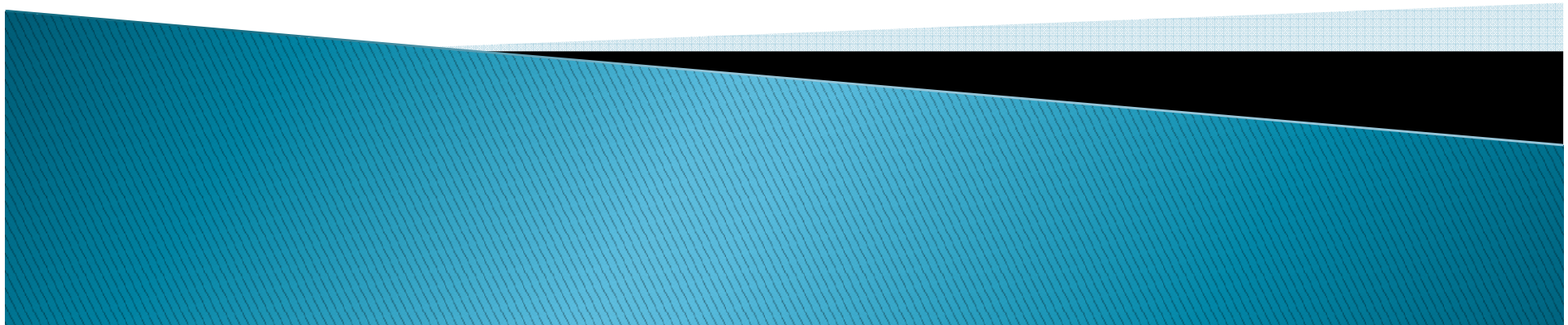


The Changing Use and Misuse of Catha Edulis (Khat) in a Changing World: Tradition, Trade and Tragedy

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PREVENTING CHRONIC DISEASE

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ORIGINAL RESEARCH

Association of Smoking and Khat (*Catha edulis* Forsk) Use With High Blood Pressure Among Adults in Addis Ababa, Ethiopia, 2006

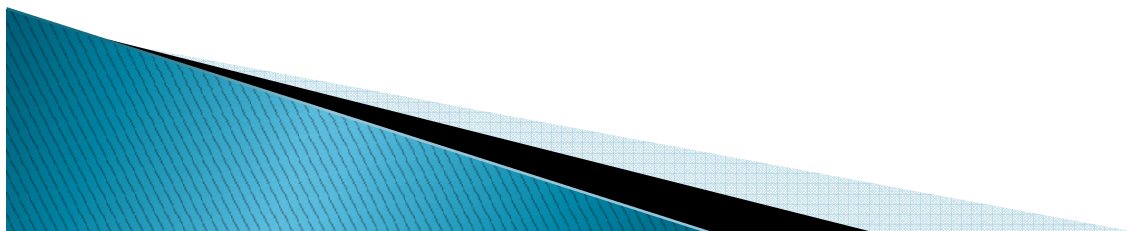
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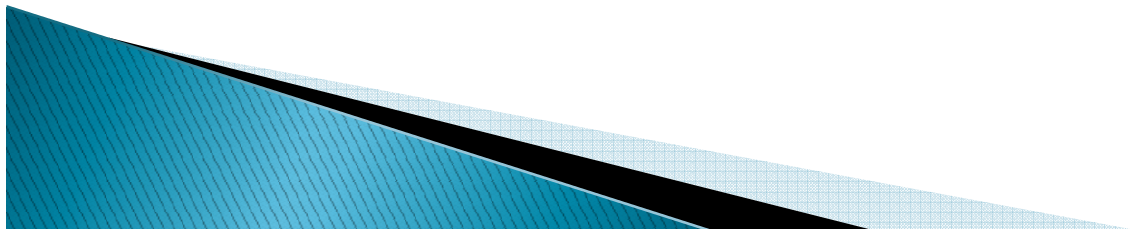
Outline

- ▶ Introduction
- ▶ Objectives
- ▶ Methods
- ▶ Results and Discussion
- ▶ Conclusion and Recommendations
- ▶ Acknowledgements



