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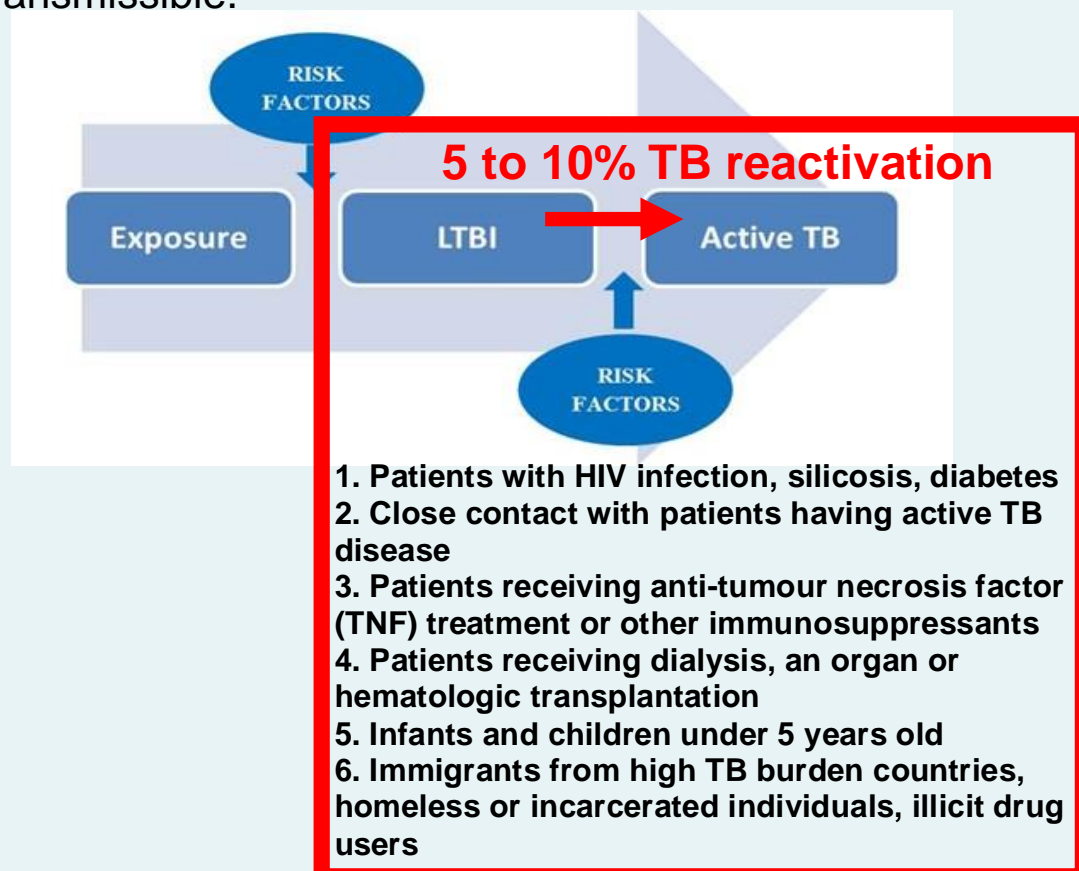
PROSPERO SUBMISSION

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Introduction

- Tuberculosis (TB) caused a total death toll of 1.5 million out of 10 million infected world population in 2018.¹
- The World Health Organization (WHO) and the United Nations (UN) advocate the commitment in latent tuberculosis infection (LTBI) care in countries with lower incidence of TB (TB incidence rate <100 per 100,000 population) to end the TB epidemic by the next decade.^{1,2}
- Screening and treating LTBI is one of the TB preventive strategies, targeting asymptomatic individuals infected by *Mycobacterium tuberculosis* that remains dormant and non-transmissible.



