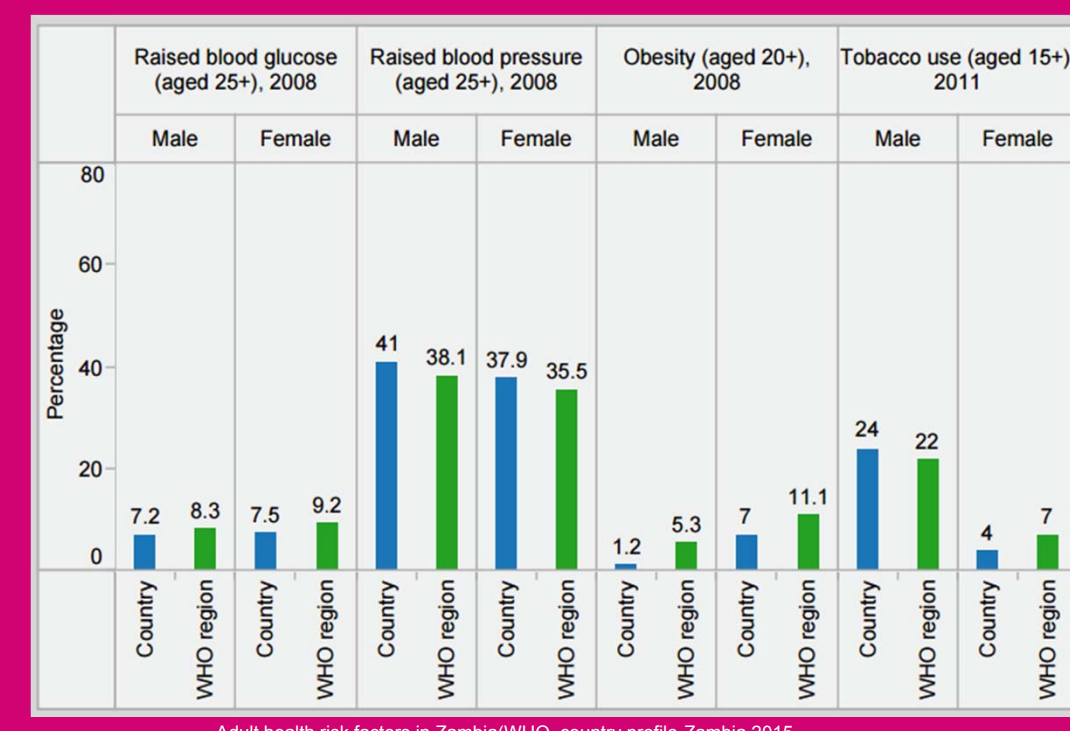
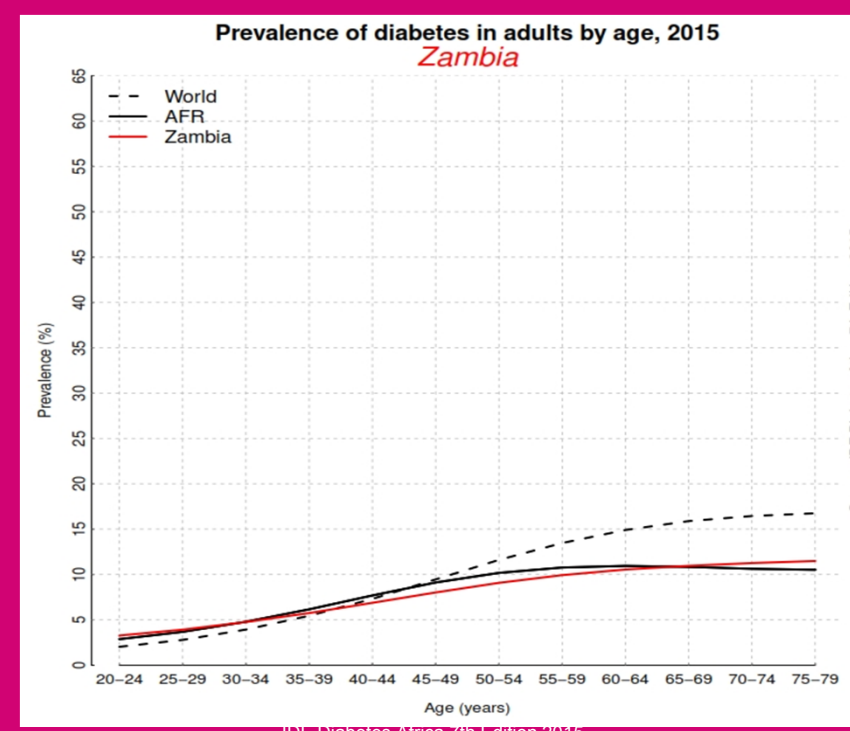
