**Supplementary Figure 1.** Directed acyclic graph (DAG) representation of possible confounders drawn by DAGitty software. Two models were developed based on DAG, with Hcy as the mediating variable. In model 1, minimal sufficient adjusted variables included age, BMI, AMH, type of infertility and causes of infertility to estimate the total effect of MTHFR polymorphisms on vitamin D status. In model 2, age, BMI, AMH, type of infertility, causes of infertility, hemoglobin and season of blood collection were adjusted confounders to estimate the total effect of MTHFR polymorphisms on vitamin D status. MTHFR, methylenetetrahydrofolate reductase; Hcy, homocysteine; BMI, body mass index; AMH, anti-mullerian hormone; Hb, hemoglobin.