Appendix1: Quality assessment of the included studies

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| Authors | Selection Bias | Study Design | Data Collection Method | Global Rating For each Paper  |
| Guan et al(30) | Q1:2Q2:4Moderate | 7: DCSS Weak | Q1:1Q2:1Strong | MODERATE |
| Li et al(61) | Q1:3Q2:4Weak | 5:DLS (contact tracing)Moderate | Q1:1Q2:1Strong | MODERATE |
| Ki et Task Force(31) | Q1:2Q2:4Moderate | 7 : Descriptive serial casesWeak | Q1:1Q2:2Moderate | MODERATE |
| Linton et al(32) | Q1:2Q2:4Moderate | 7: DCSSWeak | Q1:1Q2:1Strong | MODERATE |
| Backer et al(84) | Q1:3Q2:4Weak | 7 :DCSSWeak | Q1:2Q2:2Weak | WEAK |
| Chen et al(47) | Q1:3Q2:4Weak | 7: DCSSWeak | Q1:1Q2:1Strong | WEAK |
| Gao et al (72) | Q1:3Q2:4Weak | 5: DLS (cluster)Moderate | Q1:1Q2:1Strong | MODERATE |
| Huang et al(8) | Q1:3Q2:4Weak | 5: DLS (contact tracing)Moderate | Q1:1Q2:1Strong | MODERATE  |
| Pung et al(42) | Q1:2Q2:5Moderate | 5: DLS (contact tracing)Moderate | Q1:1Q2:1Strong | STRONG |
| Lauer et al(65) | Q1:2Q2:5Moderate | 7: DCSS Weak | Q1:1Q2:1Strong | MODERATE |
| Song et al(43) | Q1:2Q2:5Moderate | 5: DLS (contact tracing)Moderate | Q1:1Q2:2Moderate | STRONG |
| Tian et al(48) | Q1:2Q2:5Moderate | 7: DCSS Weak | Q1:1Q2:1Strong | MODERATE |
| Wang et al(33) | Q1:2Q2:5Moderate | 7 : (ecological study)Weak | Q1:2Q2:2Weak | WEAK |
| Wang et al(63) | Q1:2Q2:5Moderate | 7: DCSS Weak | Q1:2Q2:2Weak | WEAK |
| Xia et al(44) | Q1:2Q2:4Moderate | 5: Interrupted time series Moderate | Q1:1Q2:1Moderate | STRONG |
| Xu et al(73) | Q1:2Q2:5Moderate | 7: DCSS Weak | Q1:1Q2:2Moderate | MODERATE |
| Zhang et al(62) | Q1:1Q2:5Strong | 5: DLS (contact tracing)Moderate | Q1:1Q2:1Strong | STRONG |
| Bernard et al(45) | Q1;3Q2:3Weak | 7: Descriptive Serial cases Weak | Q1:1Q2:2Moderate | MODERATE |
| Bi et al(26) | Q1;2Q2:3Moderate | 5: DLS (contact tracing)Moderate | Q1:1Q2:2Moderate | STRONG |
| Yu et al(34) | Q1;2Q2:3Moderate | 7: DCSS Weak | Q1:1Q2:2Moderate | MODERATE |
| Zheng et al(49) | Q1:2Q2:5Moderate | 7 : DCSSWeak | Q1:2Q2:2Weak | WEAK |
| Zhao et al(50) | Q1:2Q2:5Moderate | 7 : DCSSWeak | Q1:2Q2:2Weak | WEAK |
| Zhang et al(74) | Q1:2Q2:5Moderate | 7 : DCSSWeak | Q1:2Q2:2Weak | WEAK |
| Yang et al(85) | Q1;2Q2:3Moderate | 5: DLS (contact tracing)Moderate | Q1:1Q2:2Moderate | STRONG |
| Xiao et al(75) | Q1;2Q2:3Moderate | 7: DCSS Weak | Q1:1Q2:2Moderate | MODERATE |
| Wong et al(76) | Q1;2Q2:3Moderate | 5: DLS (contact tracing)Moderate | Q1:1Q2:2Moderate | STRONG |
| Wang et al(51) | Q1;2Q2:3Moderate | 7: DCSS Weak | Q1:1Q2:2Moderate | MODERATE |
| Viego et al(86) | Q1:2Q2:4Moderate | 7: DCSS Weak | Q1:1Q2:1Strong | MODERATE |
| Tindale et al(87) | Q1:3Q2:4Weak | 7: DCSS Weak | Q1:2Q2:2Weak | WEAK |
| Tan et al(52) | Q1;2Q2:3Moderate | 7: DCSS Weak | Q1:1Q2:2Moderate | MODERATE |
| Ryu et al(88) | Q1:2Q2:4Moderate | 5: Interrupted time series Moderate | Q1:1Q2:1Moderate | STRONG |
| Qin et al(69) | Q1:3Q2:4Weak | 7 :DCSSWeak | Q1:2Q2:2Weak | WEAK |
| Nie et al(77) | Q1:3Q2:4Weak | 7 :DCSSWeak | Q1:2Q2:2Weak | WEAK |
| Lou et al(78) | Q1:2Q2:4Moderate | 7: DCSS Weak | Q1:1Q2:1Strong | MODERATE |
| Liu et al(79) | Q1:3Q2:4Weak | 7 :DCSSWeak | Q1:2Q2:2Weak | WEAK |
| Li et al(80) | Q1:3Q2:4Weak | 7: DCSS Weak | Q1:1Q2:2Moderate | MODERATE |
| Lee et al(89) | Q1:2Q2:4Moderate | 7 :DCSSWeak | Q1:2Q2:2Weak | WEAK |
| Chun et al(9) | Q1;2Q2:3Moderate | 5: DLS (contact tracing)Moderate | Q1:1Q2:2Moderate | STRONG |
| Alsofayan(81) | Q1;2Q2:3Moderate | 7: DCSS Weak | Q1:1Q2:2Moderate | MODERATE |
| Bohmer et al(82) | Q1;2Q2:3Moderate | 7: Serial cases Weak | Q1:1Q2:2Moderate | MODERATE |
| You et al(83) | Q1:3Q2:4Weak | 7 :DCSSWeak | Q1:2Q2:2Weak | WEAK |
| Weiland(90) | Q1:3Q2:4Weak | 7 :DCSSWeak | Q1:2Q2:2Weak | WEAK |

DCSS: Descriptive Cross Sectional Study/ DLS: Descriptive longitudinal study