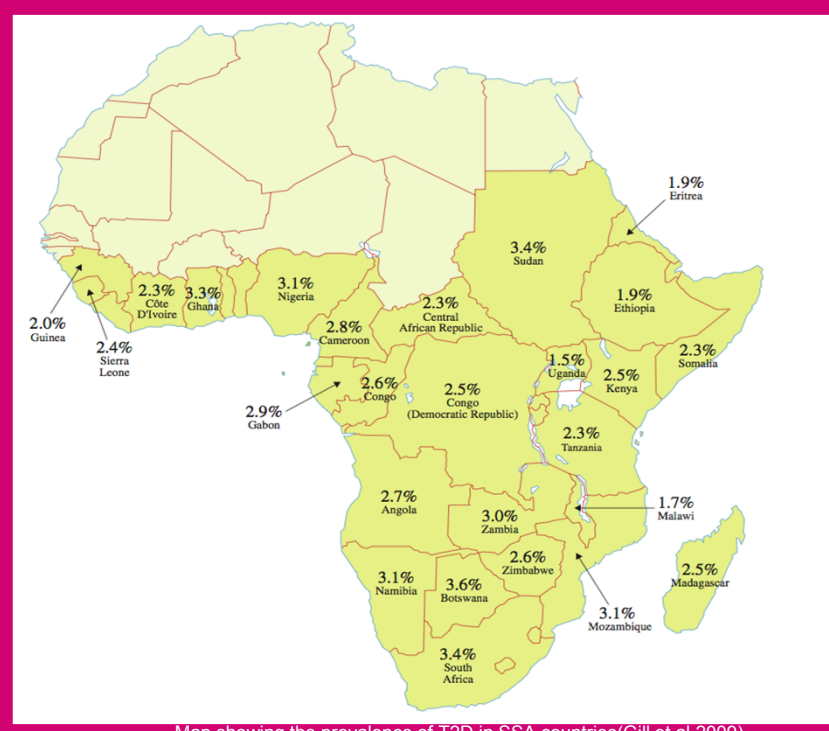
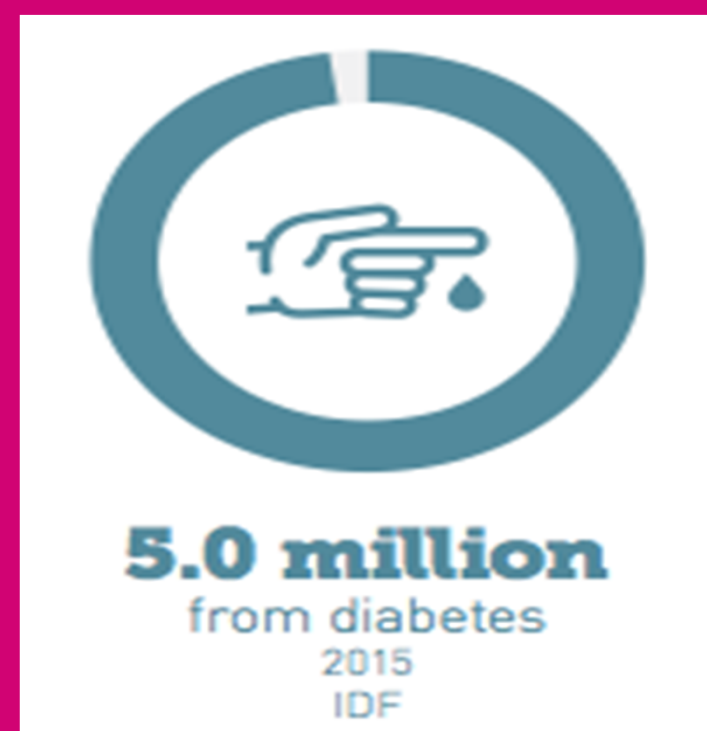


