

Introduction

The use of protocols in community pharmacy practice has been widely recognized as a tool to promote the safe and effective use of medicines. Moreover, from an educational point of view, protocols assist students to bridge the gap between theory and practice.¹

Aims

The aims of this study were to introduce protocols during the training period of pharmacy students, and to test their impact on the students' knowledge regarding paediatric care.

Methodology

Phase 1

A booklet containing 6 protocols on constipation, abdominal pain, vomiting, diarrhoea, cough and fever was developed and uploaded online (www.um.edu.mt/ms/pharmacy/research/publications/protocols). A Student Knowledge Evaluation Test (Figure 1) was then compiled, which contained 10 questions on each paediatric ailment tackled. Both the booklet and the test were psychometrically tested by a panel of experts.

Figure 1: Excerpt from the student knowledge evaluation test on constipation in children

5. The following symptoms accompanying constipation in children warrant referral:

- 1) Blood in faeces
- 2) Abdominal pain
- 3) Decreased appetite

Choose the correct answer:

- A – 1,2,3 are correct
 B – 1,2 only are correct
 C – 2,3 only are correct
 D – 1 only is correct
 E – 3 only is correct

Phase 2

A stratified random sample of 40 pharmacy students from second to fifth year classes was selected and asked to complete the test at Time 0 (pre-test). These students were then given a copy of the protocol booklet and were re-assessed after 1 month (post-test). A control group of 10 students completed the pre- and post- tests without being subjected to the intervention. The results were inputted into SPSS® version 17.0 and analysed using the Paired-Samples T-test.

Results

The results obtained show that the developed protocols had a positive impact on the students' knowledge, since the mean score obtained after the intervention (85.0) was considerably higher than the mean score obtained before the intervention (50.7). An increment of 34.3 marks is of significance (P-value = 0.000). This observation was found to be significant for every course year assessed. No significant improvement in scores was found in the control group (Table 1).

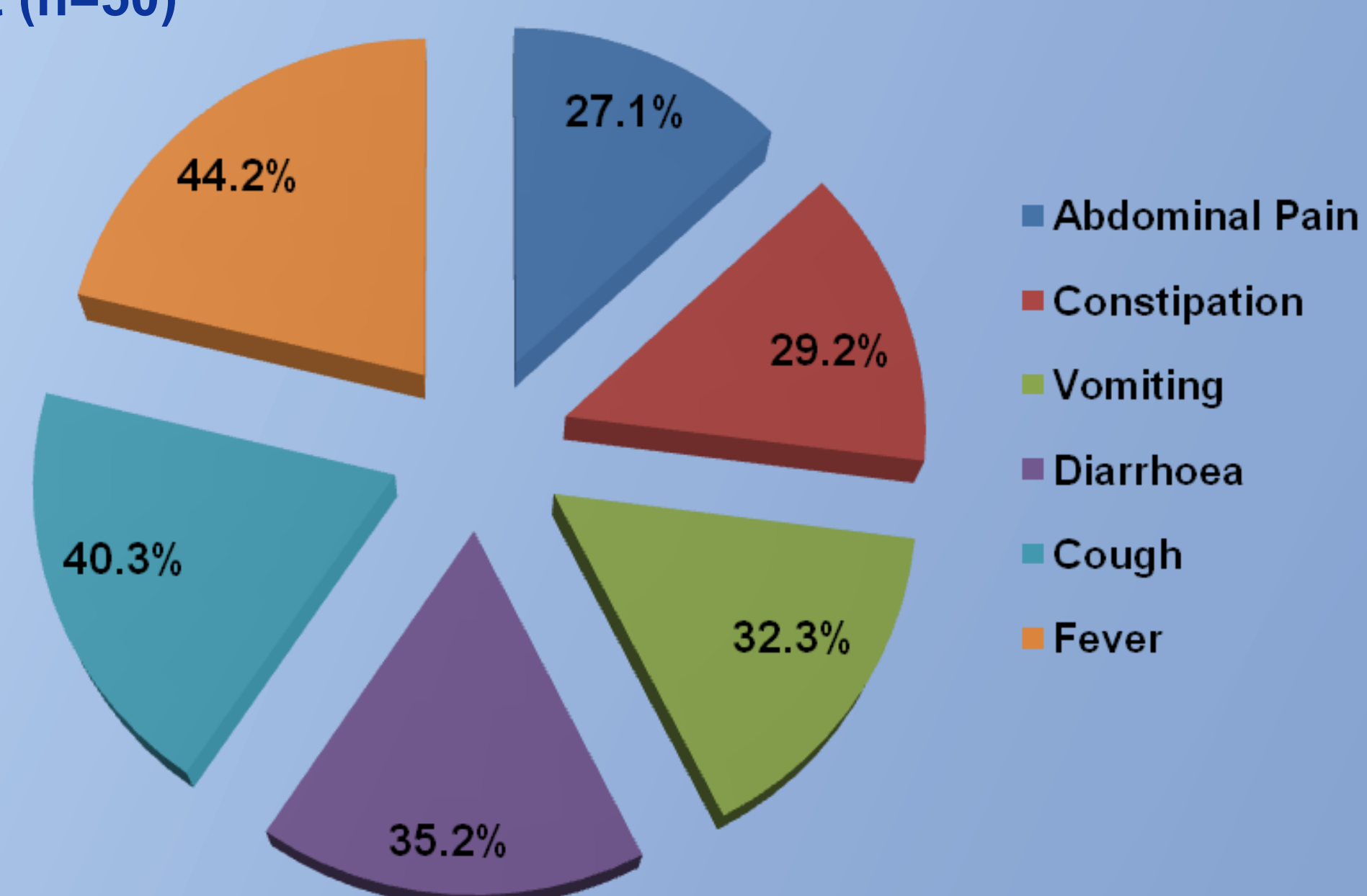
Table 1: Mean score results of the student training programme (n=50)

		Pre-test mean score	Post-test mean score	Score increment	P-value
Study Group	2 nd years (n=10)	42.9	82.6	39.7	0.000
	3 rd years (n=10)	47.9	83.3	35.4	0.000
	4 th years (n=10)	50.9	85.6	34.7	0.000
	5 th years (n=10)	60.9	88.5	27.6	0.000
	Total (n=40)	50.7	85.0	34.3	0.000
Control Group	Total (n=10)	50.1	51.3	1.2	0.228

(maximum score = 100)

The greatest improvement in scores obtained by the study group was found to be in the fever protocol (Figure 2).

Figure 2: Mean percentage score increments for each paediatric ailment (n=50)



Conclusion

The use of the paediatric protocols as a student training programme was found to be successful. When pharmacists are exposed to protocols during their student years, such an exercise will promote the adoption of protocols in practice.