Sample Size Calculation for RMNCH Survey for Myanmar Migrants

Kaung Myat Khant

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### Sampling Design

We are collecting the data on contraceptive utilization or accessibility among the Myanmar migrants at Thailand-Myanmar border. Since they are marginalized or hidden populations, we decided to used **Snowball Sampling** ([Ahmed 2024](#ref-ahmed_how_2024)). For a non-probability sampling method, a sample size of **larger than 30 and smaller than 500** is enough for most of the research ([Sekaran 2003](#ref-sekaran_research_2003)). Nevertheless, for our cross-sectional descriptive study, with the available information from knowledgeable sources, we will use

* *Cochran’s sample size formula for initial sample size* or
* *Yamane’s formula*

### Sample Size Calculation Based on **Contraceptive Prevalence Rate**

According to *Htoo et al*, the contraceptive prevalence rate was 0.801 ([Soe and Somrongthong 2008](#ref-soe_utilization_2008)). Sample size was calculated using *Cochran’s formula*:

where:

* = initial sample size for infinite population,
* Z = z-value (1.96 for 95 % confidence),
* p = Estimated population proportion,
* E = margin of error

With a 95% confidence interval and margin of error of *0.05*, the sample size based on contraceptive prevalence rate of 0.801 is **245**.

### Sample Size Calculation Based on **Unmet Need for Family Planning**

According to *Thein 2020*, the unmet need for family planning was 0.158 ([Thein 2020](#ref-thein_unmet_2020)). we calculated the sample size using *Cochran’s formula*:

where:

* = initial sample size for infinite population,
* Z = z-value (1.96 for 95 % confidence),
* p = Estimated population proportion,
* E = margin of error

With a 95% confidence interval and margin of error of *0.05*, the sample size based on proportion for unmet need of family planning 0.158 is **204**.

### Sample Size Based on Population Information from IOM

According to a brief report by International Organization of Migration, Overview of Myanmar Nationals in Thailand, the number of registered Myanmar migrants is **2,308,166** and **51%** are women ([IOM(Thailand) 2024](#ref-iomthailand_overview_2024)). We used *Yamane’s formula*:

where:

* n = sample size,
* N = population size
* e = margin of error

With a margin of error 0.05, the required sample size based on the female migrant population data (51% of 2,308,166) is **400**.

### References

Ahmed, Sirwan Khalid. 2024. “How to Choose a Sampling Technique and Determine Sample Size for Research: A Simplified Guide for Researchers.” *Oral Oncology Reports* 12 (December): 100662. <https://doi.org/10.1016/j.oor.2024.100662>.

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