|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Abdelhafiz (2020)43 | Ali (2020)44 | Alley (2021)45 | Atwell (2021)46 | Bell (2020)47 | Biasio (2020)48 | Detoc (2020)49 | Fisher (2020)50 | Garcia (2020)51 | Harapan (2020)52 | Lin (2020)53 | Mercadante (2020)54 | Mouchtouri (2020)55 | Murphy(2021)56 | Prati (2020)57 | Reiter (2020)58 | Romer (2020)59 | Sallam (2021)60 | Sherman (2020)61 | Ward (2020)62 | Williams(2020)63 | Wong (2020)64 | Zeballos(2021)65 |
| Clear Aims and Objectives? | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Appropriate Study Design for the Aims? | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Justified Sample Size? | ✓ | X | X | X | X | X | X | X | X | X | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ | X | ✓ | X | X | X | X |
| Target population clearly defined? | ✓ | X | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Appropriate sample frame for representative sample? | X | X | ✓ | ✓ | X | X | X | ✓ | ✓ | ? | X | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | ✓ | ✓ | X | X | X |
| Selection Process to select representative subjects? | X | X | X | X | ✓ | X | X | ✓ | ✓ | X | X | ✓ | ✓ | ✓ | ✓ | X | ✓ | X | ✓ | ✓ | X | X | ? |
| Addressed and categorised non-responders? | X | ✓ | X | ✓ | X | X | X | ✓ | X | X | ✓ | X | ✓ | X | ✓ | X | ✓ | X | X | X | X | X | ? |
| Appropriate outcomes for the aims? | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Trialled/ piloted/ published survey instruments? | ✓ | ✓ | X | X | ✓ | ✓ | X | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | ✓ | ✓ |
| Pre-determined statistical significance level? | ✓ | X | X | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ |
| Repeatable methods? | ✓ | X | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ | ✓ | ✓ | X |
| Basic data described? | ✓ | ✓ | ✓ | X | ✓ | X | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Response rate raise concerns over Non-response bias? | ? | ✓ | ✓ | ✓ | X | ? | ✓ | X | X | ? | ✓ | X | ✓ | ? | X | X | ✓ | ✓ | ? | ? | ✓ | ✓ | ✓ |
| Non-responders described? | ? | ✓ | ✓ | ✓ | X | X | X | X | X | X | ✓ | X | ✓ | X | ✓ | X | ✓ | X | X | X | ✓ | X | X |
| Results internally consistent? | ✓ | ✓ | X | ✓ | ✓ | X | ✓ | X | X | X | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | ✓ | ✓ | ✓ | X | ✓ | ✓ |
| All analyses presented were described in methods? | ✓ | X | ✓ | ✓ | X | X | ✓ | ✓ | ✓ | ✓ | ✓ | ? | ✓ | ✓ | ✓ | ✓ | ? | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Discussions and conclusions justified by results? | X | ✓ | ✓ | X | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ | X |
| Limitations discussed? | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ | X | X | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ |
| Funding sources or conflicts of interest? | X | X | X | X | ✓ | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Ethical approval or consent attained? | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ? | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

**Additional File 3: AXIS Summary Table41.**

**AXIS Summary Table.** *Summary table of results of the appraisal of cross-sectional studies (AXIS) for each study.*✓*=Yes, X=No, ?= Unsure*