- Malaysia is a country with TB incidence rate of 92 and mortality rate of 6.6 per 100 000 population in 2018.³
- Through LTBI identification, preventing TB reactivation among the LTBI affected specific high-risk populations with LTBI treatment could help strengthen TB control in Malaysia. However, we have limited understanding about the practice and performance of LTBI care in the local settings.

Objective

This systematic review aims to identify literature evidence addressing the progress and challenges to LTBI care in Malaysia.

Methods

- Three electronic databases were searched: PubMed, EMBASE and Web of Science.
- Ongoing studies were searched in the National Medical Research Register (NMRR) and clinicaltrial.gov.
- Studies were included if they (1) described clinical management of LTBI according to the LTBI cascade of care, including contact tracing, LTBI screening, diagnosis and/or treatment; (2) assessed the understanding of LTBI (3) were conducted in Malaysia; (4) were available in English.
- Local TB and LTBI management guidelines were searched in the Government portals.
- The Newcastle-Ottawa Scale (NOS) was used to assess the quality of the observational studies that were published.
- Appraisal of Guidelines for Research & Evaluation II (AGREE II) instrument was used to assess the quality of guidelines.
- Data from all eligible articles were extracted using a standardised data collection form and the findings were presented and described narratively.

Results

- We identified 14 published studies, 7 ongoing studies in the NMRR registry, 1 ongoing clinical trial, 3 local guidelines describing the LTBI management.
- The methodological quality of the published studies and guidelines were moderately high.

Results (cont)