# Effectiveness of Lifestyle Interventions for Preventing or Delaying Type 2 Diabetes in the Zambian Context

Tsilazazi Itwi (Masters in Public Health)

OXFORD  
BROOKES  
UNIVERSITY

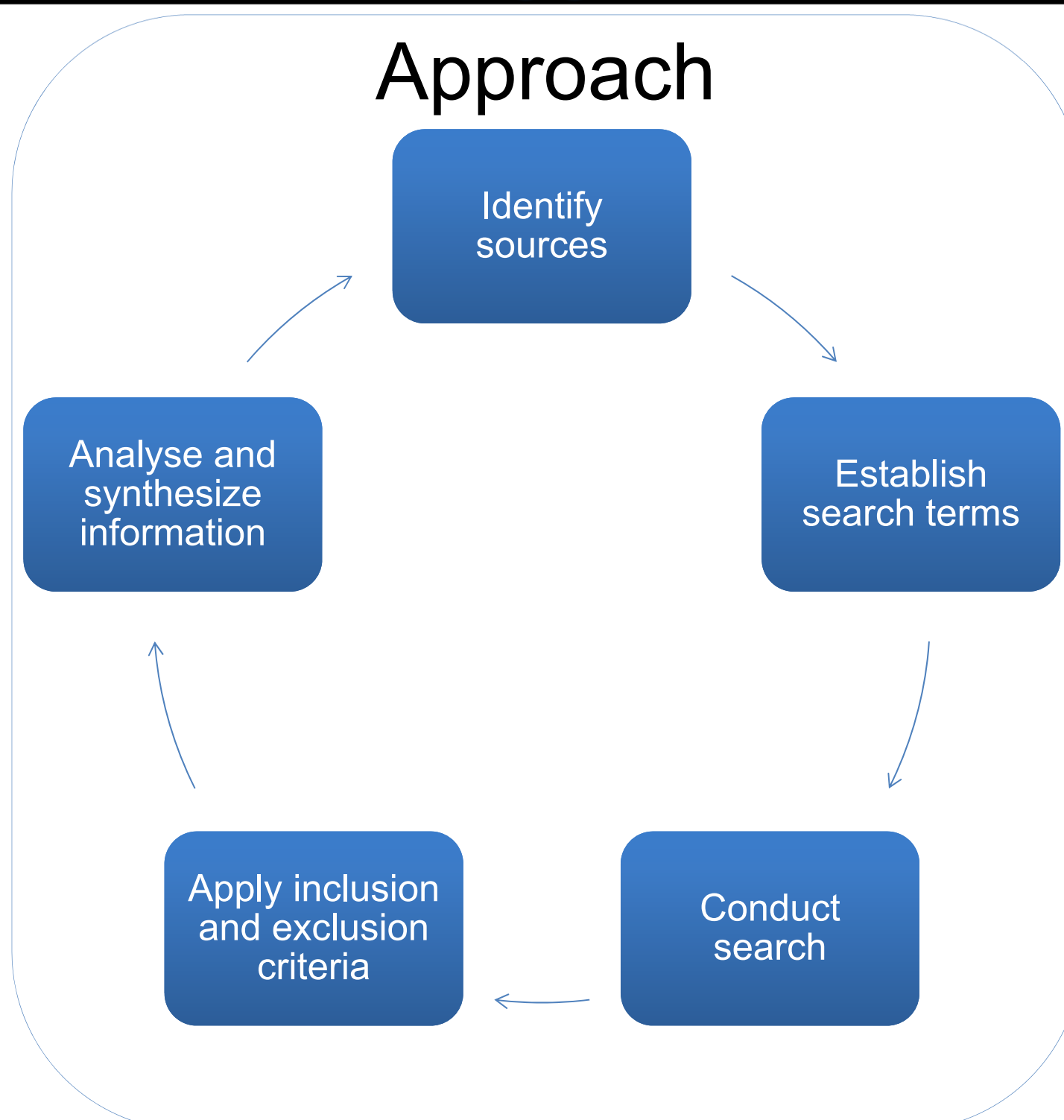


## Can lifestyle interventions for preventing or delaying type 2 diabetes in high risk adults be applied in the Zambian context?

