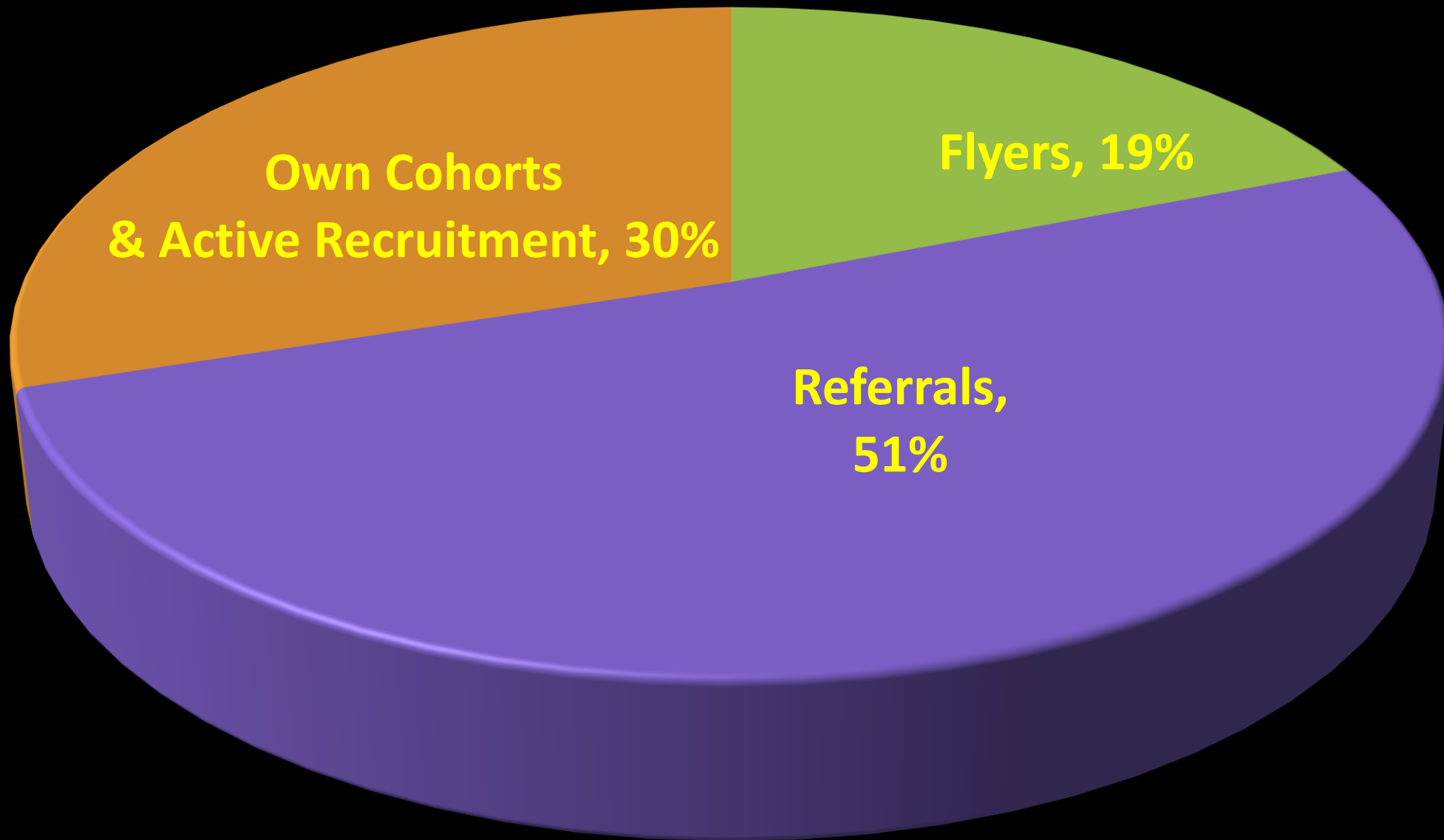
**Randomization
Tailored Arm 160**

1 Month Follow-up

3 Month Follow-up

6 Month Follow-up

12 Month Follow-up



STUDY POPULATION



INCLUSION CRITERIA

HIV +

SMOKERS (DAILY)

READY TO QUIT (Quit ladder 7)

