

## Knowledge and attitudes towards the proposed two year medical internship and their selected correlates among medical undergraduates

*S I T Guruge\*, B M I Gunawardana, M P M L Gunathilaka*

*AL 2003 batch of students, Faculty of Medicine, University of Colombo*

### Abstract

**Objectives:** To assess the knowledge and attitudes towards the proposed two year medical internship and describe selected co-relates among medical undergraduates.

**Method:** A descriptive cross sectional survey was carried out among 230 medical undergraduates drawn from medical faculties in Colombo, Sri Jayawardenapura and Ragama using a self administrated questionnaire

**Result:** Level of knowledge of the participants about proposed 'Supervised Hands On Training' (SHOT) proved to be low. The mean knowledge score was 39.61% while 64% of respondents scored less than 50%. No statistically significant determinant of knowledge was found. A scoring system designed by the researchers to assess attitudes showed that 84.2% of respondents obtained above 50% and 9.1% obtained above 75%. The attitude score positively correlated with the knowledge score (Spearman  $\rho=0.796$ ,  $p<0.01$ ), performance at Introductory Basic Science Examination or equivalent exam (Spearman  $\rho=0.167$ ,  $p<0.05$ ), satisfaction with present medical education ( $\chi^2=10.894$ ,  $p<0.01$ ), and negatively correlated with perception of income loss during the 2 year period. ( $\chi^2=14.894$ ,  $p<0.01$ )

**Conclusion:** The findings of our study highlight the large gap in knowledge presently in existence among medical undergraduates on details relating to SHOT. The need to improve knowledge is also reinforced by the observation that there is association between knowledge and attitudes. Sensitivity to undergraduate characteristics such as performance at examinations and their concerns about income may be required during implementation.

### Introduction

In the year 2007, Sri Lanka Medical Council (SLMC) proposed the extension of the current one year internship to a newly structured internship which will have a duration of two years. This proposal which is currently being conceptualized may have a major impact on future medical graduates of Sri Lanka once implemented.

The proposed 2 year internship programme officially referred to as Supervised Hands On Training (SHOT) for Sri Lanka is planned to constitute of two 6 month long placements in two major specialties (i.e. Medicine, Surgery, Paediatrics and Gynaecology & Obstetrics) during the first year. The second year is planned to constitute of two 3 month long placements in the two major specialties not covered within the 1st year and two 3 month long placements in two other specialties selected by the medical graduate.

This programme would ensure that medical graduates would get training in all 4 major specialties. The exposure to specialties other than the 4 main specialties is also expected to be useful in selecting the future career path.

In the UK, similar reforms in the field of medical education have already been carried out. From 2003 Medical undergraduates in the UK have undergone a newly constituted 2 year foundation programme, which serves as a base for further specialization. Appraisal of the graduate perception of this programme has already been carried out by a number of researchers in medical education.

In a study conducted in the UK to explore the views of medical graduates "some believed that the adoption of a 4-month placement rather than the traditional 6-month placement provided the

\*Corresponding author: *S I T Guruge, MBBS (Colombo), Relief House Officer, De Soysa Hospital for Women, Colombo (E-mail: sahan\_guruge@yahoo.com)*

opportunity to sample a broader range of specialties than traditional SHOs were able to, which may be beneficial when making career choices” (5). Another study on the foundation programme revealed that the trainees were generally enthusiastic about the program. The lack of understanding about the programme by others, including some educational supervisors, was a cause for concern (6).

As no notable changes have taken place in the internship programme in Sri Lanka in the recent past, no data regarding undergraduate perception of changes to the programme was available.

This study evaluated the level of knowledge and attitudes towards the proposed changes and their selected co-relates among medical undergraduates. The knowledge gained from this study among this key stakeholder group will be of value for health policy makers in further planning and implementation of the proposed two year internship.

## Methods

A descriptive cross-sectional study was carried out by utilizing convenience sampling method among medical undergraduates in Medical faculties in Colombo, Sri Jayawardenapura and Ragama. These faculties were chosen as feasible due to their relative ease of access for the researchers. In each faculty 100 questionnaires (totalling 300 in the 3 faculties) were distributed after obtaining consent from potential participants.