Introduction

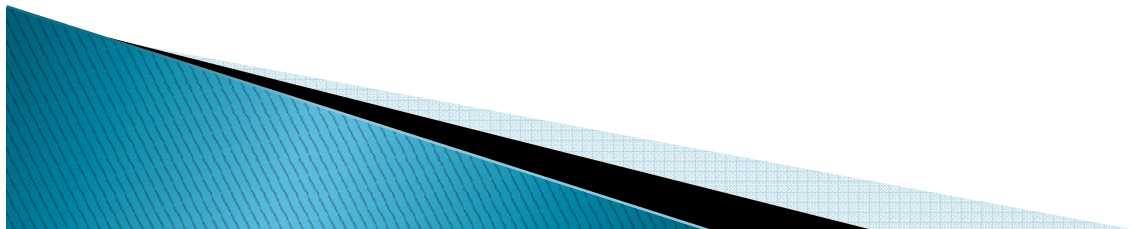
- ▶ Increasing use of khat and other substances,
 - Crossing socio cultural barriers– *changing (mis)use*
- ▶ Health effects of substance use behaviors,
 - Psychiatric/ psychosocial morbidity
 - Risk of unsafe sexual behaviors



- ▶ Effects on cardiovascular (CVD) morbidity?
 - Not among the classical risk factors of CVD
 - Khat use and risk of acute myocardial infarction

- ▶ Growing burden of CVD and other chronic diseases,
 - More rapid in developing countries,

- ▶ Primary prevention of CVD to be based on knowledge of important risk factors

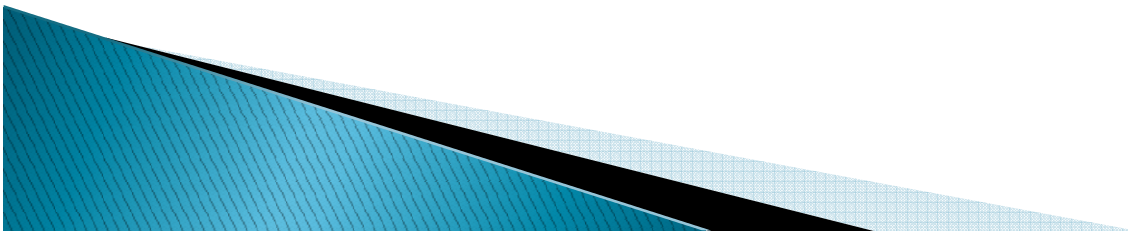


▶ *Misconception*

- Khat chewing reduces blood pressure

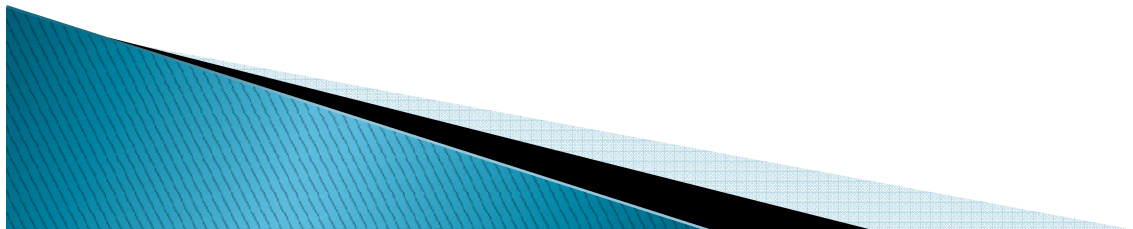
▶ *Hypothesis*

- Khat chewing is associated with elevated blood pressure



Objectives

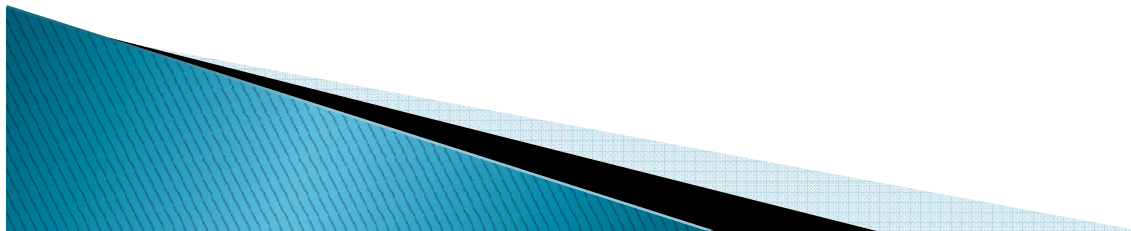
- ▶ Describe epidemiology of CVD risk factors among adults in urban Ethiopia
 - Identify behavioral risk factors of CVD among adults in Addis Ababa,