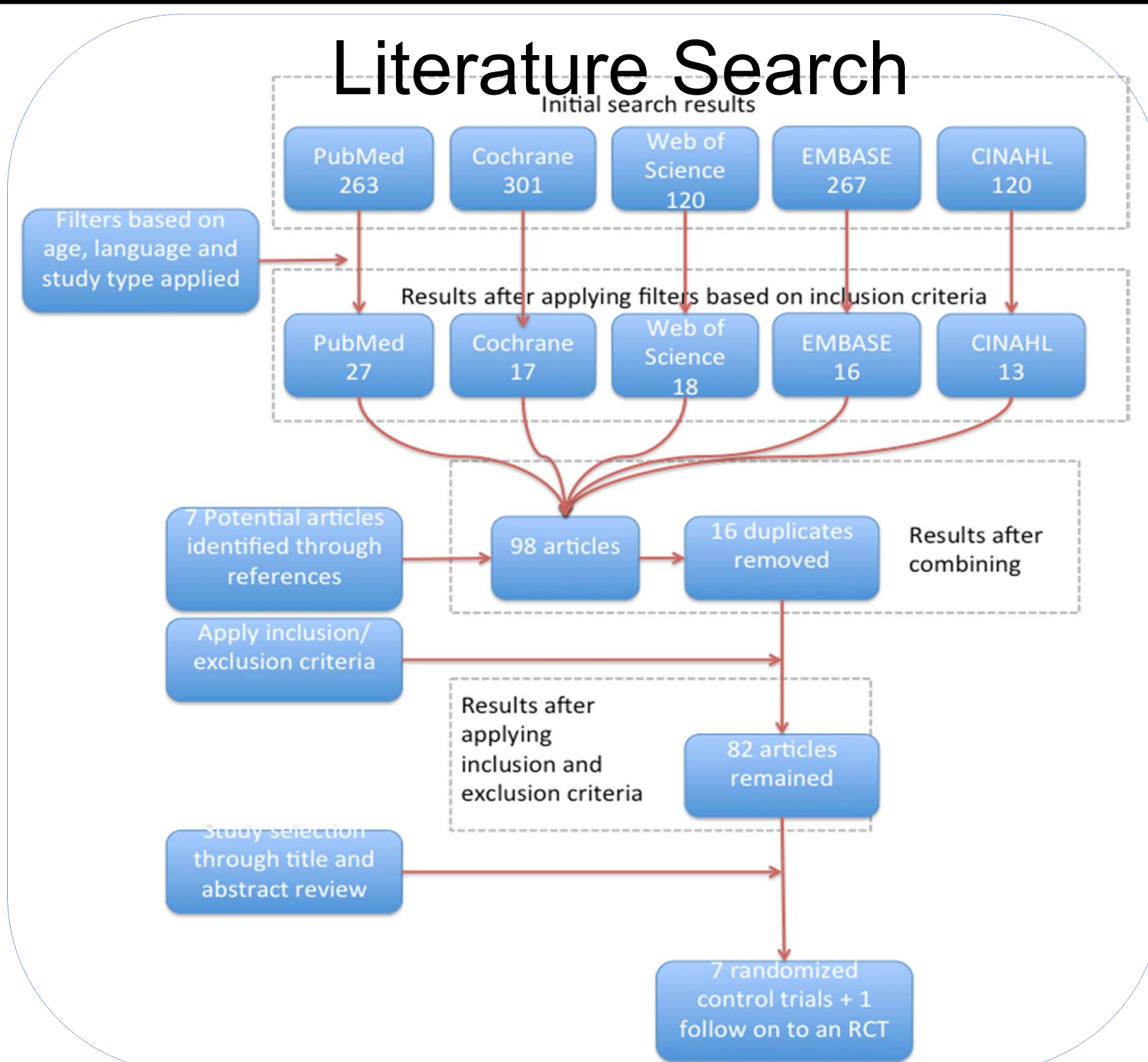
### Motivations

- Increasing levels of cardio vascular diseases and Diabetes Type 2 in Sub-Saharan Africa
- No research has been done on the prevention of Diabetes in Zambia
- Raise awareness about the dangers of Type 2 Diabetes to the general public, People at risk and to the government and policy planners

