

# CLINICAL SKILLS PRACTICAL SESSIONS FOR UNDERGRADUATE PHARMACY STUDENTS AND AS A CLINICAL ROTATION FOR DOCTORATE IN PHARMACY STUDENTS

Arianne Diane A. Aninon, Francesca Wirth, Anthony Serracino-Inglott, Lilian M. Azzopardi

Department of Pharmacy, Faculty of Medicine and Surgery, University of Malta, Msida, Malta  
email: arianne.aninon.17@um.edu.mt, francesca.wirth@um.edu.mt

## INTRODUCTION

Pharmacy practice models progressively incorporate the use of point-of-care testing (POCT) devices to enhance and support pharmacist's clinical decision-making. The development of an outcomes-based practical course on POCT and injection techniques enhances undergraduate pharmacy students' pharmacotherapeutic knowledge and clinical skills.<sup>1</sup>

The participation of pharmacists enrolled in a postgraduate Doctorate in Pharmacy programme as part of a 4-week clinical rotation contributes to development of teacher practitioners who can support the delivery of these practical sessions.

## AIMS

To develop and evaluate clinical skills practical sessions for pharmacy undergraduate students with the participation of postgraduate doctorate students to support the development of teaching skills in postgraduate students.

### Setting

POCT Laboratory, Department of Pharmacy, University of Malta

## METHOD

- **Development of Course content:** Six clinical skills practical sessions were developed (Table 1) based on the European Pharmacy Competency Framework<sup>2</sup>, and locally demanded pharmacy service skills by patients.
- **Course Design and Delivery:** Each session comprised of short didactics and hands-on activities delivered as 2-hour sessions to groups of 4-6 students. A workbook was developed to aid student learning. Postgraduate students were trained to assist during the practicals and in elaboration of the teaching material.
- **Evaluation:** A self-administered evaluation questionnaire was developed and disseminated at the end of the sixth session for three academic batches.

Table 1. Course Content Developed for POCT Practical sessions

ACTIVITY	AIM	DEVICES and CONSUMABLES USED
Laboratory Quality System and Urinalysis	Familiarisation with laboratory quality system and acquiring skills in the semi-quantitative determination of various parameters of urine	Semi-automated urine analyser (Urisys 1100) Calibration strips (Control-Test M) Combur 10 UX test strips
Blood Glucose Testing	Familiarisation with and acquiring skills in blood glucose testing	Blood glucose meters, Control solutions, Test strips, single-use lancing devices
Blood Pressure Measurement	Familiarisation with and acquiring skills in blood pressure measurement	Blood pressure training system with speakers, Mercury-free and aneroid sphygmomanometers, Stethoscope, Electronic blood pressure monitors (arm and wrist)
BMI /Waist Circumference Measurement and Blood Total Cholesterol (TC) / Triglyceride (TG) Testing	Familiarisation with and acquiring skills in BMI and waist circumference measurement and TC and TG testing	Weight scales with altimeter, TC and TG meters (Accutrend Plus, Multicare-in), test strips, single-use lancing devices
Administration of Intradermal (ID) and Subcutaneous (SC) Injections	Familiarisation with and acquiring skills in ID and SC injection techniques	ID injection training simulator (inner forearm), SC injection training simulator (lower abdominal wall)
Administration of Intramuscular (IM) Injections	Familiarisation with and acquiring skills in IM injection techniques.	IM injection upper arm training simulator (deltoid), IM injection lower torso training simulator (ventrogluteal, dorso-gluteal, lateral thigh)

## RESULTS

A total of 74 students completed the evaluation questionnaire, 60 were female, mean age 18.6 years (range 18-21 years).

The results revealed very positive feedback of the sessions:

- Demonstrator's helpfulness and instructiveness garnered the highest response (n=73).
- Students (n=72) agreed/strongly agreed that the practical sessions developed their POCT skills to competently perform the tests. Students (n=71) believed they were able to apply theoretical knowledge to practice and were positive with use of simulators for learning.
- Workbook was considered user-friendly (n=72) and demonstration videos used as aids in class garnered positive response (n=69).
- Use of Standard Operating Procedures<sup>3</sup> in the laboratory generated mixed reactions, with only 47 students said it was helpful.

- The most interesting practical session was the simulation of injection techniques mainly because these were skills they experienced for the first time (n=13), while BMI-Waist circumference/TC/TG testing was the least preferred practical session.