A self-administrated structured questionnaire in the English language was developed and information was obtained in the following areas;

1. Socio-demographic characteristics (faculty of medicine, gender, number of attempts at GCE Advanced Level examination, 2nd MBBS / IBSS results, monthly family income)
2. Sources of knowledge on the proposed programme
3. Current level of knowledge on the proposed programme. (Questions were based on the information sheet on the ‘Supervised Hands On Training (SHOT) in preparation for Specialized/ Independent practice (SIP)’ provided by Sri Lanka Medical Council for disseminating information to students. A

scoring system was devised where 100 was the maximum obtainable and 0 was the minimum)

4. Undergraduate attitudes towards 2 year internship programme (Questions on attitudes were generated based on informal discussions among medical students who were inquired by researchers on factors they thought would affect their attitudes towards the current proposals. The questions included in the final questionnaire on attitudes related to current medical education, economic aspects, personal goals and career goals. A four point scale was used to gauge positive or negative attitude towards each area and responses were converted to a score where maximum obtainable was 200 and minimum was 10)

## 5. Future Career goals and intentions

Knowledge score was categorized and those obtaining a score of 50 or above out of 100 were considered as having a good knowledge. The attitude score was categorized and those obtaining a score of 100 or above out of 200 (>50%) were considered as having an overall positive attitude and vice versa.

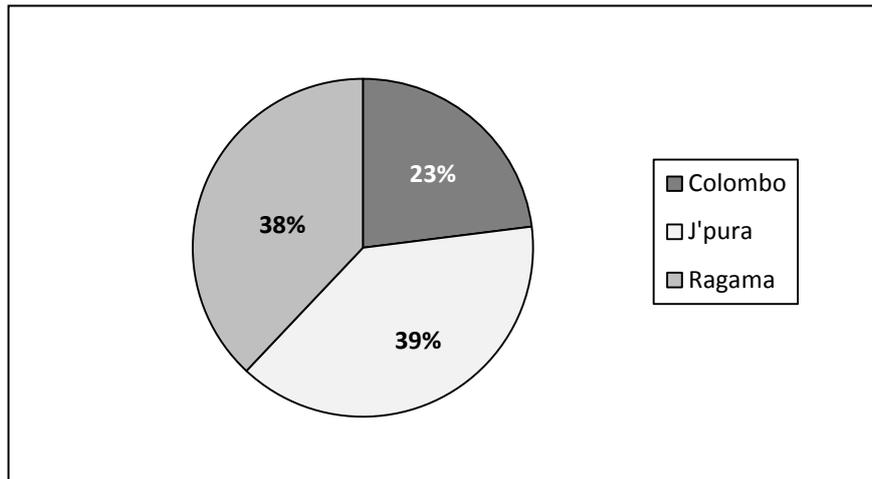
Validity of data was ensured by analyzing the questionnaire items in relation to the study objectives and in relation to the statements in the SHOT information sheet to ensure consistency. Supervisor assistance was obtained to ensure that questions were unambiguous, simple and clear.

Ethical approval was obtained from the Ethics Review Committee of the Faculty of Medicine, Colombo. Data analysis was carried out using SPSS<sup>®</sup> software package version 15 and Spearman Rank correlation coefficient & Pearson’s chi-square test were performed to detect associations among the factors that were analyzed.

## Results

Fully or partially completed questionnaires were returned by 230 students (response rate 76.6%). Among respondents 47% were male and the total sample was divided among the three medical faculties of Colombo, Sri Jayawardenapura and Ragama. (Figure 1) The study participants’ educational achievements at the GCE Advanced Level, Introductory Basic Sciences Stream / 2nd MBBS examination and their family monthly income are given in Table 1.

**Figure 1: Percentage distribution of study participants by medical faculty**



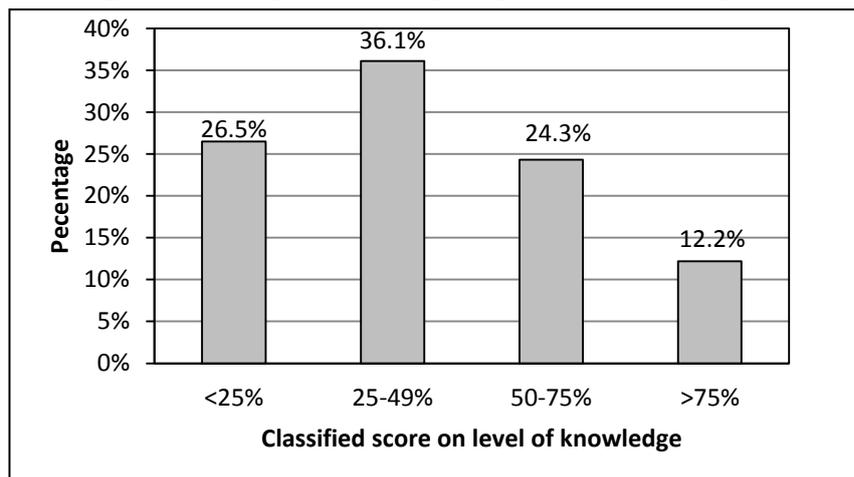
**Table 1: The characteristics of study participants**

