

## Supplementary Material 3: Quality of assessment of primary studies using Newcastle-Ottawa scale [17-18].

Study	Selection (/5)	Comparability (/2)	Outcome (/3)	Overall Score (/10)	Comments
Ahmed and Emad 1998	1	2	1	4	<ul style="list-style-type: none"> <li>- Non-random sample</li> <li>- No justification of sample size</li> <li>- 100% response rate</li> <li>- Questionnaire described in insufficient detail no definition of khat use</li> <li>- No significant differences in baseline characteristics between khat users and non-users</li> <li>- Uses self-report</li> <li>- No details of statistical analysis and no confidence intervals provided</li> </ul>
Belew et al. 2000	3	2	2	7	<ul style="list-style-type: none"> <li>- Insufficient details of non-responders; no baseline characteristics provided</li> <li>- Questionnaire described in limited detail but methods do define current, past and never khat use</li> </ul>
Numan 2003	3	1	1	5	<ul style="list-style-type: none"> <li>- Sample size not justified</li> <li>- Eight non-respondents excluded because of incomplete data</li> <li>- Non-validated but described method of khat usage data collection</li> <li>- Only controlled variable seems to be Yemeni nationality</li> <li>- No confidence intervals included</li> </ul>
Odenwald et al. 2005	3	2	2	7	<ul style="list-style-type: none"> <li>- Sample size not justified</li> <li>- No details of non-responders</li> <li>- Non-validated but described method of khat usage data</li> </ul>

					collection - Uses clinical interviews - No confidence intervals included
Deyessa et al. 2008	3	2	3	8	- Providers reasons for non-responders but not characteristics - Non-validated but described method of khat usage data collection - Clinical interview
Odenwald et al. 2009	2	2	2	6	- Sample size not justified - No details of non-responders - Non-validated but described method of khat usage data collection - Uses self-report
Damena et al. 2011	4	1	1	6	- Providers reasons for non-responders but not characteristics - Uses WHO-validated khat use measurement tool despite definition of 'khat user' being unclear within the study - Only controlled variable seems to be region (Jimma City) - Uses self-report - No confidence intervals included
Tulloch et al. 2012	4	2	2	8	- Entire eligible sample used - Missing information discussed - Non-validated but described method of khat usage data collection - No confidence intervals included
Dessie et al. 2013	3	2	2	7	- No details of non-responders - Non-validated but described method of khat usage data collection

					- Uses self report
Fekadu 2014	2	2	2	6	- No details of non-responders - Khat usage data collection described insufficiently: 'daily' or 'never' - Uses self-report
Widmann et al. 2014	2	2	3	7	- Opportunity sample - Sample size not justified - No details of non-responders - Clinical interview
Dachew et al. 2015	2	2	2	6	- Justification of sample size unsatisfactory - No details of non-responders - Non-validated but described method of khat usage data collection - Uses self-report
Soboka et al. 2015	3	2	2	7	- All eligible participants invited to participate - Limited description of non-responders (gender only) - Non-validated but described method of khat usage data collection - Uses self-report
Zenebe et al. 2015	3	2	3	8	- No details of non-responders - Non-validated but described method of khat usage data collection - Medical records used
El-Setouhy et al. 2016	4	2	2	8	- Volunteer sample; no non-responders - Uses self-report
Hersi et al. 2017	3	2	2	7	- No details of non-responders - Non-validated but described method of khat usage data

					collection - Uses self-report
Hunduma et al. 2017	3	2	2	7	- No details of non-responders - Non-validated but described method of khat usage data collection - Uses self-report
Kerebih et al. 2017	3	2	2	7	- No details of non-responders - Non-validated but described method of khat usage data collection - Uses self-report
Mossie et al. 2016	3	2	2	7	- No details of non-responders - Non-validated but described method of khat usage data collection - Uses self-report
Soboka et al. 2017	2	2	2	6	- Invited all eligible participants - Does not discuss whether sample size is large enough for conclusions to be drawn - No details of non-responders - Non-validated but described method of khat usage data collection - Unclear if all variables are self-reported
Tariku et al. 2017	3	2	2	7	- No details of non-responders - Non-validated but described method of khat usage data collection - Uses self report
Wondemagegn et al. 2017	3	1	3	7	- No details of non-responders - Non-validated but described method of khat usage data collection

					- Only one community studied but no other controlled variables
Yeshaw and Mossie 2017	2	2	2	6	- Sample size not justified - No details of non-responders - Non-validated but described method of khat usage data collection - Uses self-report
Bedaso et al. 2018	3	2	2	8	- 100% response rate - Limited description of khat usage data collection - Uses self-report
Adraro et al. 2019	3	2	2	7	- No details of non-responders - Non-validated but described method of khat usage data collection - Uses self-report
Ongeri et al. 2019	2	2	2	6	- No details of non-responders - No description of what quantifies a 'current khat user' - Uses self-report
Atnafie et al. 2020	3	2	2	7	- No details of non-responders - Non-validated but described method of khat usage data collection - Uses self-report
Hajure et al. 2020	3	2	2	7	- No details of non-responders - Non-validated but described method of khat usage data collection - Uses self-report
Hambisa et al. 2020	3	2	2	7	- No details of non-responders

					<ul style="list-style-type: none"> <li>- Non-validated but described method of khat usage data collection</li> <li>- Uses self-report</li> </ul>
Kelemu et al. 2020	3	2	2	7	<ul style="list-style-type: none"> <li>- No details of non-responders</li> <li>- Non-validated but described method of khat usage data collection</li> <li>- Uses self-report</li> </ul>
Mekuriaw et al. 2020	3	2	2	7	<ul style="list-style-type: none"> <li>- No details of non-responders</li> <li>- Non-validated but described method of khat usage data collection</li> <li>- Uses self-report</li> </ul>
Yitayih et al. 2020	4	2	2	8	<ul style="list-style-type: none"> <li>- Provides reasons for non-responders but not characteristics</li> <li>- Uses DAST-10 for khat abuse</li> <li>-Uses self-report</li> </ul>
Haile and Sahile 2021	3	2	2	7	<ul style="list-style-type: none"> <li>- 100% response rate</li> <li>- No description of what quantifies a 'current khat user'</li> <li>- Uses self-report</li> </ul>
Hambisa et al. 2021	2	2	2	6	<ul style="list-style-type: none"> <li>- Providers reasons for non-responders but not characteristics</li> <li>- No description of what quantifies a 'current khat user'</li> <li>- Uses self-report</li> </ul>
Melaku et al. 2021	3	2	2	7	<ul style="list-style-type: none"> <li>- No details of non-responders</li> <li>- Non-validated but described method of khat usage data collection</li> <li>- Uses self-report</li> </ul>