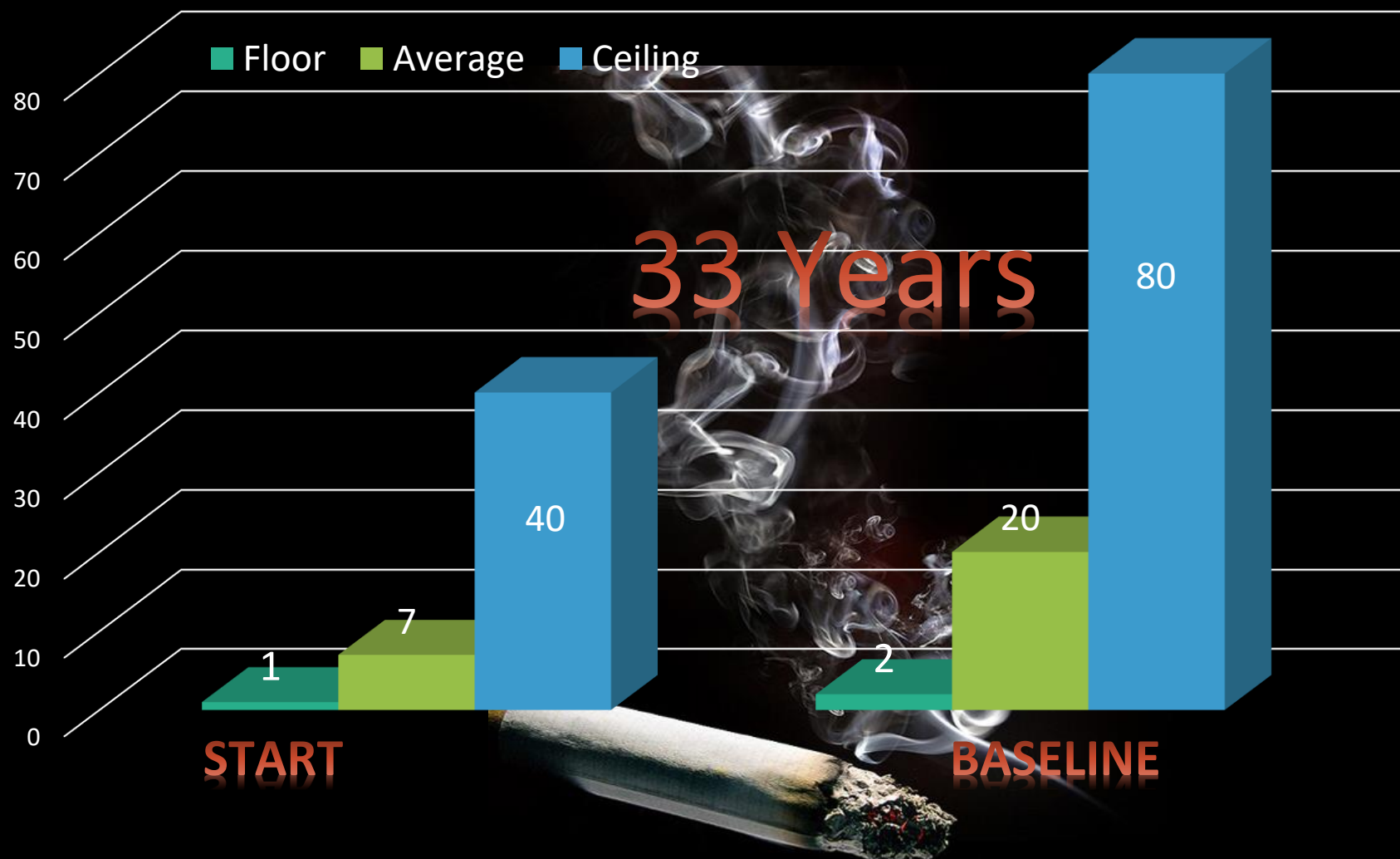
**EXCLUSION LIMITED TO
SAFETY, COMPLIANCE AND
MAJOR CONDITIONS**

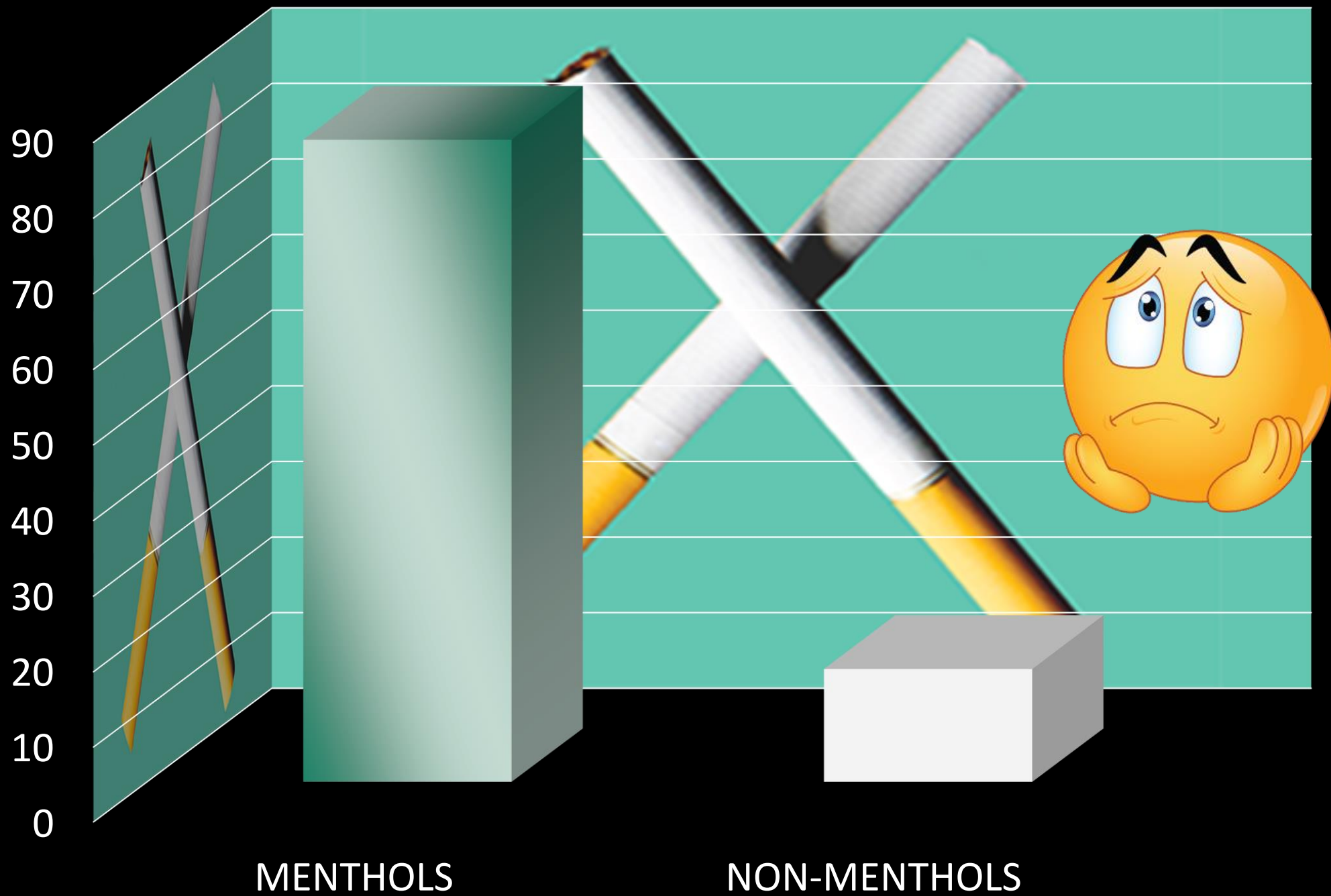


<i>Variable</i>	<i>Arm 1</i>	<i>Arm 2</i>	<i>P value</i>
<i>Age</i>	50.6 ± 8	52.7 ± 8	0.06
<i>Male</i>	52%	48%	0.3
<i>Female</i>	48%	52%	
<i>African American</i>	81%	85%	0.4
<i>Hispanic</i>	12%	5%	
<i>Caucasian</i>	5%	10%	
<i>Other</i>	2%	0%	
<i>Income</i>			0.7
<i><10K</i>	77%	72%	
<i>10 -29K</i>	19%	23%	
<i>> 30K</i>	4%	5%	

