

Determination of reliability and practicality of saliva as a genetic source by analyzing DNA yield in forensic investigation : A systematic review”

BACKGROUND

Genetic analysis has become the mainstay of forensic identification protocols
The main source of DNA from saliva is the desquamated epithelial cell component of the oral mucosa

The objective of this review is to assess saliva as a DNA source in forensic and other settings

LITERATURE SEARCH



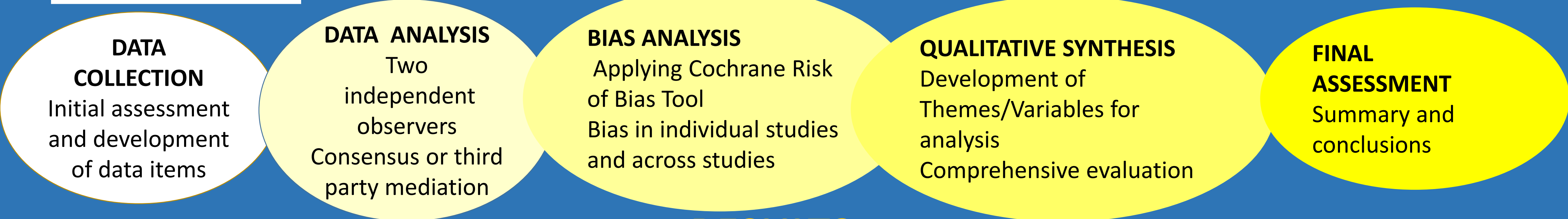
SCREENING

Screening process adapted from PRISMA flowchart (2009)

