



Fig. S1. The PRISMA flow diagram.

Table S1. The quality assessment of included studies.

Study	Newcastle-Ottawa scale (NOS) Domains						Total NOS Score
	Selection (Maximum 3 stars)		Comparability (Maximum 2 stars)	Outcome (Maximum 2 stars)		Statistical test	
	Representativeness	Non-respondents		Ascertainment of the exposure	Assessment of the outcome		
Ozkaya M et al., 2010	0	1	2	1	1	1	6
Tan BK et al., 2013	0	1	2	1	1	1	6
Tarkun I et al., 2010	1	1	2	1	1	1	7
Zahra M et al., 2017	1	1	2	1	1	1	7

The Newcastle-Ottawa scale (NOS) was done using three domains: selection, comparability and outcome. With the total NOS scores . 6-7, the overall quality of included studies was good.

Table S2. The GRADE Certainty of Evidence Profile.

№ of studies	Certainty assessment							№ of patients	Effect	Certainty	Importance		
	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias & Other considerations	Pre-Metformin n					Post-Metformin n	Absolute (95% CI)
4	Studies comparing pre- and post-Metformin levels of serum Visfatin	not serious	not serious	not serious	not serious	all plausible residual confounding would reduce the demonstrated effect	84	84	SMD - 0.45 SD lower (-0.76 lower to -0.14 lower)	⊕⊕⊕○ Moderate	further research could significantly impact our confidence in the effect estimate and potentially alter it.		

CI: confidence interval; SMD: standardised mean difference