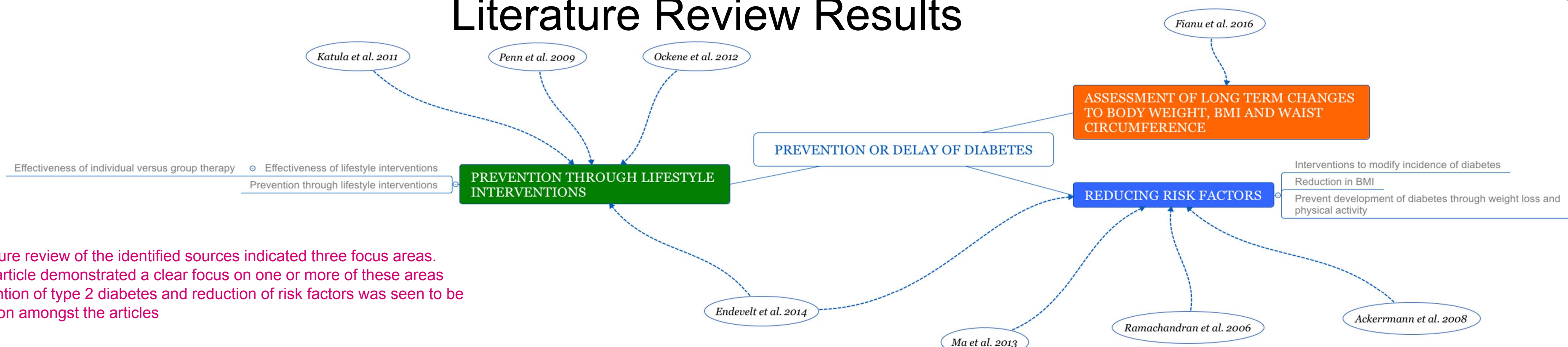
### Approach



### Literature Search

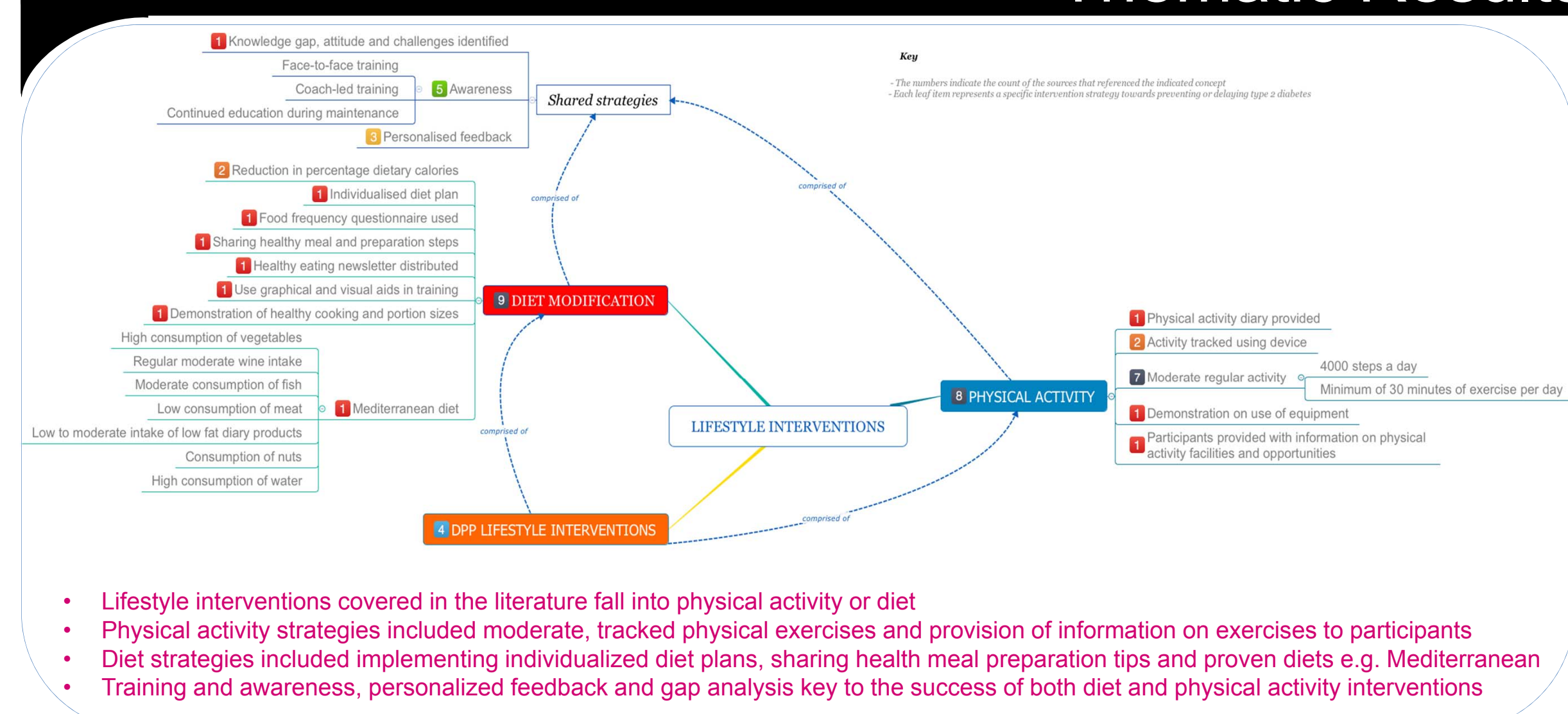


### Literature Review Results



- Literature review of the identified sources indicated three focus areas.
- Each article demonstrated a clear focus on one or more of these areas
- Prevention of type 2 diabetes and reduction of risk factors was seen to be common amongst the articles

### Thematic Results



- Lifestyle interventions covered in the literature fall into physical activity or diet
- Physical activity strategies included moderate, tracked physical exercises and provision of information on exercises to participants
- Diet strategies included implementing individualized diet plans, sharing health meal preparation tips and proven diets e.g. Mediterranean
- Training and awareness, personalized feedback and gap analysis key to the success of both diet and physical activity interventions

EFFECTIVENESS OF LIFESTYLE INTERVENTIONS IN ZAMBIA	
IDENTIFIED INTERVENTION THEMES	STRATEGIES FOR IMPROVING EFFECTIVENESS
Physical activity	1 Improve diagnosis rates through risk assessment
2 Activity tracked using device	2 Take advantage of existing community structures
3 Moderate regular activity	3 Ensure early awareness of diabetes and risks
4 Demonstration on use of equipment	4 Treat diabetes at the same time as other NCD and CD
5 Participants provided with information on physical activity facilities and opportunities	5 Encourage culture shift away from accepting unhealthy bodies
6 Reduction in percentage dietary calories	6 Maximize use of technology
7 Individualised diet plan	
8 Food frequency questionnaire used	
9 Sharing healthy meal and preparation steps	
10 Healthy eating newsletter distributed	
11 Use graphical and visual aids in training	
12 Demonstration of healthy cooking and portion sizes	
13 Mediterranean diet	
14 Knowledge gap, attitude and challenges identified	
15 Awareness	
16 Personalised feedback	

- Some intervention strategies would be less effective than others in the Zambian context
- Personalized plans or feedback would be a challenge due to limited expertise
- Early risk assessment, treatment of diabetes and maximizing community structures would improve effectiveness

### Conclusions

The prevalence of Diabetes in Zambia has not researched alarming levels compared to other countries in Sub-Saharan countries. However, the prevalence of impaired glucose tolerance is still high which increase the risk of diabetes complications as well as the risk of developing diabetes. Research analysis showed that lifestyle interventions focusing on diet modification and moderate physical activity can be applied to Zambia but need to be tailored to the culture and environment of the Zambian context to enhance effectiveness.

