



PERFORMANCE AND INTERPRETATION OF GRAM STAINING AMONG MBBS PHASE II MEDICAL STUDENTS

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INTRODUCTION

GRAM STAIN

- A very valuable diagnostic step in bacteriology
- Classified as high complexity under Clinical Laboratory Improvement Amendments (CLIA) regulations¹
- Misinterpretation widely reported²

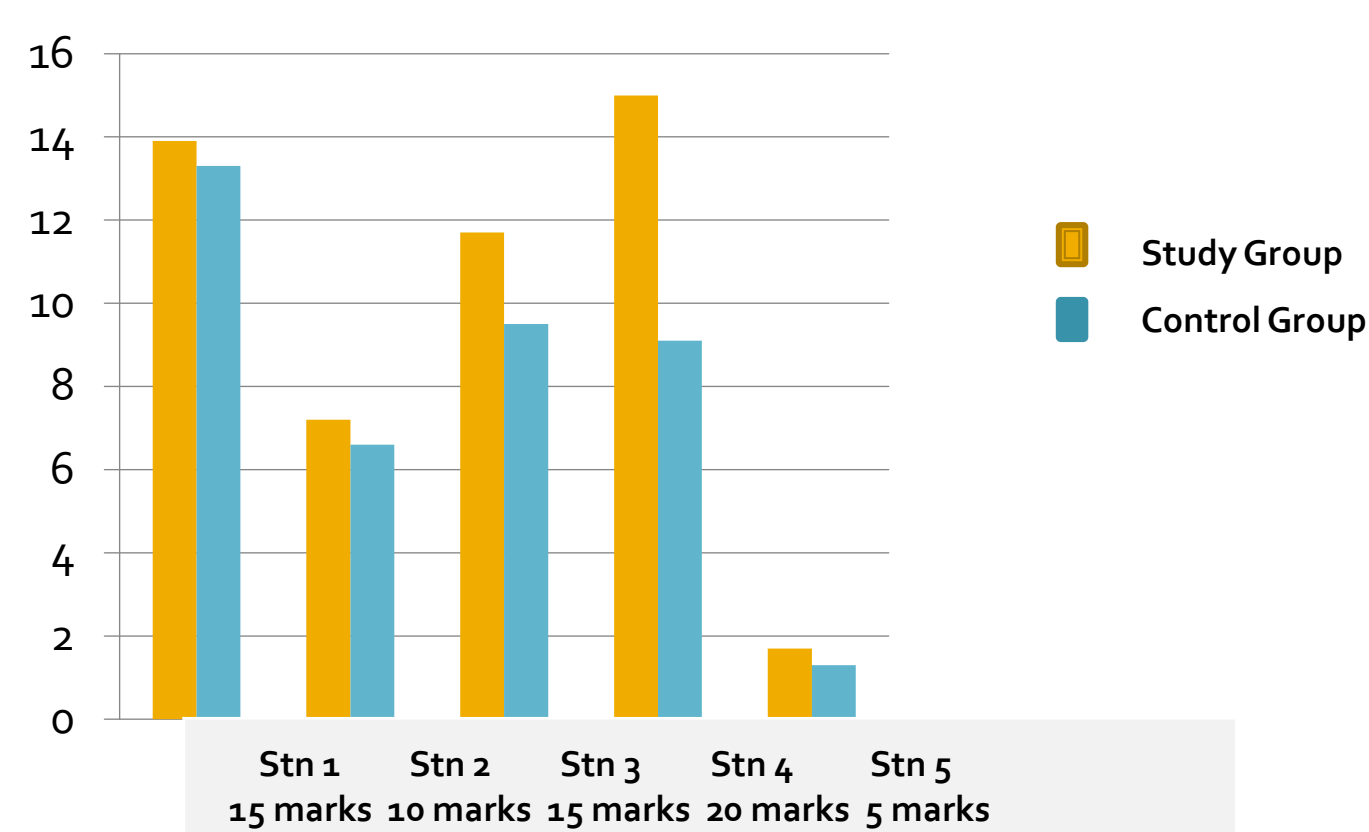
Aim: To assure good skill in the performance and interpretation of Gram staining

Objective: Comparison of Objective Structure Practical Examination (OSPE)³ scores

