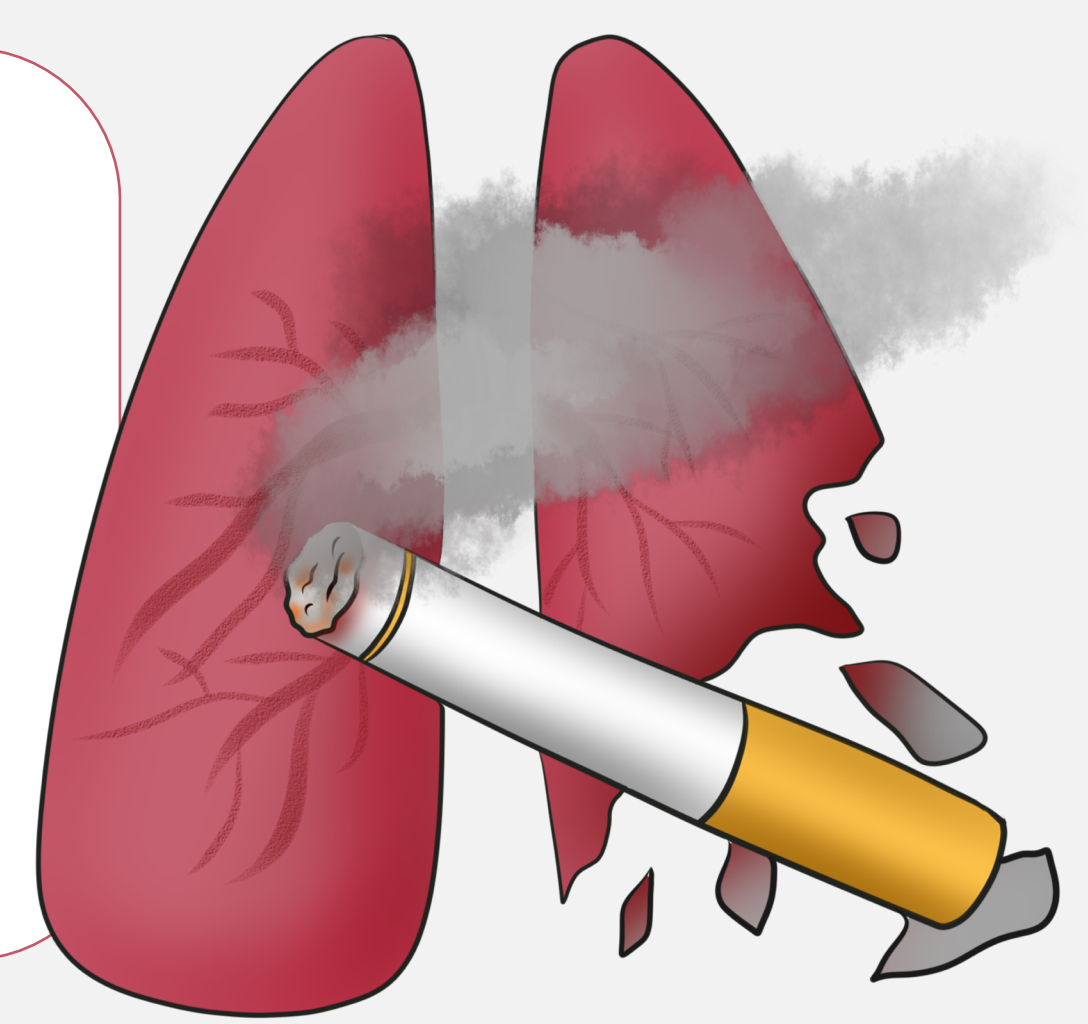
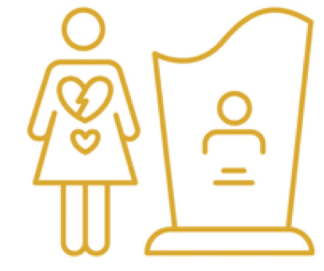


# Systematic Review Evaluating the Current Smoking Cessation Protocols for Adolescents Smokers in Substance Abuse Treatment