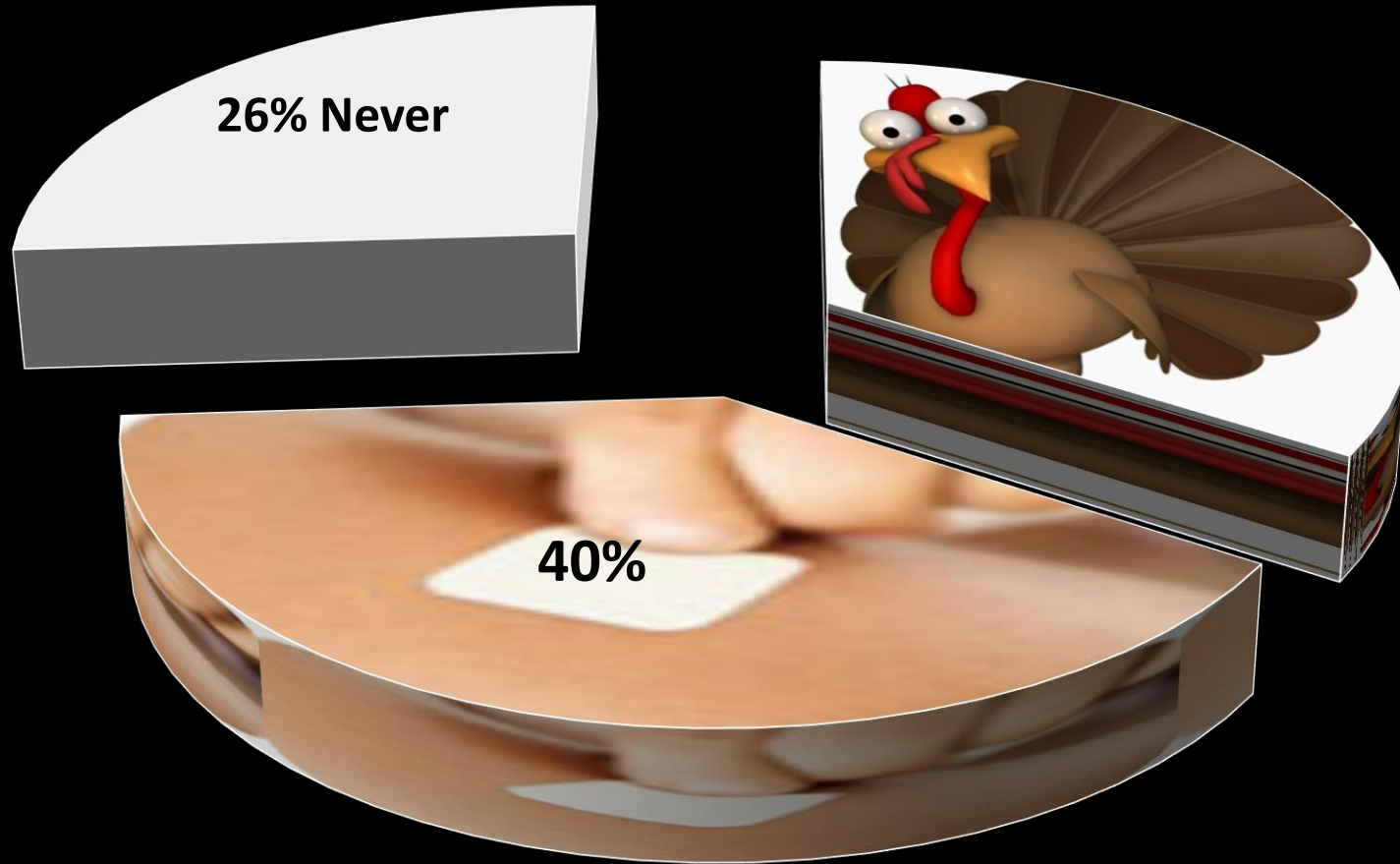
STUDY POPULATION

320 smokers with HIV who were motivated to quit.