MATERIALS & METHOD

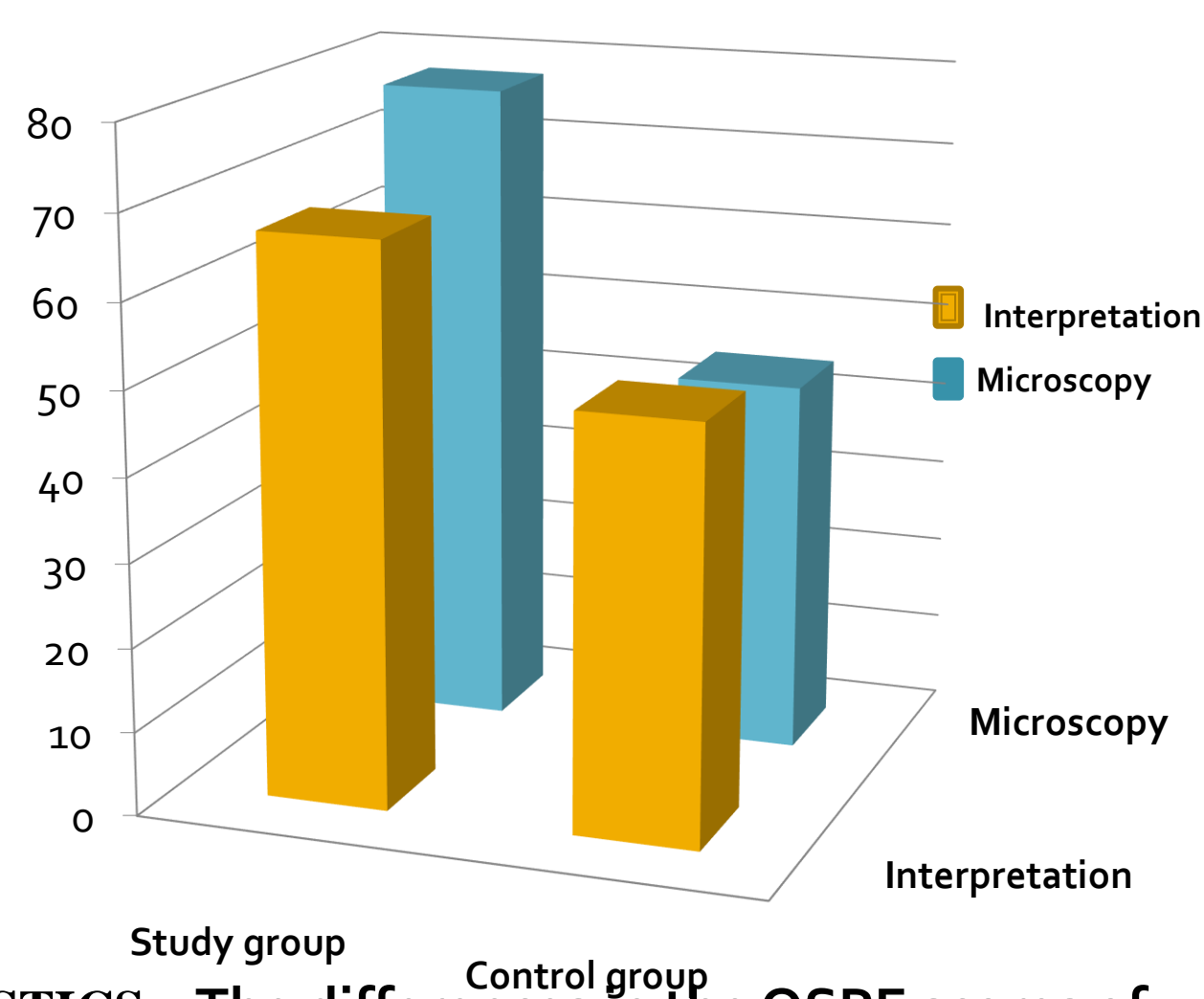
- IEC clearance obtained
- Quantitative comparative study
- Random sampling
- **Study group** – Interactive large group teaching of Gram stain (Jensen's modification) and light microscopy + Demonstration, Deconstruction + Observed performance with feedback using Pendleton's rules⁴
- **Control group** – only Small Group teaching in Practical hall
- Comparison of OSPE scores of groups
- Statistical analysis – using Fisher's exact test.
- **EVALUATION** – using questionnaire – 5-point Likert scale.

RESULT – KEY FINDINGS - AVERAGE OSPE SCORES



Station 1 – Knowledge of microscopy
Station 2 – Knowledge of Gram stain
Station 3 – Skill of Gram staining
Station 4 – Skill of light microscopy and interpretation of Gram stained slide
Station 5 – Knowledge of application of Gram stain

STATION 4 : SKILL Light microscopy + Interpretation of Gram stained slide



STATISTICS - The differences in the OSPE scores of study and control groups was statistically significant ($p=0.00$).

INFERENCE & CONCLUSION -

Study group outperformed control group. Improving the skills of light microscopy go a long way in correct interpretation of Gram stain.

ENABLING FACTORS & CHALLENGES

Students agreed that deconstruction and effective feedback enabled them to overcome their challenges to comprehend and learn both the skills of staining and microscopy.

REFERENCES

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