

TOPIC FEASIBILITY REPORT

Topic: Etiology and clinicohematological profile of pancytopenia — A descriptive observational study in a tertiary care hospital in India

FEASIBILITY VERDICT**HIGHLY FEASIBLE ✓**

QUICK ASSESSMENT

| | |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Study Design | Descriptive observational / Cross-sectional — appropriate for this topic |
| Study Setting | Tertiary care hospital with haematology and pathology departments |
| Estimated Sample Size | 80-120 patients (based on consecutive sampling over 12-18 months; previous studies: Gayathri BN et al. n=104, Tilak V et al. n=77) |
| Key Investigations | CBC with peripheral smear, reticulocyte count, bone marrow aspiration and biopsy — available at most tertiary centres |
| Ethical Clearance | IEC approval required — straightforward for observational study with no intervention |
| Timeline | 12-18 months for data collection — well within PG residency period |
| Literature Support | Strong — multiple published Indian studies exist, but regional variation in etiological patterns justifies a new centre-based study |

RECOMMENDED METHODOLOGY OUTLINE

All patients presenting to the haematology/medicine department with pancytopenia (Hb <10 g/dL, TLC <4,000/mm³, platelet count <1,50,000/mm³) should be evaluated with a detailed clinical history, physical examination, complete blood count with peripheral blood smear, reticulocyte count, and bone marrow aspiration with trephine biopsy. Special stains (iron stain, MPO) and immunophenotyping may be added if indicated. Data should be recorded on a pre-designed proforma and analysed using descriptive statistics — frequencies, percentages, mean, SD. Chi-square test for categorical variables.

PILOT STUDY

Spectrum of Pancytopenia in Adults Attending a Clinical Hematology Department: A Four-Year Experience From a Tertiary Care Center of Western India

Authors: Patel GR, Prajapati GR

Journal: Cureus. 2022;14(5):e24933

PMID: 35706755 | **DOI:** 10.7759/cureus.24933

Abstract: This observational study was conducted over four years on 546 adult patients aged 18-93 years presenting with pancytopenia at a tertiary care hospital in Western India. After obtaining detailed clinical history and physical examination, all participants were subjected to relevant investigations including bone marrow examination. A slight male preponderance was observed, and the most common age group (24%) was 21-30 years. Pallor was the most common clinical feature, followed by generalized weakness and fever. The most common cause of pancytopenia was acute leukemia (17.9%), followed by megaloblastic anemia (15.4%), aplastic anemia (11.0%), hypersplenism (7.8%), multiple myeloma (6.6%), and myelodysplastic syndrome (5.3%). The study concluded that identifying the pattern of underlying etiologies in different populations is crucial for formulating diagnostic algorithms and management strategies.

Relevance to your study: This study uses an identical study design (descriptive observational) in a similar setting (tertiary care, India). Your study at your centre will add regional data and may reveal different etiological patterns, which is the justification for conducting this study at a new centre.

POTENTIAL CHALLENGES

1. Some patients may refuse bone marrow biopsy — ensure informed consent process is robust.
2. Adequate sample size depends on OPD/IPD pancytopenia load — verify with your department that 80-100 cases are achievable in 12-18 months.
3. If your centre does not perform trephine biopsy routinely, aspirate-only study is also publishable but less comprehensive.

KEY REFERENCES

1. Gayathri BN, Rao KS. Pancytopenia: a clinico hematological study. J Lab Physicians. 2011;3(1):15-20.
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3. Khunger JM, Arulselvi S, Sharma U et al. Pancytopenia — a clinico haematological study of 200 cases. Indian J Pathol Microbiol. 2002;45(3):375-379.
4. Kumar R, Kalra SP, Kumar H et al. Pancytopenia — a clinico hematological analysis of 107 cases. J Assoc Physicians India. 2001;49:1078-1081.

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Full thesis protocol for this topic — Introduction, Literature Review, Methodology, Sample Size Calculation, Data Collection Form, Consent Form, References — delivered within 12 hours.

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