Methods

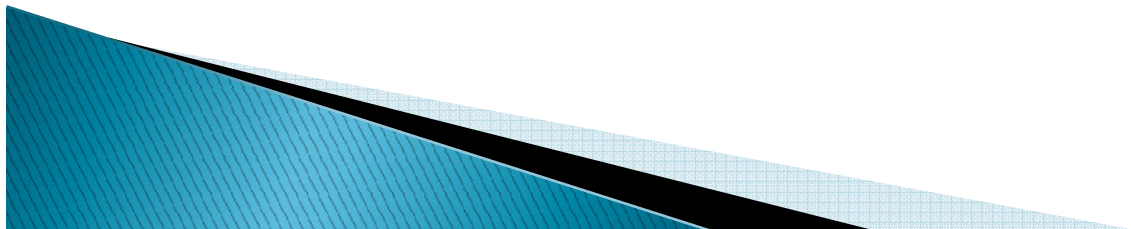
- ▶ Design: descriptive cross sectional
- ▶ Area: Addis Ababa
- ▶ Population: adults 25–64 years of age

- ▶ Sampling: multistage (random + cluster)
- ▶ Sample size: 4000

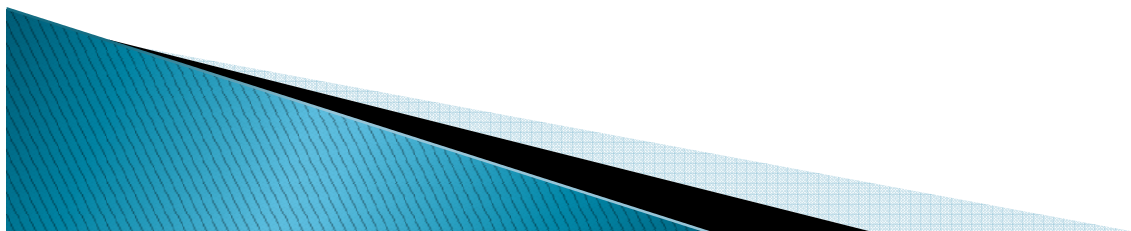


▶ **Instrument**

- WHO STEPS (STEPwise surveillance of risk factors for chronic diseases):
- interview + physical measurements + Laboratory

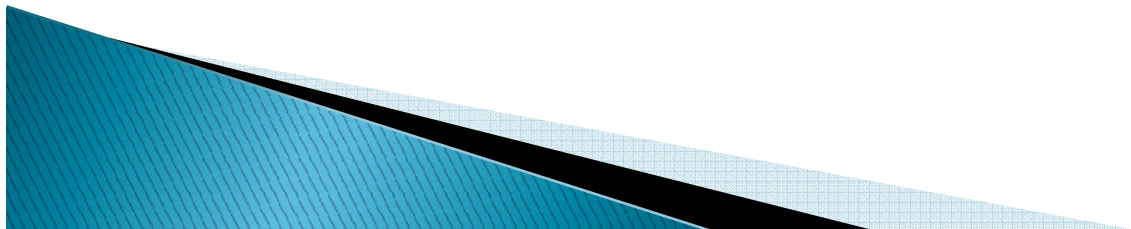


- ▶ Variables and measurements
 - Socio-demographic characteristics,
 - Lifestyle behaviors: smoking, khat chewing, alcohol,
 - Physical measurements: weight, height, blood pressure,
 - Standardized procedures of measurement applied



Results

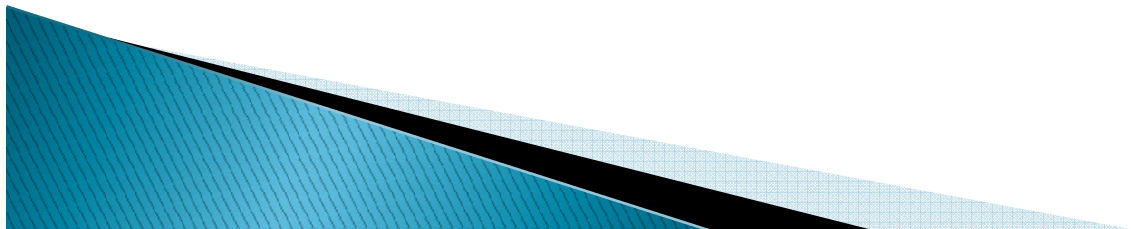
- ▶ Current smoking
 - Men 13%
 - Women 1%
- ▶ Current daily smoking
 - 11%
- ▶ Median age at start of (daily) smoking,
 - 20 years (range, 7–40 years),
- ▶ Past smoker, men 8%



