Additional file 1 Quality assessment

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| Author, year  | Quality domain | Overall Score  |
|  | **Selection** **(Max score=5)** | **Comparability****(Max=2)** | **Outcome** **(Max=3)** |  |
|  | 1) Representativeness of the sample:a) Truly representative of the average in the target population\* (all subjects or random sampling)b) Somewhat representative of the average in the target population\* (non-random sampling)c) Selected group of users.d) No description of the sampling  | 2) Sample size: a) Justified & satisfactory\* b) Not justified. | 3) Non-respondents: a) Comparability between respondents and non-respondents characteristics is established, and the response rate is satisfactory\*b) The response rate is unsatisfactory, or the comparability between respondents and non-respondents is unsatisfactory. c) No description of the response rate or the characteristics of the responders and the non-responders. | 4) Ascertainment of the exposure (risk factor/barrier):a) Validated measurement tool. \*\*b) Non-validated measurement tool, but the tool is available or described.\* c) No description of the measurement tool. | 1) The subjects in different outcome groups are comparable, based on the study design or analysis. Confounding factors are controlled.a) The study controls for the most important factor (select one)\*/barriersb) The study control for any additional factor\*c) no control | 1) Assessment of outcomea) Independent blind assessment \*\* b) Record linkage\*\*c) Self report \*d) No description. | 2) Statistical test:a) is clearly described, appropriate, & measurement of association is presented, including confidence intervals & probability level (p value)\*b) is not appropriate |  |
| WHO, 2005  |  b (+1) | a(+1) | a (+1) | b(+1)  | a (+1) | c (+1) | a(+1) | 7 |
| Gossaye,2003  |  b (+1) | a(+1) | a (+1) | b(+1)  | a (+1) | c (+1) | a(+1) | 7 |
| Shanko,2013  |  b (+1) | a(+1) | a (+1) | b(+1)  | a (+1) | c (+1) | a(+1) | 7 |
| H/mariam,2008  |  b (+1) | b(+0) | b (+0) | b(+1)  | a (+1) | c (+1) | a(+1) | 5 |
| Misganaw,2013  |  b (+1) | b(+0) | a (+1) | b(+1)  | a (+1) | c (+1) | a(+1) | 6 |
| Bekele,2015  |  b (+1) | a(+1)  | a (+1) | b(+1)  | a (+1) | c (+1) | a(+1) | 7 |
| Sendo,2015  |  b (+1) | b(+0) | a (+1) | b(+1)  | a (+1) | c (+1) | a(+1) | 6 |
| Mihrka,2016  |  b (+1) | b(+0) | a (+1) | b(+1)  | c(+0) | c (+1) | a(+1) | 5 |
| Takele,2014  |  b (+1) | b(+0) | a (+1) | b(+1)  | a (+1) | c (+1) | a(+1) | 6 |
| Nimani,2015  |  b (+1) | a(+1) | a (+1) | c(+0)  | c (+0)  | c (+1) | a(+1) | 4 |
| Bekele,2014  |  b (+1) | a(+1) | a (+1) | b(+1)  | a (+1) | c (+1) | a(+1) | 7 |
| Worku,2002  |  b (+1) | b(+0) | a (+1) | b(+1)  | a (+1) | c (+1) | a(+1) | 6 |
| Adinew,2017 |  b (+1) | b(+0) | a (+1) | b(+1)  | c (+0) | c (+1) | a(+1) | 5 |
| Assefa,2010  |  b (+1) | a(+1) | a (+1) | b(+1)  | a (+1) | c (+1) | a(+1) | 7 |
| Abdurashid,2013  |  b (+1) | b(+0) | a (+1) | b(+1)  | a (+1) | c (+1) | a(+1) | 6 |
| Tadesse,2004  |  b (+1) | a(+1) | a (+1) | b(+1)  | c (+0) | c (+1) | a(+1) | 6 |
| Shimekaw, 2013 |  b (+1) | a(+1) | a (+1) | b(+1)  | c (+0) | c (+1) | a(+1) | 6 |
| Benti,2015  |  b (+1) | a(+1) | a (+1) | c(+0)  | c (+0) | c (+1) | a(+1) | 5 |
| Yigzaw,2005  |  b (+1) | a(+1) | b(+0) | c(+0)  | c(+0) | c (+1) | a(+1) | 4 |
| Semahegn,2013  |  b (+1) | a(+1) | a (+1) | c(+0)  | c (+0) | c (+1) | a(+1) | 5 |
| EDHS, 2016 |  b (+1) | a(+1) | a (+1) | b(+1)  | a (+2) | c (+1) | a(+1) | 8 |

**Note:** a, b, c and d: indicated to which values are allotted.