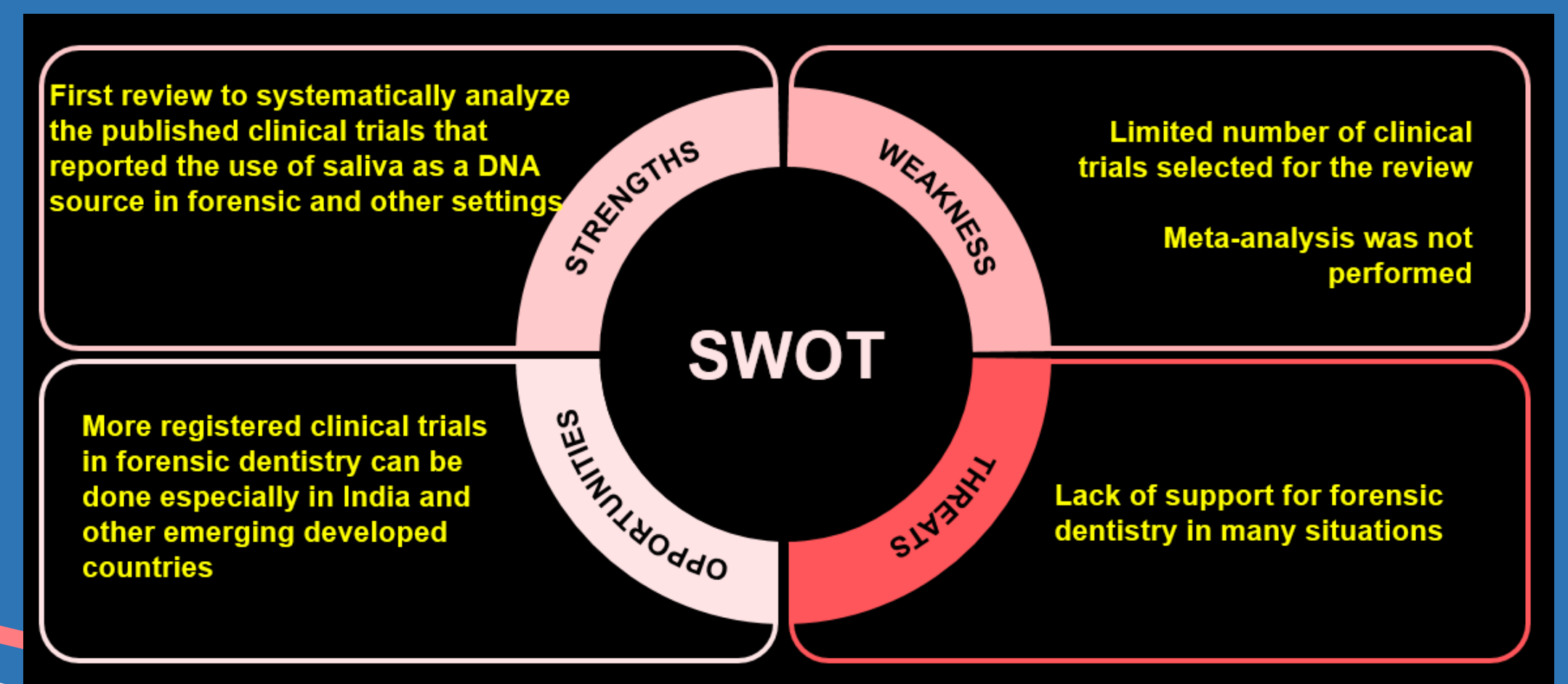
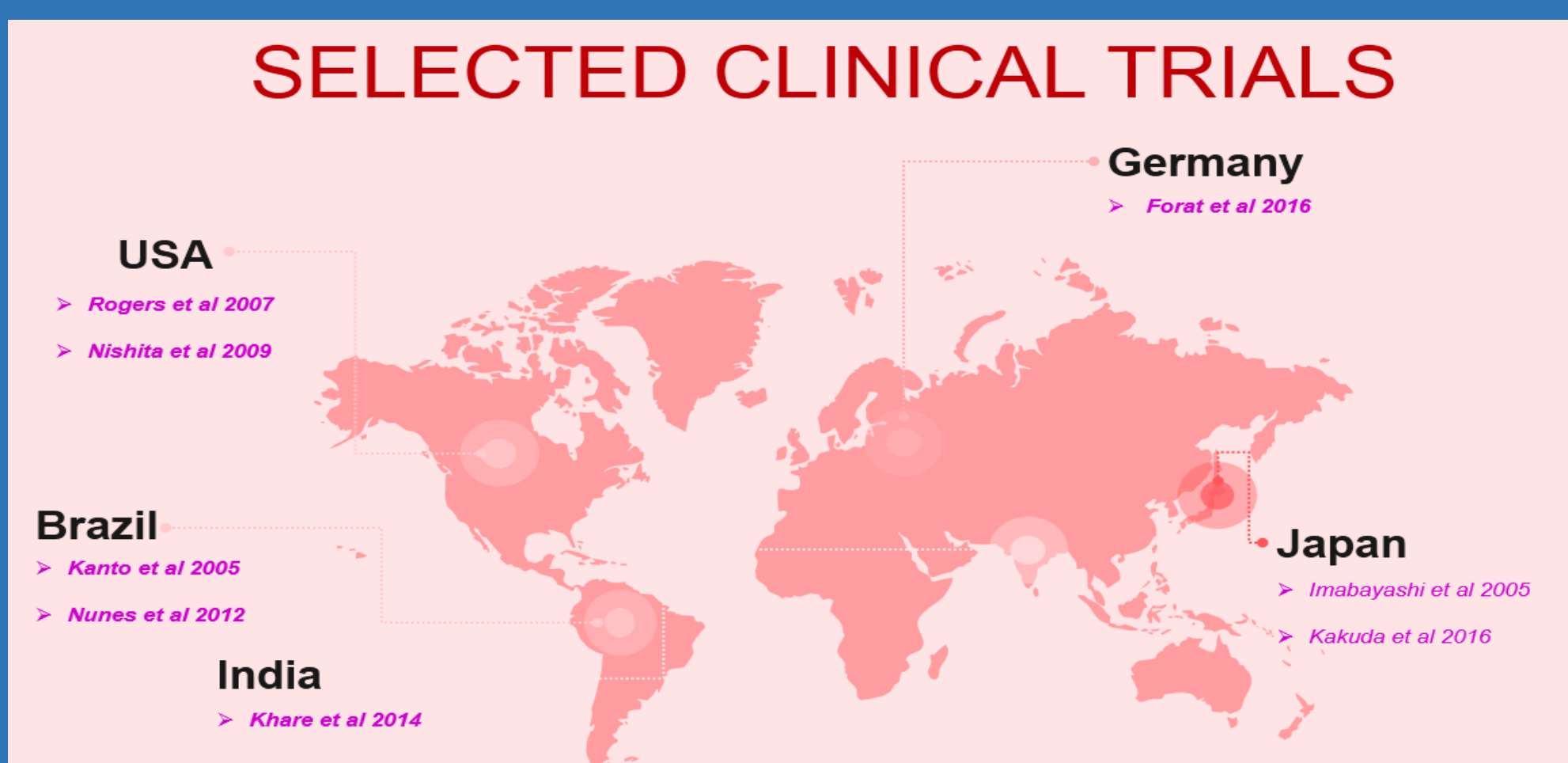
Identification - 4940
Screening - 182
Eligibility - 122
Included - 8

| INCLUSION CRITERIA | EXCLUSION CRITERIA |
|---|--|
| Clinical trials registered in Cochrane Library and Clinical Trial Registry of India | Trials deemed to be unsuitable for our analysis due to lack of adequate information and major deficits in study design, methods |
| Studies that specifically mention the genetic analysis of saliva in forensic settings | Trials that mention saliva in non-genetic analysis including proteomics, drug testing etc |
| Studies that mention the genetic analysis of saliva in settings other than forensics like academic research, quality analysis, genotyping | Trials that have included saliva in genetic analysis but have not adequately presented relevant data required in data collection |
| English language articles (including translations) | Other language articles |
| Studies in humans | Studies in animals |