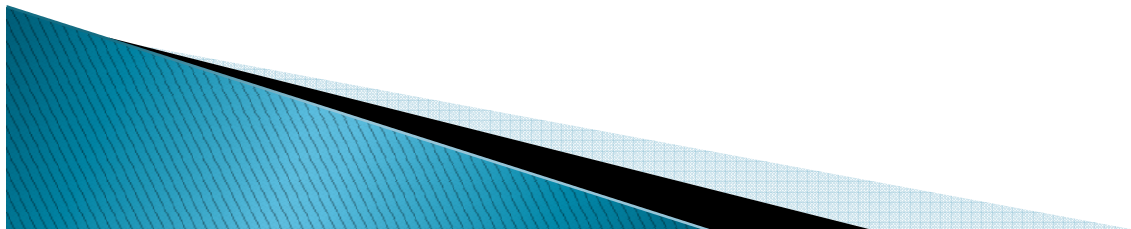
- ▶ Current khat chewing
 - 18% men
 - 2% women

- ▶ Frequent khat chewing in men
 - 16%: 1 or more days every week;
 - 5% daily

- ▶ Median age at start of chewing
 - 22 years (range, 12–42),

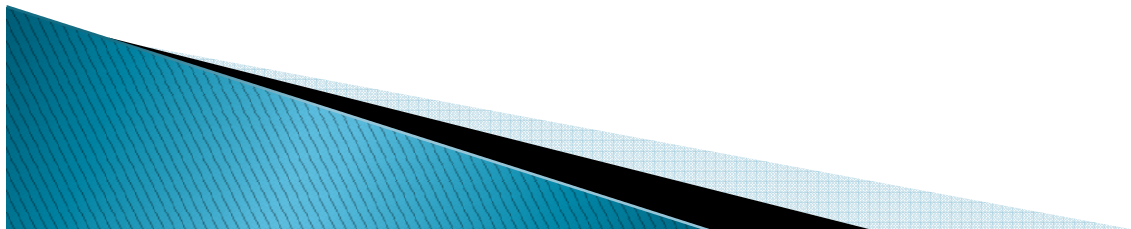


- ▶ Current alcohol consumption
 - 69% men,
 - 57% women
- ▶ Daily alcohol use
 - 8.6% of men



- ▶ Mean systolic BP
 - Men: 129.9 (95% CI, 128.9–130.9) mm Hg,
 - Women: 126.7 (95% CI, 125.8–127.7) mm Hg

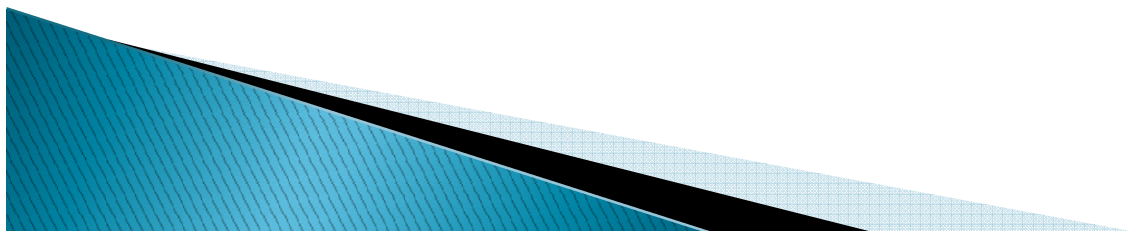
- ▶ At least 1 of the 3 behaviors,
 - (current daily smoking, regular khat chewing, or binge drinking)
 - men 27%,
 - women 2%.



- ▶ Regression analysis
 - Increasing age and male sex significantly associated with increased mean systolic and diastolic BP,

- ▶ Significantly increased mean diastolic BP
 - Daily current smoking ($\beta = 2.11$, $P = 0.03$),
 - Regular khat chewing ($\beta = 1.92$, $P = 0.02$)

- ▶ Mean diastolic BP increased by 1.85 mm Hg for every additional score or behavior
 - ($\beta = 1.85$; 95% CI, 1.05–2.65).