### Recommendations & Future Work

- Workplace-based interventions should be considered
- Maximize technology-based information disseminating proven in interventions for other diseases such as HIV/AIDS
- More research required in evaluating cost-effective of interventions

### References

- Ackermann, R. T., Finch, E. A., Brizendine, E., Zhou, H. and Marrero, D. G. (2008) 'Translating the Diabetes Prevention Program into the community: the DEPLOY pilot study', *American journal of preventive medicine*, 35(4), pp. 357-363.
- Atlas, I. D. (2015) 8th edn. International Diabetes Federation 2013.
- Endevliet, R., Peled, R., Azrad, A., Kowen, G., Vainovsky, L. and Heymann, A. (2015) 'Diabetes prevention program in a Mediterranean environment: Individual or group therapy? An effectiveness evaluation', *Primary care diabetes*, 9(2), pp. 89-95.
- Fianu, A., Bourse, L., Naty, N., Le Moulec, N., Lepage, B., Lang, T. and Favier, F. (2016) 'Long-Term Effectiveness of a Lifestyle Intervention for the Primary Prevention of Type 2 Diabetes in a Low Socio-Economic Community—An Intervention Follow-Up Study on Reunion Island', *PloS one*, 11(1).
- Gill, G., Moanya, J.-C., Ramaiya, K. and Tesfaye, S. (2009) 'A sub-Saharan African perspective of diabetes', *Diabetologia*, 52(1), pp. 8-16.
- IDF (2015) *Diabetes Atlas - 7th Edition*. Available at: <http://www.diabetesatlas.org/across-the-globe.html>.
- Katula, J. A., Vitolins, M. Z., Rosenberger, E. L., Blackwell, C. S., Morgan, T. M., Lawlor, M. S. and Goff, D. C. (2011) 'One-year results of a community-based translation of the diabetes prevention program Healthy-Living Partnerships to Prevent Diabetes (HELP PD) project', *Diabetes Care*, 34(7), pp. 1451-1457.
- Ma, J., Yank, V., Xiao, L., Levoni, P. W., Wilson, S. R., Ross, L. G. and Stafford, R. S. (2013) 'Translating the Diabetes Prevention Program lifestyle intervention for weight loss into primary care: a randomized trial', *JAMA internal medicine*, 173(2), pp. 113-121.
- Ockene, J. S., Tellez, T. L., Rosal, M. C., Reed, G. W., Mordess, J., Merriam, P. A., Olendzki, B. C., Handelman, G., Nicolosi, R. and Ma, Y. (2012) 'Outcomes of a Latino community-based intervention for the prevention of diabetes: the Lawrence Latino Diabetes Prevention Project', *American Journal of Public Health*, 102(2), pp. 336-342.
- Penn, L., White, M., Oldroyd, J., Walker, M., Alberti, K. G. M. and Mathers, J. C. (2009) 'Prevention of type 2 diabetes in adults with impaired glucose tolerance: the European Diabetes Prevention RCT in Newcastle upon Tyne, UK', *BMC Public Health*, 9(1), pp. 1.
- Ramachandran, A., Snehalatha, C., Mary, S., Mukesh, B., Bhaskar, A. D. and Vijay, V. (2006) 'The Indian Diabetes Prevention Programme shows that lifestyle modification and metformin prevent type 2 diabetes in Asian Indian subjects with impaired glucose tolerance (IDPP-1)', *Diabetologia*, 49(2), pp. 289-297. doi: 10.1007/s00125-005-0097-z
- WHO country profile: Zambia 2015. <http://www.who.int/countries/zmb/en/>, accessed June 2016