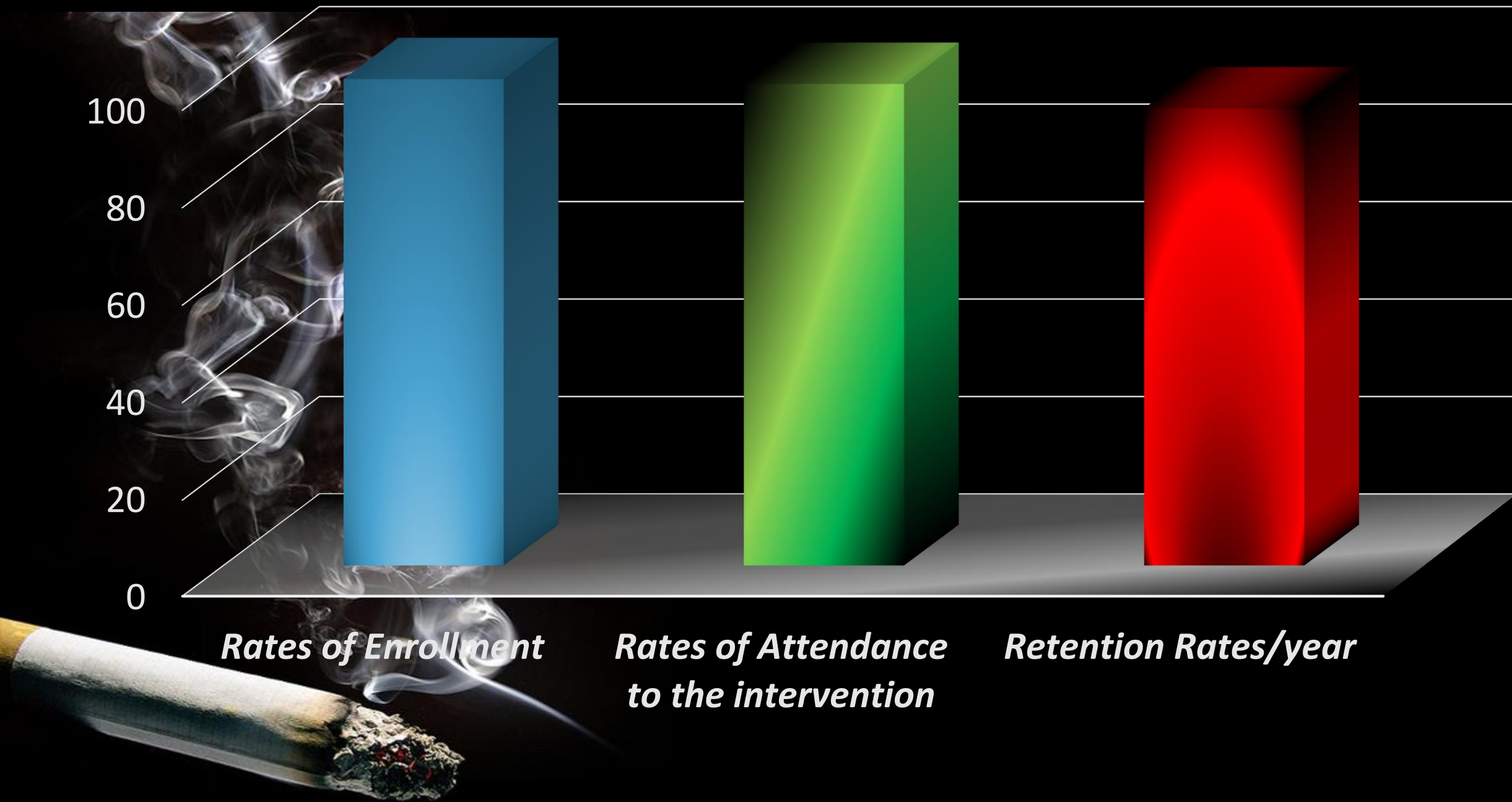




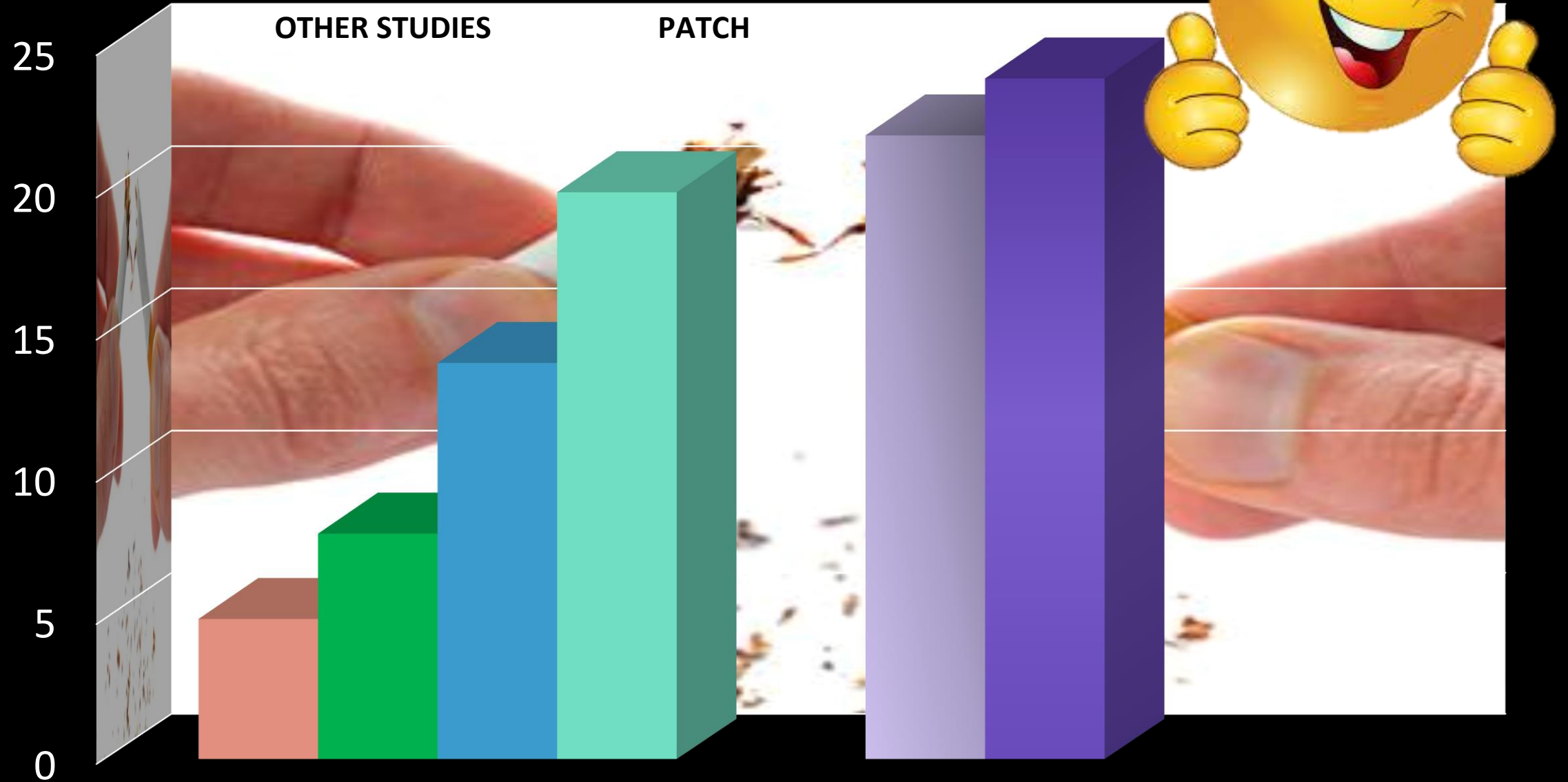
PRIOR ATTEMPTS







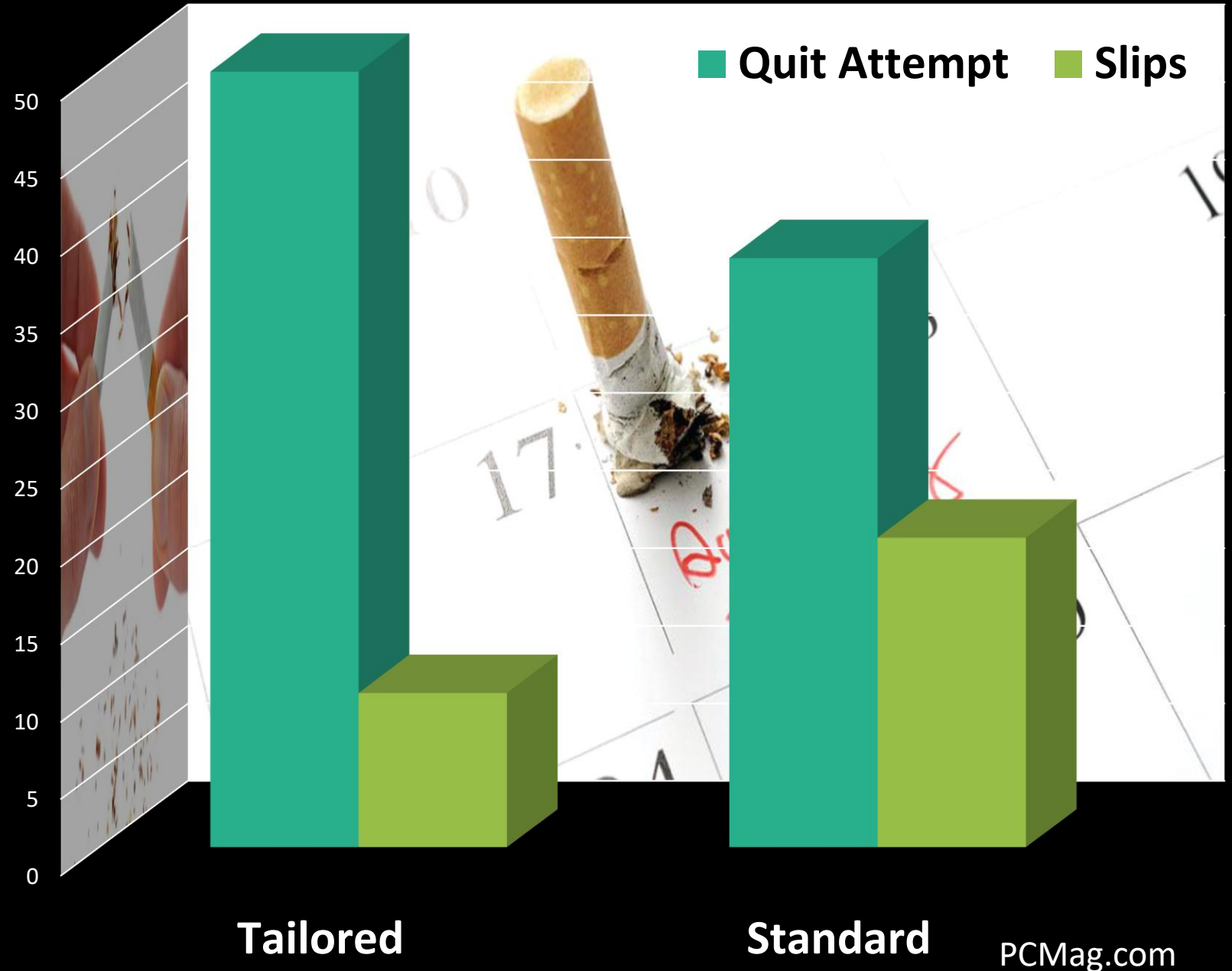
QUITTING RATES



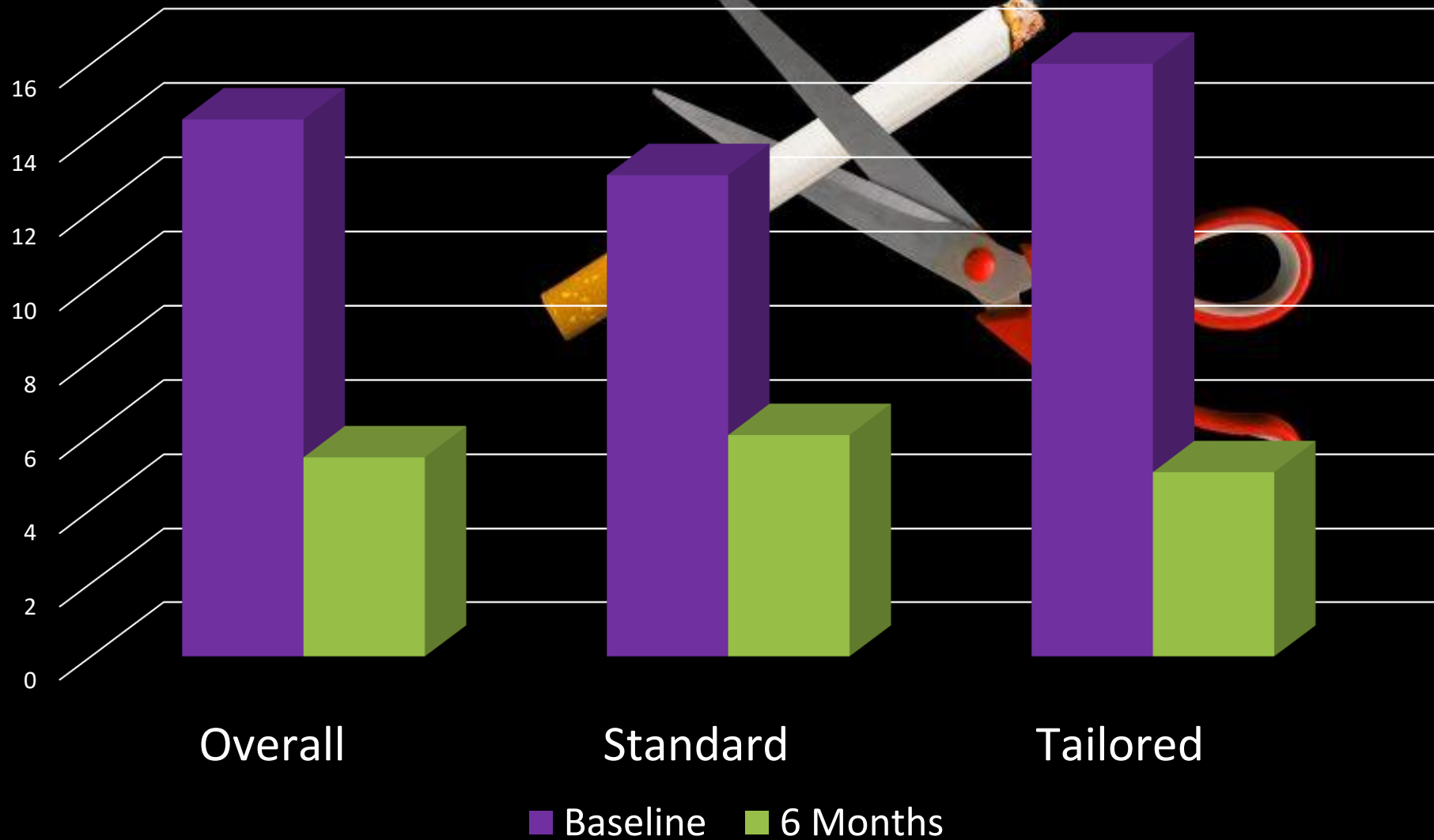
PRELOADING