Clustering of behaviors:

current smoking and khat chewing (8.0%),

khat chewing and binge drinking (4.2%),

current smoking and binge drinking (3.6%)

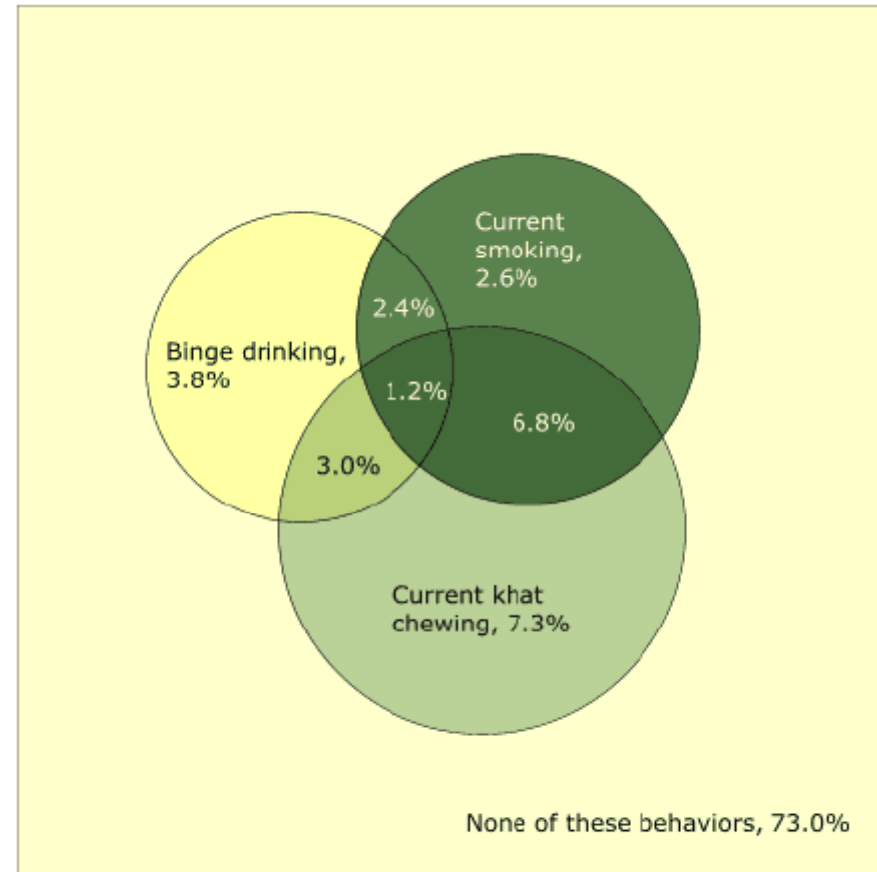
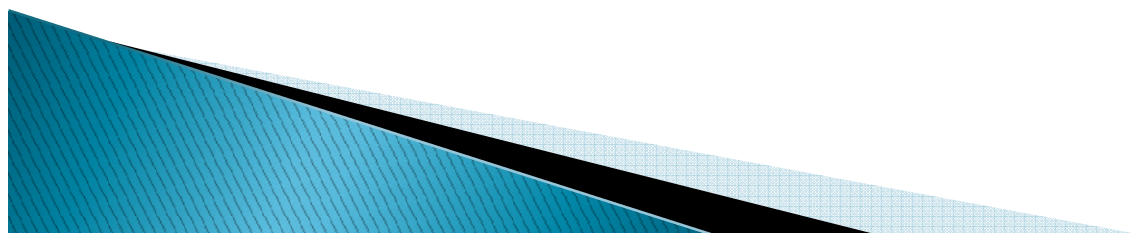
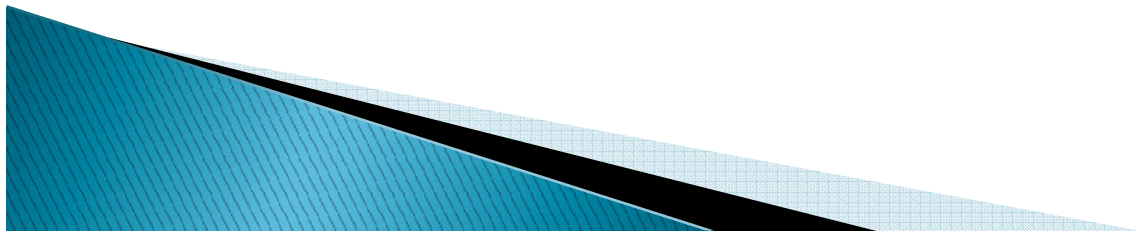


Figure. Intersection of risk factors among men surveyed in Addis Ababa, Ethiopia, December 2006. Relative area of the circles is proportional to the prevalence of the corresponding behavior and the total area of the square, which represents 100% of men.

