**Table S3: Quality appraisal result of included studies by** Joanna Briggs Institute (JBI) checklist

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| --- | --- | --- | --- | --- |
| **Author**  | **Quality assessment questions** |  |  |  |
| Two group employments at beginning  | Exposure status ascertainment  | Random selection of employment  | Non response biases management  | Data collection  | Cases definition given  | Strategies for in-complete follows- up management  | Follow up time adequate  | Confounding controlling  | Outcome ascertainment at end of follow up  | Was statically analysis correctly  | Quality score  | Quality status | Overall appraisal  |
| Tadesse Sime et.al (1) | Y | Y | Y | UC | Y | Y | Y | Y | Y | Y | N | **3** | Low risk | Included |
| Debede Shewano et.al (2) | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| [Assefa Tola](https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-7980-x#auth-Assefa-Tola-Aff1) et.al (3) | Y | Y | Y | Y | UN | Y | Y | UN | Y | Y | Y | **2** | Low risk | Moderate  |
| Asseffa Belayneh et.al(4) | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| [Jifare Gemechu](https://pubmed.ncbi.nlm.nih.gov/?term=Gemechu+J&cauthor_id=34983618)(5) | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| **Haile Abrha et.al (6)** | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | **3** | Low risk | Included |
| **M. Esayas et.al (7)**  | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| **Refera et.al (8)** | Y | Y | Y | UN | UN | Y | Y | Y | Y | UN | Y | **2** | Low risk | Moderate |
|  **Birhan et.al (9)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| **Eshete D. et.al (10)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| **Weldegebreal et.al(11)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| **Sileshi et.al (12)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| **Emaby Gezae (13)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | UN | Y | **3** | Low risk | Included  |
| **Ahmed et.al (14)** | UN | Y | Y | Y | UN | Y | Y | Y | Y | UN | Y | **2** | Low risk | Moderate |
| **A.Teshome et.al (15)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| **Dawit Z et. al(16)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| **Alula et.al (17)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| **Chanie ES, et.al(18)** | UN | Y | Y | Y | UN | Y | Y | Y | Y | UN | Y | **2** | Low risk | Moderate  |
| **Wondimu et.al (19)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included  |
| **Nigussie J. et.al(20)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| **Seyoum et.al (21)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |
| **Attale k. et.al (22)** | Y | Y | Y | Y | UN | Y | Y | Y | Y | Y | Y | **3** | Low risk | Included |

Key: Y=yes, N=no, UC=unclear, Q=Question

Grading of risk ofbiases for included articles was scored as follow

When score of articles is from 8 up to 11= will had (>75%) score, good quality , low risk of bias and included

When score of articles from 5 up to 7 = will had (50 to 75%) ,moderate quality ,low risk &artciles will be included

When score of artciles is from 3 upt o 5 = will had 25%to 50 %), high risk of biases and artciles will be not included

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