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## Background



Tobacco use is the leading preventable cause of death and disease in Australia. (AIHW 2017)



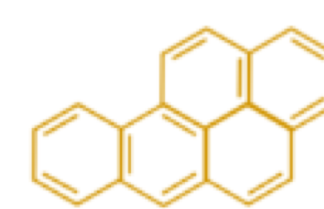
Those who start smoking during their adolescent years are more likely to smoke daily later in life (AIHW 2017). Smoking has particularly detrimental effects when started in adolescence including addiction with mental, social and behavioural problems & risk of developing cardiorespiratory diseases and cancer.

4x

Adolescents with substance use disorders (SUD) smoke up to four times more than the general population & Majority (>80%) of adolescents in substance use treatment report current tobacco use.



Despite many adolescents in Substance use treatment expressing interest in quitting, facilities do not have *or do not implement* a protocol for smoking cessation. Historically this has been due to the misconception that smoking cessation will negatively effect SUD treatment, despite the knowledge that smoking contributes to greater morbidity and mortality than the other substances combined.



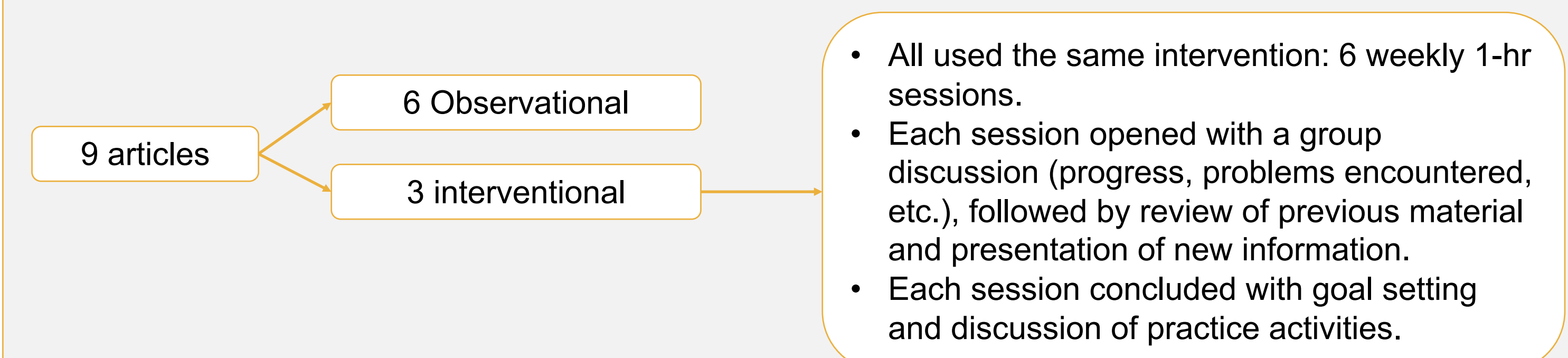
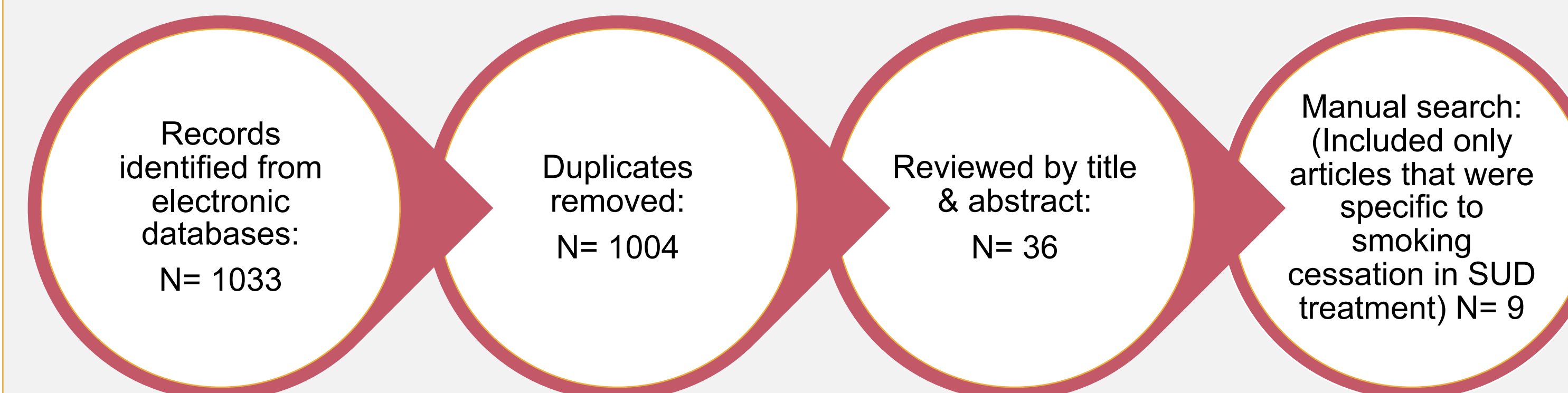
Tobacco products pharmacokinetically interact with other drugs. Specifically, polycyclic aromatic hydrocarbons (PAHs), products of incomplete combustion of organic matter through tobacco smoking, are well known inducers of drug-metabolizing enzymes. Exposure to PAHs in humans results in marked induction of cytochrome P450 (CYP) 1A1 and 1A2 in the liver, small intestine and lung tissues. Both marijuana and tobacco smoking induce cytochrome P450 (CYP) 1A2, and the induction effect between the two products is additive. This indicates that smoking causes an increased requirement of other drugs for the same effect. Hence, smoking cessation can aid in reduction of other substances