- ▶ Significantly increased likelihood of use of a second substance in those who used either substance;
 - 61% of men who were current smokers reported khat chewing (OR, 26.4%; 95% CI, 19.5%–35.8%).,
 - 40.5% of men who reported regular khat chewing also reported current smoking (OR, 23.6%; 95% CI, 17.4%–31.9%),
 - 21% of men who reported regular khat chewing reported binge drinking (OR, 7.4%; 95% CI, 5.3%–10.2%),

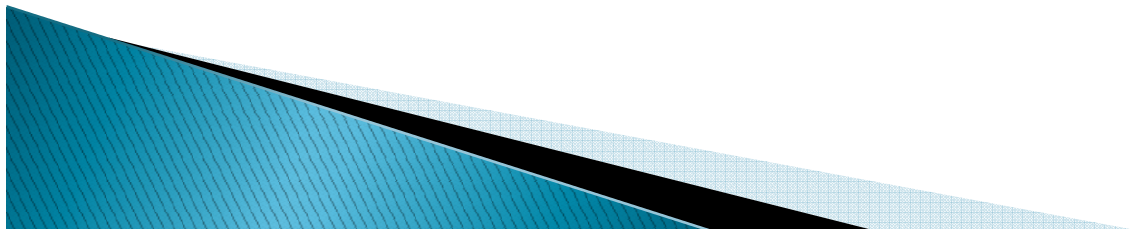


- ▶ The proportion of participants indulging in 2 or more of the 3 behaviors (13.4%) was much higher than would be expected if behaviors were chosen independently

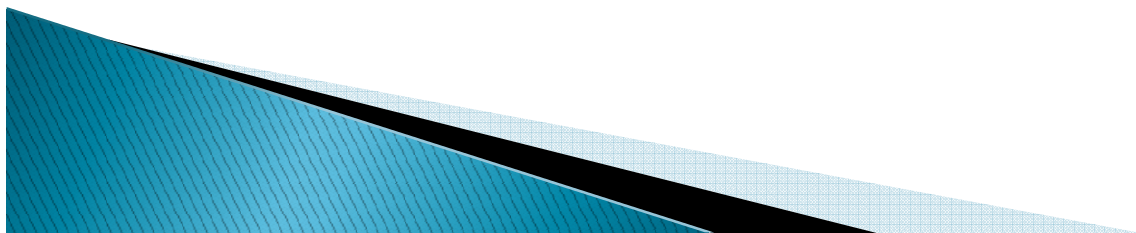


Conclusion

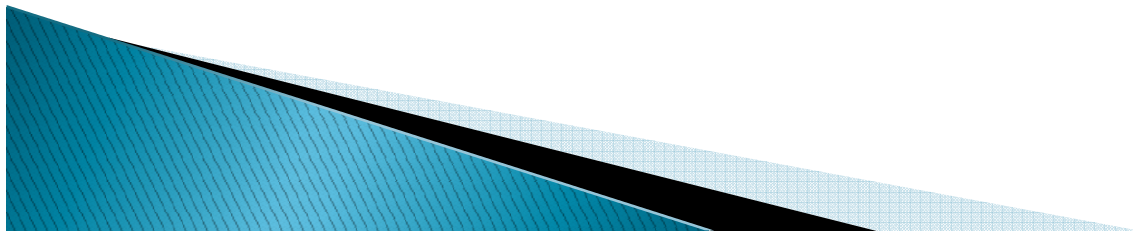
- ▶ Substance use (such as khat chewing) could increase risk for CVD among adults in Addis Ababa;
 - widespread prevalence among adult men,
 - significant association with increased diastolic BP,
- ▶ Use of multiple substances could have more pronounced effect on diastolic blood pressure,



- ▶ Public health interventions aimed at prevention and control of chronic diseases in Ethiopia would benefit from prevention of substance use behaviors and promotion of healthy lifestyles,



- ▶ Surveillance efforts should track any shifts in the distribution of substance use for sex and other socio-demographic factors that may signal subsequent shifts in the epidemiology of chronic diseases,



Recommendation

- ▶ Prevention and control measures aimed at khat chewing, should target smokers and alcohol users as a matter of priority,
- ▶ Biochemical (metabolic) mechanism of effect of khat on peripheral vascular resistance to be investigated,

