A methodological research of non randomized controlled trials in network meta analysis

Juan Ling[1,2,3,4], Long Ge[1,2,3,4], KeHu Yang[1,2,3,4]*
1. Evidence-Based Medicine Center, School of Basic Medical Sciences, Lanzhou University, Lanzhou, China
2. Key Laboratory of Evidence Based Medicine and Knowledge Translation of Gansu Province, Lanzhou, China
3. Chinese GRADE Center, Lanzhou University, Lanzhou, 730000, China
4. WHO Collaborating Center for Guideline Implementation and Knowledge Translation, Lanzhou, 730000, China.
Corresponding author: Kehu Yang, E-mail: kehuyangebm2006@126.com

Background: The majority of network meta-analyses published to date have incorporated data from randomized controlled trials (RCTs) only, however, more and more network meta analysis of treatment interventions include non-randomized trials(NRSs). NRSs can complement RCTs or address some of their limitations, especially in case of chronic diseases and if evidence from randomized trials is insufficient or lacking. Inclusion of both RCTs and non-randomized studies in network meta-analysis will likely increase in the future due to the growing need to assess multiple treatments simultaneously, the availability of higher quality non-randomized data and more valid method. However, the methods of synthesizing results both RCTs and NRSs in network meta analysis are unclear.

Objective: The objectives of this presentation are to review the mothods to deal with results when the network meta analysis included the RCTs and NRSs at the same time and the impact of including NRSs of network meta analysis will make on the results.

Method: A comprehensive literature search in the PubMed was conducted from inception to January, 2018. We included the network meta-analysis of both RCTs and NRSs that provided sufficient data. We evaluated existing methodologies to using non-randomized evidence in a network meta-analysis of randomized controlled trials (RCTs) when the aim is to assess relative treatment effects and calculated the impact of including NRSs of network meta analysis will make on the results when the network meta analysis included the RCTs and NRSs at the same time.

Results and conclusions: This study is ongoing and results will be presented at the Evidence summit as available.

Patient or healthcare consumer involvement: None