A reporting guide for Surveys

Correspondence: ccdr-rmtc@phac-aspc.gc.ca

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Surveys are useful to describe "what is". They are used in health and public health research to learn about current opinions, knowledge and practice, to estimate the prevalence of a condition, to assess self-reported health status, to document risk-seeking and health-seeking behaviours and to gather preliminary information for future studies (1). Survey methods have changed from being paper-based to being largely electronic-mediated. Most surveys are now self-administered and completed online, by email, with apps or a combination of these (such as an email invitation with a link to an online questionnaire). A Cochrane review found that survey results from apps may have data equivalence to those obtained by more traditional methods when the setting, frequency and clinical application, in which the survey instrument was validated, remain the same (2).

Survey research is used for exploratory or descriptive research as it is relatively inexpensive, can cover a broad geographical area, includes thousands of people and allows for greater honesty when anonymity is assured. Surveys are not useful for causal research due to the risk of confounding bias (where an observed association between two variables is due to an association of both variables with an unmeasured third variable).

Usually surveys do not require a formal ethics review. Informed consent is still indicated, however, and can be met by identifying who is conducting the survey, the purpose, how long it will take to complete, any incentives and how personal information will be protected. For web-based surveys it is a best practice to calculate participation rate by measuring the number of unique visitors who filled out the first page of the survey, divided by the number of unique site visitors (3).

When reporting on survey research it is important to describe the objective, study population, development of the survey instrument and how the study was conducted, including the sampling strategy. The results need to include the response rate and the discussion needs to consider if and how the response rate, selection bias, positive response bias and threats to the reliability and validity of the survey questions may have influenced the results.

The *Canada Communicable Disease Report* (CCDR) has developed a 22-item checklist for reporting on surveys in the area of infectious diseases, which is based on the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) (3), a previous checklist (4) as well as best practices in scientific communications (**Table 1**). A survey report is generally 1,500 to 2,000 words in length. As with all submissions, check CCDR's *Information for Authors* for general manuscript preparation and submission requirements (5).

Table 1: Checklist for reporting on surveys

Reporting item	Item #	Description
Title/Abstract		
Title	1	Compose a title that identifies the topic of the survey and the population studied.
Abstract	2	Provide a 250-word structured abstract that includes the objective, methodology (including study setting, population and questionnaire development and administration), results (including the response rate and key findings) and conclusion.
Introduction		
Issue identification	3	Identify the topic of the study and why it is important.
Rationale for study	4	Cite the relevant literature and identify how this survey will add to what is already known.
Objective and rationale	5	Clearly articulate the objective of the study and explain why the survey was the appropriate method to address it.
Methods		
Population, time and place	6	Describe the setting and study population for the survey, including the dates it was undertaken. Note if it was a convenience sample.
Correlation with the research objective	7	Demonstrate how the research questions addressed the research objective by identifying the different topics covered in the questionnaire.
Development of the survey instrument	8	Describe how the survey questionnaire was developed, including reliability and validity testing, pre-testing and pilot testing.
Sampling technique	9	Unless the entire study population was surveyed, identify how the sampling was done, including any inclusion or exclusion criteria (to establish the representativeness of your sample) and how the survey was sent (via email, internet, etc.).
Informed consent	10	Describe how potential participants were informed about who was conducting the survey, its purpose or objective, how long it would take to complete, any incentives and how personal information would be protected.

Table 1: Checklist for reporting on surveys (continued)

Reporting item	Item #	Description
Methods (continued)		
Optimization of response rate	11	Note what procedures were done to optimize the response rate (e.g., if an explanatory letter was sent beforehand, or if reminders were sent to non-responders).
Measurement	12	Describe all the measurements used in the study, including characterization of the study population, outcome measures and the potential confounding factors.
Analysis	13	Describe how the sample size was calculated and any statistical analysis that was undertaken.
Results		
Response rate and representativeness of sample	14	Present the number of responses, the response rate and, if possible, compare the characteristics of your sample with what you know about the study population (e.g., a physician survey might include age, sex, years in practice and location).
Presentation of results	15	Present the findings from the different topic areas in the same sequence that the topics were described in the Methods.
Tables and figures	16	Have tables and figures that present the key findings and ensure all participants are accounted for.
Discussion		
Summary of key findings	17	Summarize the main findings and indicate how these address the objective of the study. Highlight any statistically significant results of clinical or social relevance.
Comparative analysis	18	Explore how these findings were consistent with or different from other studies on a similar topic in the literature.
Strengths and limitations	19	Identify the strengths and limitations of your study. If the respondents were not representative of the total sample, or the sample was not representative of the population of interest, consider the implications of this. Consider if and how potential bias has been avoided or remains.
Implications	20	Consider the “so what?” of your findings in terms of how it adds to scientific knowledge, policy or practice.
Next steps	21	Propose next steps or further areas for inquiry without extrapolating too far from your findings.
Conclusion	22	Ensure the conclusion integrates the key findings and addresses the objective of the survey.

Abbreviation: #, number

References

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