Sample Size Calculation for RMNCH Survey for Myanmar Migrants

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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). 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). 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*

Cochran's formula

$$n_0 = Z^2 \cdot \frac{p(1-p)}{E^2}$$

where:

- n_0 = *initial sample size for infinite population*
- Z = *z-value (1.96 for 95 % confidence)*
- p = *Estimated population proportion*
- E = *margin of error*

Yamane's formula

$$n = \frac{N}{1 + N(e^2)}$$

where:

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

Sample Size Calculation Based on Contraceptive Prevalence Rate

According to *Htoo et al*, the contraceptive prevalence rate was 0.801 (Soe and Somrongthong 2008). Sample size was calculated using *Cochran's formula*.

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). we calculated the sample size using *Cochran's formula*.

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). We used *Yamane's formula* to calculate the sample size.

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

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