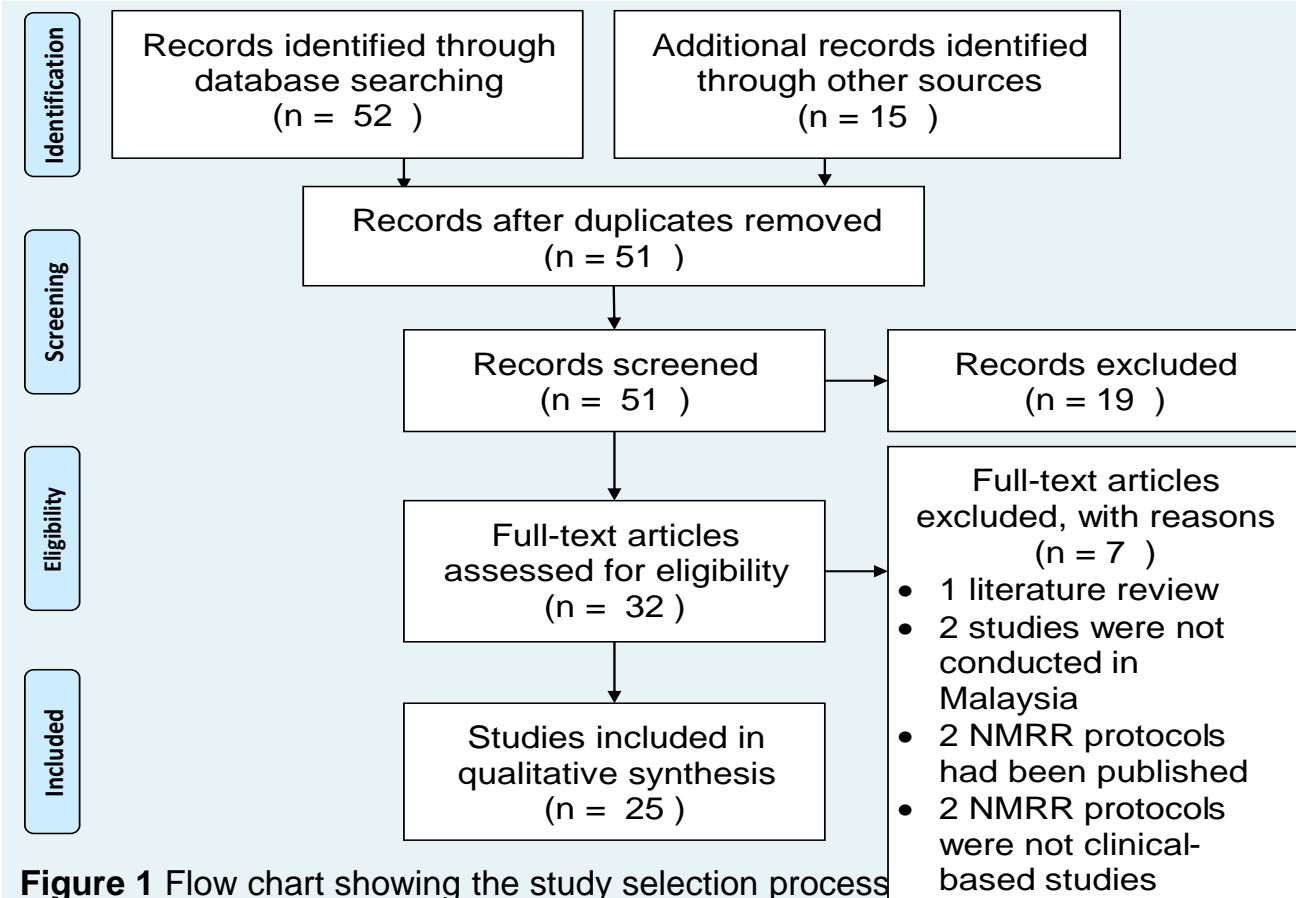


Table 1 Categorization of studies according to the study objectives

Prevalence and risk factors among:	Published studies:	NMRR (Protocol ID):
Health care workers	Munisamy 2017, Ja'afar 2016, Rafiza 2011, Tan 2002	54733, 48109, 22285
Medical student	Hassan 2019	NA
Refugee children	Wong 2020	NA
Patients with diabetes	Swarna Nantha 2017, Swarna Nantha 2012	30162
Prison settings	Al-Darraji 2015, Al-Darraji 2014, Margolis 2013	NA
Substance abuse centre	Al-Darraji 2014	NA
Studies investigated the:	Published studies:	NMRR:
Cost for contact tracing	Atif 2012	NA
Current status and challenges to LTBI management	Paton 2019	NA
Ongoing studies:	Protocol ID:	
LTBI treatment (impact, acceptance, adherence)	NCT03089983, NMRR 50974, NMRR 47866, NMRR 34830	
Understanding and awareness towards LTBI care	NMRR 54869	
Guidelines		
1. Management of Tuberculosis 3rd Edition		
2. National Strategic Plan for Tuberculosis Control (2016-2020)		
3. Guidelines on Prevention and Management of Tuberculosis for Health Care Workers in Ministry of Health Malaysia		

Discussion and conclusion

- A number of published studies had focused on the initial part of the cascade of LTBI care, involving the screening and diagnosis of LTBI among specific high-risk populations in Malaysia.
- Several ongoing studies start to investigate the downstream part of the cascade of LTBI care, focusing LTBI treatment.
- LTBI study targeting general population has not been identified.
- Improvement is needed in terms of the coordination among healthcare professionals in the multidisciplinary team, the availability of human and financial resources, the understanding and awareness of the significance to practise and accept LTBI management, and evidence-based research to contribute to health policy planning and resources allocation for LTBI care.
- LTBI management is important to help identify and tackle the reservoir of TB infection, as an effort to prevent and control TB incidence, with the aim of achieving the milestones of eliminating TB epidemic in line with the WHO END TB Strategy by 2035.

References

1. World Health Organization. The END TB Strategy. Geneva, Switzerland: WHO; 2014.
2. World Health Organization. Latent TB Infection : Updated and consolidated guidelines for programmatic management. Geneva, Switzerland: WHO; 2018.
3. World Health Organization. Tuberculosis profile: Malaysia [Internet]. 2020 [cited 14 August 2020]. Available from: https://worldhealthorg.shinyapps.io/tb_profiles/