Number of participants (n=230)	
<b>A/ L attempt</b>	
1 <sup>st</sup>	41.3%
2 <sup>nd</sup>	40.0%
3 <sup>rd</sup>	18.7%
<b>Results at IBSS or 2nd MBBS</b>	
1st class	3.9%
2nd upper	12.2%
2nd lower	23.9%
Pass	37.4%
Repeat	22.2%
<b>Monthly Income<sup>†</sup></b>	
< Rs.20,000	22.6%
Rs. 20,000 – Rs. 40,000	39.1%
> Rs.40,000	36.1%

<sup>†</sup> 2.2% did not report their monthly incomes

**Knowledge of study participants**

**Figure 2: Percentage distribution of classified score on knowledge**



Ninety six percent of graduates were aware of the proposed programme. However only 8.4% claimed that they had adequate knowledge. Scores of the respondents are presented in Figure 2.

The mean knowledge score was 39.61 out of 100. The number of respondents who scored less than 50% outnumbered those who scored more than 50% by a factor of 1.71. The participants were allowed to cite multiple sources of information from whom the information on this proposal was gained. The medical students' union was cited by

44.9% and friends as a source was cited by 59.5%. Media as a source of information was cited by 16.72% and 4.8% cited other sources such as clinicians and academics.

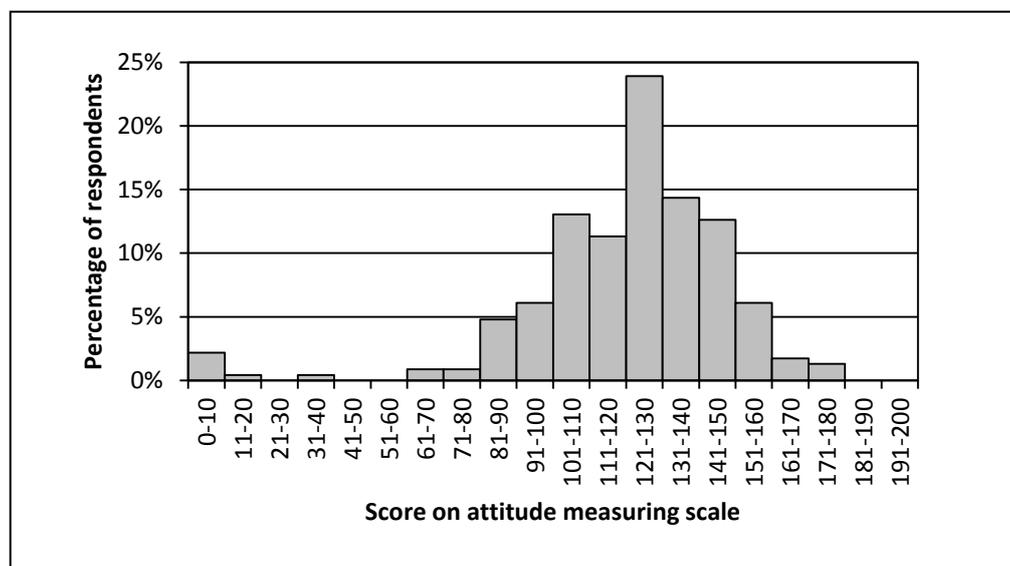
Table 2 depicts the undergraduate perception of the responsibility of various stakeholders in disseminating information on SHOT. As each respondent could cite more than one stakeholder the total number of responses exceeded the total number of cases.

**Table 2: The undergraduate perception of stakeholder responsibility in providing information**

The institution / officials	Percentage of responses indicating each stakeholder	
	Percent of total responses (n=443)	Percent of Cases (n=230)
Officials at Ministry of Health Officials	34.3%	68.8%
Officials at Sri Lanka Medical Association	35.7%	71.5%
Members of the Medical Students' Unions	25.1%	50.2%
Other (as defined by respondents)	5.0%	10.0%
<b>Total</b>	<b>100.0%</b>	<b>200.5%</b>

### Attitudes of study participants

**Figure 3: Percentage distribution of scores on attitudes towards 2 year internship (n=230)**



\*The respondents who obtained a score of 0-10 in the graph are those who did not respond to the attitudes section of the questionnaire

Figure 3 depicts the total scores obtained by participants in their attitudes towards the proposed internship. The mean score obtained by participants was 121.03 out of a total of 200 points. A majority had overall positive attitudes towards the programme as indicated by 84.2% of respondents obtaining a score above 100.