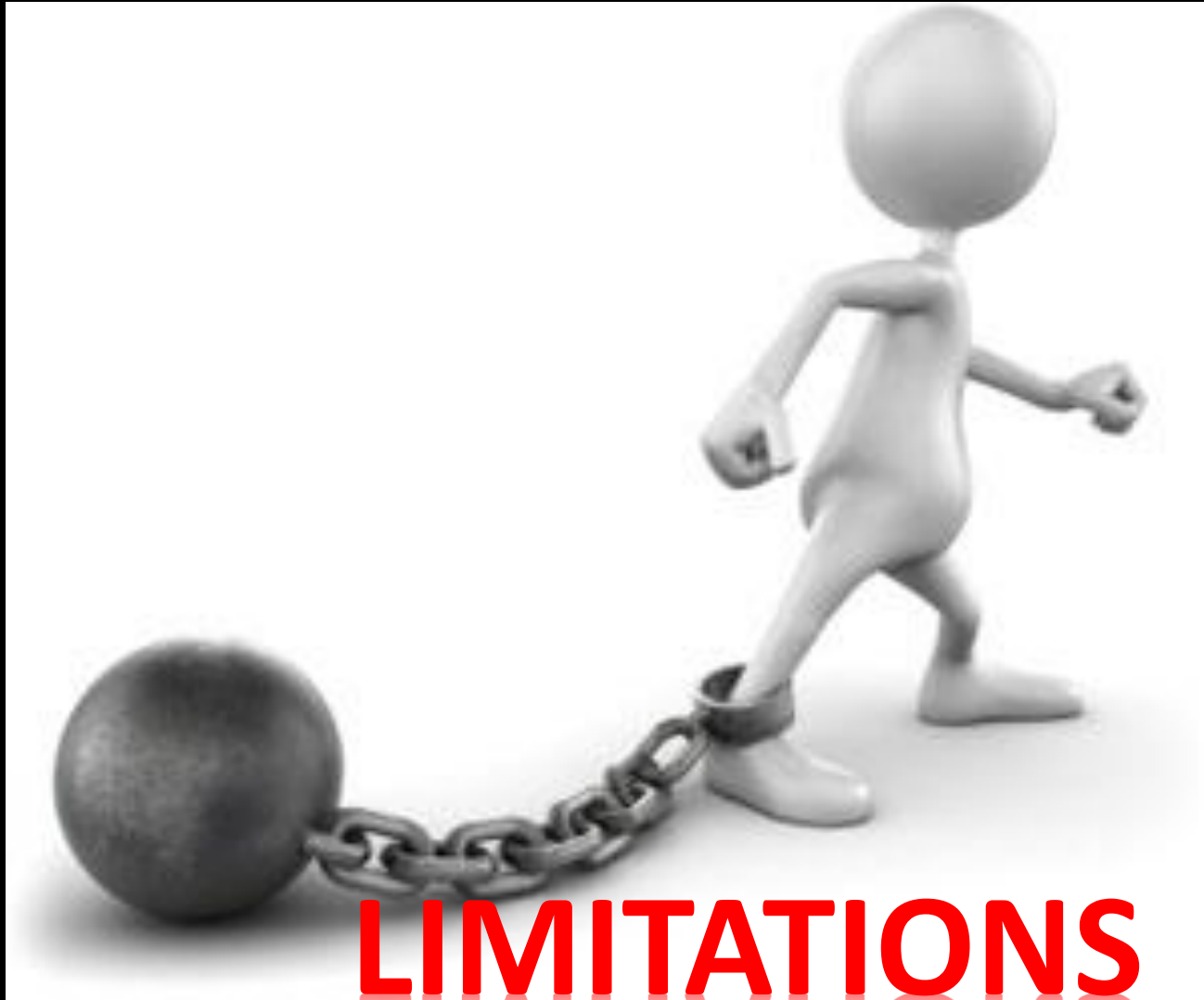
Some tobacco researchers have proposed that initiating NRT prior to the quit date increases the odds of quitting smoking. Results are mixed.

None of those studies were performed among PLWH.



REDUCING IS ALSO A SUCCESS HISTORY





LIMITATIONS

QUITTING SMOKING BARRIERS

STRESSORS: Family, interpersonal, traumatic life events

SUPPORT: Partner is a smoker not ready to quit



Advantages

- Neutral PH
- More Rapid
- Adjunct

Disadvantages

- Taste
- Poor Dental Health
- Sore Jaw



TEAM EFFORT

- CLERY QUIROS
- DIEGO BUENO
- ZIPPORAH THOMPSON
- CALONIE GRAY
- CHRISTOPHER KHALER
- CASSANDRA STANTON

Thank You

