



## Research Article

# Missing Data in Clinical Trials: Stratified Singh and Grewal's Randomized Response Model Using Geometric Distribution

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## Abstract

**Background and Objective:** Singh and Grewal's model estimates the population proportion on stratified sampling schemes. The crux of this paper was to develop a new stratified Singh and Grewal's model using Geometric Distribution. **Materials and Methods:** The equilibrium point of the model was investigated and a new stratified sampling and stratified double sampling randomized response model based on Singh and Grewal's model using geometric distribution was proposed. **Results:** This study showed that the proposed method is more efficient than the one recently envisaged by Singh and Grewal's model. Numerical illustrations and graphical representations are also given in support of the present study. **Conclusion:** A new dexterous stratified randomized response model has been proposed and shown theoretically as well as numerically that the proposed model is more efficient than Singh and Grewal's randomized response model.

**Key words:** Randomized response sampling, estimation of proportion, respondents protection, sensitive characteristic

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**Competing Interest:** The authors have declared that no competing interest exists.

**Data Availability:** All relevant data are within the paper and its supporting information files.