A positive correlation was observed between the knowledge and the attitude scores. (Spearman  $\rho = 0.796$ ,  $p < 0.01$ ) A correlation was observed between performance at Introductory Basic Sciences Stream examination (or equivalent 2nd MBBS exam) and attitudes towards this proposal

(Spearman  $\rho = 0.167$ ,  $p < 0.05$ ) where those with higher academic achievement had higher attitude scores. No such relationship was observed between Advanced Level examination attempt and attitude. The respondents' gender did not have any effect on the score on attitudes ( $\chi^2 = 1.778$ ,  $p > 0.05$ ) and the income level had no significant effect on knowledge or attitudes. ( $\chi^2 = 1.126$ ,  $p > 0.05$ )

Table 3 depicts the preferred future career choice of the respondents and each respondent was allowed to select more than one option. No single career choice was found to correlate with the attitude score.

**Table 3: Percentages frequencies of preferred future careers and their correlation with the attitude score**

Preferred future career choice	Percent of total responses (n=285)	Percent of respondents (n=230)	Correlation with attitude score ( $\chi^2$ value)	p value
General Practitioner	24.2%	32.7%	1.969	<0.05
Specialist	46.7%	63.0%	0.636	<0.05
Academic	17.5%	23.07%	0.624	<0.05
Other	11.6%	15.6%	0.462	<0.05
Total	100.0%	135.1%		

Participants who were satisfied with their current medical education were more likely to obtain higher scores with regards to attitudes towards the 2 year internship. ( $\chi^2 = 10.894$ ,  $p < 0.01$ ) Participants who stated that 2 year internship would affect their earning capacity during the period were more likely to score lower in the attitude scale. ( $\chi^2 = 14.894$ ,  $p < 0.01$ ) However there was no association between the participants' perception of their post-internship earning capacity with having an extended internship. ( $\chi^2 = 0.824$ ,  $p > 0.05$ ) A large majority (89.8%) indicated that they need further information on the proposed extension of the internship to 2 years.

## Discussion

The two year internship proposal was formulated in the year 2007 and was planned to be implemented by 2010. It is yet to be implemented as of July 2011 and the current status of this proposal has not been publicly announced. However extension of internship period has been tried out with success in the United Kingdom (1,2) and it may be reasonable to expect that Sri Lanka, which has often looked towards the British medical model for ideas in medical education, may eventually implement this proposal. This study was carried out with the aim of facilitating that

process among the key stakeholder group, medical undergraduates.

Despite the efforts by Sri Lanka Medical Council to educate students via the student leadership bodies of each university a majority of respondents had a low level of knowledge, reflected by the low mean score with regards to knowledge and a majority scoring less than 50%. While no single cause for poor knowledge was identified we can speculate that it is maybe related to the lack of interest among students due to the lack of visible steps being taken on implementation.

The findings relating to the poor level of knowledge should be appreciated in conjunction with the finding that knowledge and attitude scores are significantly associated. While evidence of association is not evidence of causation it may be reasonable to postulate that attempts at improving knowledge will lead to improved attitudes. However it should be noted that the relationship between knowledge and attitudes are complex and contextual (7,8). With regards to overall student attitudes, it may be heartening to note that even with relatively low knowledge levels the degree of enthusiasm for implementation of these proposals is exhibited by the high overall attitude scores.

Socio-demographic factors of students such as gender, family income and the advanced level examination attempt on which university entrance was gained on were not found to correlate with attitudes towards this proposal. Their lack of discernible effect on attitudes portends the relatively uniform level of acceptance or rejection that may be expected from the student body. However the correlation between performance at IBSS/ 2nd MBBS examination and attitudes demonstrate the need for the implementers of this proposal to be sensitive to the concerns of students who are relatively poor in their academic performance in faculty.

The extra year that medical graduates would work as interns on implementation of this proposal may have repercussions on their future plans. Concerns about reduced earning potential within the 2 years lead to a significant drop in the attitude score. However no such effect was observed regarding participants' expectations of income during post-intern period. Resistance to this proposal may be encountered due to this perceived loss of income. Similarly attention may be needed to be paid to students who indicate dissatisfaction with their current medical education which also significantly lowers the score in attitudes. It is also important to note that future career choice had no discernible effect on the attitude scores of the participants.

In conclusion it is the authors' hope that the findings of this study may be useful to the authorities during the implementation of the 2 year internship proposal.

### **Limitations**

This research was conducted in a limited setting and the selection of participants was not random in nature. Thus the sample may not be adequately representative.

The questionnaire was limited in scope, especially with regards to knowledge. These limitations were imposed as only the basic information about the proposal had been disseminated at the time of conducting the study.

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