WORK FLOW



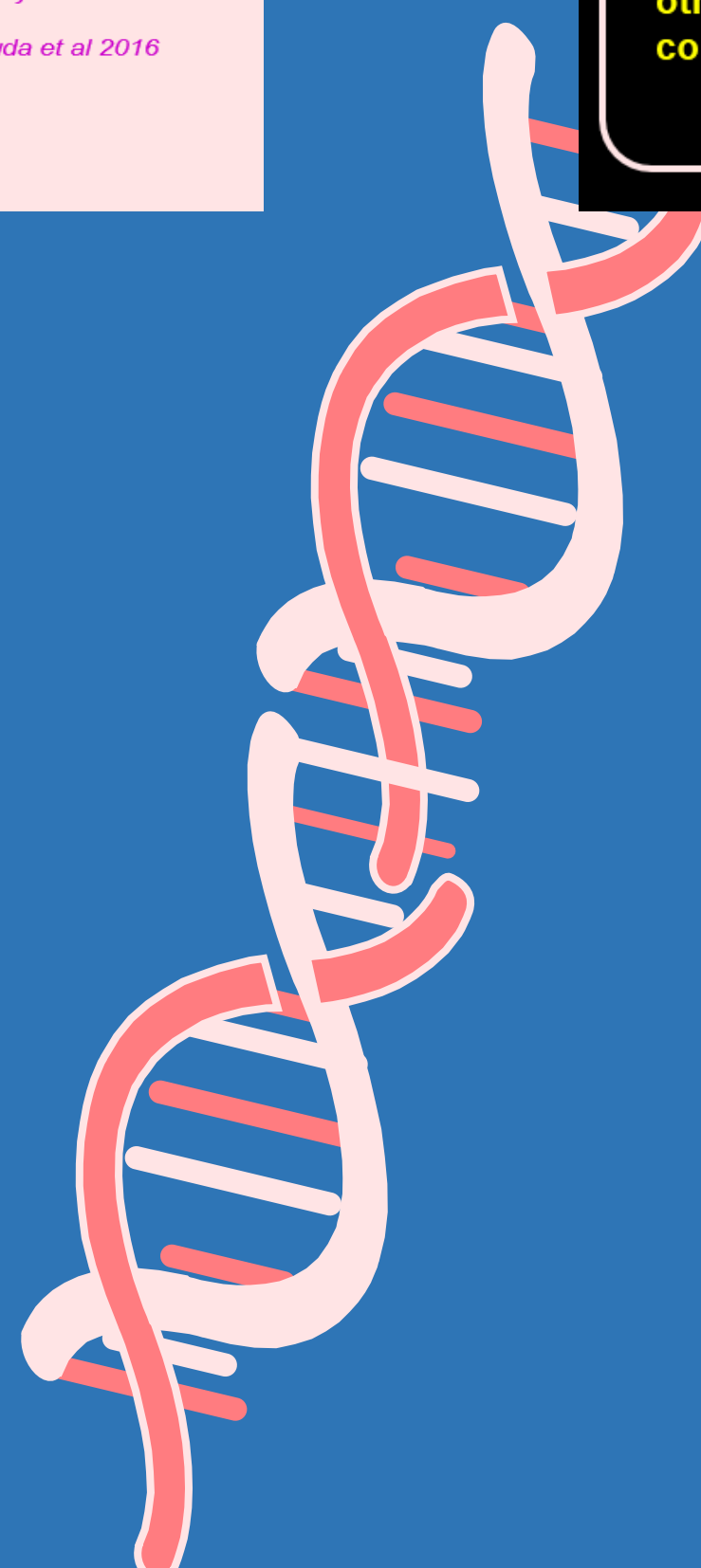
RESULTS



Saliva is one of the most common and effective sources of DNA.

However, guidelines for the use of saliva in DNA analysis are lacking.

This reflected in the wide variation in the collection, storage and analysis protocols



Sample size, age group, gender, ethnicity were extremely varied

Saliva sampling is best done by **whole saliva in a stabilization medium.**

Results of the trials indicate that temperature and time duration do not affect the DNA success

Saliva is an acceptable and reliable source of DNA, when standard guidelines of collection, stabilization, storage and analysis were followed