

Table S1: The quality assessment of included preclinical studies according to a modified CAMARADES checklist items (Macleod *et al.*, 2004; Yimer *et al.*, 2019).

References	Criteria										Total (of 10)	Mean Quality scores
	I	II	III	IV	V	VI	VII	VIII	IX	X		
(Zannah <i>et al.</i> , 2014)	1	1	1	1	1	0	1	1	1	1	9	8.66 ± 0.33
(Abdel-Hamid and Firgany., 2016)	1	1	1	1	1	0	1	1	1	1	9	
(Wang and Kukreja., 2017)	1	1	1	1	1	0	1	1	0	1	8	

I: Publication in peer-reviewed journal, II: Number of experimental and control groups, III: Housing and Husbandry Conditions, IV: Details of intervention/ exposure group procedures, V: Random allocation to groups, VI: Concealment of allocation, VII: Blinded assessment of outcomes, VIII: Biochemical evaluations, IX: Histopathological evaluations, X: Statistical analysis 1: Criterion is satisfied, 0: Insufficiently described or not explained at all; the mean quality score is expressed as mean ± standard error of the mean (SEM) and (minimum and maximum score)

Table S2: Evaluation of quality of included observational and cohort studies by Newcastle-Ottawa scale (NOS) (Wells *et al.*, 2009)

Cohort studies (n = 4)	Selection (4)				Comparability (2)	Exposure			Total (0-9)
	Representativeness of the exposed cohort	Selection of the non-exposed cohort	Ascertainment of exposure	Outcome of interest not present at start of study	control for important factor or additional factor	Ascertainment of outcome	Follow-up long enough form outcome s to occur	Adequacy of follow-up of cohorts	
Chen <i>et al.</i> , 2019	*	*	*	*	**	*	-	-	7
Singh <i>et al.</i> , 2018	*	*	*	*	**	*	*	*	9
Chen <i>et al.</i> , 2017	*	*	*	*	*	*	*	*	8
Chen <i>et al.</i> , 2015	*	--	*	*	*	*	*	*	7
Observational studies (n =5)	Selection (4)				Comparability (2)	Exposure			Total (0-9)
	Adequate definition of case	Representativeness of cases	Selection of controls	Definition of controls	Control for important factor or additional factor	Ascertainment of exposure (blinding)	Some method of ascertainment for subjects	Non- response rate	
Chandra <i>et al.</i> , 2018	*	*	*	*	*	-	*	*	7
Jagnani <i>et al.</i> , 2017	*	-	-	*	**	-	*	-	5
Baidya <i>et al.</i> , 2018a	*	*	*	*	*	*	*	-	7
Ahmed <i>et al.</i> , 2018	*	*	*	*	**	*	*	*	8
Kumar <i>et al.</i> , 2018	*	-	*	*	**	-	*	-	6

Table S3: Risk of bias for the randomized control trial studies with the Cochrane Collaboration's tool (Higgins *et al.*, 2011)

References	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and researchers (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Sheikhbahaie <i>et al.</i> , 2016							
Baidya <i>et al.</i> , 2018b							
Ranjan <i>et al.</i> , 2018							
Baidya and Ahmed, 2018							
Pareek <i>et al.</i> , 2014							
Wasko <i>et al.</i> , 2015							