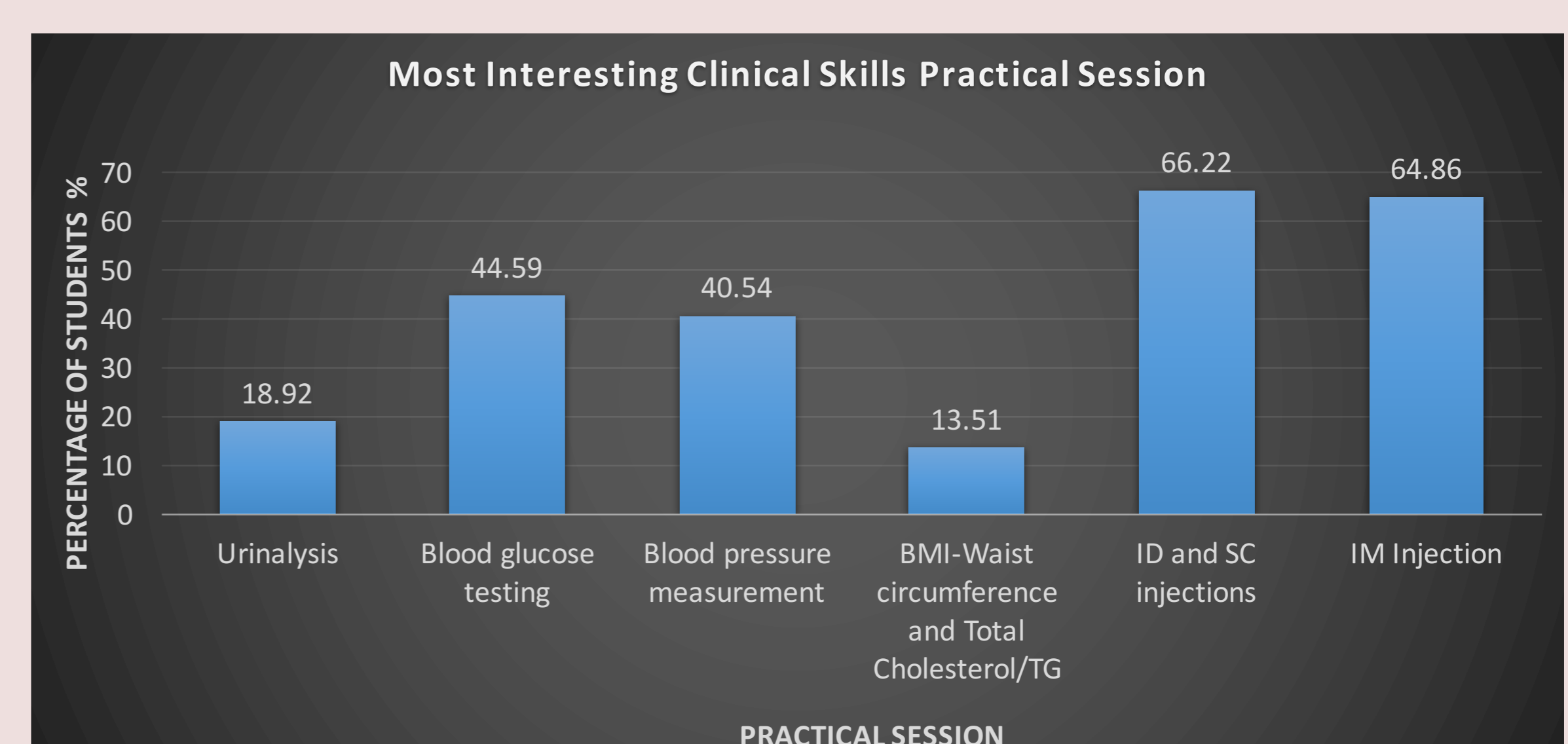


Figure 1. Percentage response to 'Most Interesting Clinical Skills Practical Session' from a Multiple Response Question (N=74)

## CONCLUSION

The clinical practical sessions were positively evaluated by the students which enhanced the didactic component of the pharmacy curriculum. The clinical practical skills sessions allowed students to develop skills and apply their pharmacotherapeutic knowledge as they conduct POCT using various devices and administer injections by different techniques using simulators. The postgraduate Doctorate students enhanced their ability in the clinical skills aspect and in systematically teaching the course.

## REFERENCES

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