## Aim

1. To review the literature on current protocols regarding smoking cessation for adolescents (aged 13-18).
2. Ascertain the success of current protocols in effectively reducing smoking amongst this population.
3. Identify the interaction between smoking cessation and substance use treatment to guide a protocol for adolescents entering SU treatment.

## Methods

Systematic literature review was performed in Pubmed, Medline and CINAHL complete Databases (English, human, 2000-2022).



## Findings

### Effect of smoking cessation on substance use treatment:

- Smoking cessation was associated with higher odds of drug abstinence . Smokers were found to have significantly higher rates of relapse to alcohol, cannabis & other drugs . Adolescents who participated in smoking interventions were 3.6x more likely to report less alcohol and other drug use at 3-month follow up compared to youth in the control condition.

## Findings - Observational

### Smoking cessation during substance use treatment:

- Without smoking cessation guidelines, moderate and heavy smokers evidenced little or no change during and following SU treatment .Substance abusing youth attempt cessation at rates comparable to adolescent smokers in the general population and have similarly poor outcomes following cessation efforts. More days of tobacco use is associated with continued, increased days of smoking. (Desire to quit smoking waned over the course of 12 months. Adolescents that reported past month abstinence of alcohol and other drugs, reported significantly higher rates of smoking (

## Findings - Interventional

### Smoking cessation intervention during substance use treatment:

- > 50% of participants met the goal of attempted smoking cessation, and six were abstinent from nicotine at follow-up Significantly more participants in the treatment group reported cessation attempts and point abstinence

## Discussion

- Despite overwhelming evidence of the negative impact smoking has on substance use treatment and on overall health of adolescents, there has been very little progress made to overcome this issue.
- The literature shows smoking causes more morbidity and mortality than other substances, yet there is a misconception that smoking is the 'lesser evil'
- This research has reviewed relevant literature in this population and outlined the need for change.

## Future Directions

- A protocol for smoking cessation in adolescent substance use treatment facilities is crucial for successful smoking cessation attempts.
- Further research identifying the most effective interventions for adolescent smoking cessation is needed to develop a protocol that is effective.
- Due to limited interventional studies in the adolescent population in SU treatment, adult studies and adolescent studies in other facilities like mental health facilities should be used to develop a protocol.
- Due to the increasing number of adolescents vaping, it is going to be more important to include this in future planning and protocol development.





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Images:

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