STROBE Statement—checklist of items that should be included in reports of observational studies

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|  | **Item** | **No Recommendation** | **Page No.** | **Relevant text from manuscript** |
| **Title and abstract**  | 1 | (*a*) Indicate the study’s design with a commonly used term in the title or the abstract  | 2  | Lines (29); This cross-sectional study recruited 444 febrile patients visiting two health institutes from Awra and Gulina district |
| (*b*) Provide in the abstract an informative and balanced summary of what was done and what was found | 2 | Lines (24-45); Abstract |
| **Introduction** |  |  |
| Background/rationale | 2 | Explain the scientific background and rationale for the investigation being reported | 3 and 4 | Introduction (Lines 50-84) |
| Objectives  | 3 | State specific objectives, including any prespecified hypotheses | 4 | Lines (84-89); human brucellosis has been rarely surveyed either as misdiagnosed or abandoned at all due to similarity of signs and symptoms presumably with malaria or unfamiliarity of health care workers. This study was designed to determine sero-prevalence and risk factors of human brucellosis among febrile patients visiting health institutes in Awra and Gulina District, Ethiopia  |
| Methods  |  |  |
| Study design  | 4 | Present key elements of study design early in the paper | 5 | Lines (98-100); This was a cross sectional study conducted from February to May 2019 |
| Setting  | 5 | Describe the setting, locations, and relevant dates, including periods of recruitment, exposure,follow-up, and data collection | 4 and 5 | Lines (90-120); Methods |
| Participants  | 6 | (*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up*Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls*Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants | 5 | Lines (105-108); Study participants: 444 patients older than two years who had fever and measured axial body temperature ≥ 37.5°C were recruited to the study |
| (*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed andunexposed*Case-control study*—For matched studies, give matching criteria and the number of controls percase | N/A | This was a cross-sectional study |
| variables | 7 | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable | 5 | Lines (97-104); The sample size was calculated using a standard formula to determine prevalence and risk factors for brucellosisLines (105-120); The association between brucellosis and drinking raw milk and touching aborted fetus/discharges without protective was independent of several potentially confounding variables including, socio-demographic factors  |
| Data sources/measurement | 8 | For each variable of interest, give sources of data and details of methods of assessment(Measurement). Describe comparability of assessment methods if there is more than one group | 6 | Lines (121-143); Sample Processing; Giemsa stained blood films were prepared for malaria; All sera were screened using Rose Bengal Plate Test (RBPT) and positive reactors were further subjected to ELISA for brucellosis. |
| Bias  | 9 | Describe any efforts to address potential sources of bias | 7 | Lines (144-152); The presence of confounding was determined by comparing the Ors obtained from logistic regression models. Multivariate logistic regression analyses were performed to assess the relationship between brucellosis infection and the risk factors  |
| Study size | 10  | Explain how the study size was arrived at | 5 | Lines (97-104); The sample size was calculated using a standard formula (Hayes and Bennett, 1999) |
| Quantitative variables | 11 | Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why | 7 | Lines (144-152); Pearson χ2 tests were performed to compare dichotomous or categorical factors, with odds ratios (ORs) used as measures of association. Frequency distribution of the dependent categorical variables was compared by the Chi-square test. |
| Statistical methods | 12 | (*a*) Describe all statistical methods, including those used to control for confounding | 7 | Lines (144-152); Statistical analysis |
| (*b*) Describe any methods used to examine subgroups and interactions |  | There were no subgroups |
| (*c*) Explain how missing data were addressed |  | There was no missing data |
| (*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed*Case-control study*—If applicable, explain how matching of cases and controls was addressed*Cross-sectional study*—If applicable, describe analytical methods taking account of samplingstrategy |  | Lines (105-108); Based on measured axial body temperature ≥ 37.5°C, 444 patients whose ages older than two years were recruited to the study |
| (*e*) Describe any sensitivity analyses | N/A |  |
| Results |  |  |
| Participants  | 13 | (a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed | N/A | This was a cross-sectional study with only one stage |
| (b) Give reasons for non-participation at each stage | N/A |  |
| (c) Consider use of a flow diagram | N/A |  |
| Descriptive data | 14 | (a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders | 8 | (Line 169-177); Table 1: The socio- demographic characteristics of the study participants (N = 444) |
| (b) Indicate number of participants with missing data for each variable of interest | N/A | There was no missing data |
| (c) *Cohort study*—Summarise follow-up time (eg, average and total amount) | N/A | This was a cross-sectional study |
| Outcome data | 15 | *Cohort study*—Report numbers of outcome events or summary measures over time |  | This was a cross-sectional study |
| *Case-control study—*Report numbers in each exposure category, or summary measures of exposure |  | This was a cross-sectional study |
| *Cross-sectional study—*Report numbers of outcome events or summary measures | 8 | Line (178-191); laboratory results, |
| Main result  | 16  | (*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included | 8 and 9 | Line(185); Table 2: Demographic characteristics and distribution of brucellosis among study respondents (N**o** =444)Line(191); Table 3: Socio- demographic characteristics and malaria among febrile study respondents (N**o** =444)Line (197); Table 4: Univariate analyses of potential risk factors for brucellosis of the study patients (N**o** = 444)Line(205); Table 5:Multivariable analysis of risk factors for occurrence of brucellosis of the study patients  |
| (*b*) Report category boundaries when continuous variables were categorized |  | There were no continuous variables |
| (*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period |  | There were no estimates of relative risk |
| Other analyses | 17 | Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses |  | There were no subgroups |
| **Discussion** |  |  |
| Key results | 18 | Summarize key results with reference to study objectives | 9-11 | Lines (206-258); Discussion |
| Limitations | 19 | Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias | 12 | Line (259-265); The limitations of the study were purposively recruitment of only febrile individuals that left behind apparently healthy chronic patients, recall bias during self-reporting and difficultly of serological test to differentiate the previous infection. |
| Interpretation | 20 | Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence | 9-12 | Lines (206-265); Discussion |
| Generaliability | 21 | Discuss the generalizability (external validity) of the study results | 12 | Lines (266-274); Human brucellosis is high among pastoral patients presenting with febrile illness in Ethiopia. Consumption of raw milk and exposure to animal discharge could lead to significant risk of infection with brucellosis. The community based investigations that could address all human brucellosis including asymptomatic. |
| **Other information** |  |  |
| Funding | 22 | Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based | N/A |  |
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