

## ORIGINAL ARTICLE

### Evaluation of medical students' perception towards the BigSib Programme in the School of Medical Sciences, USM.

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#### Abstract

**Objective:** BigSib Students' Peer-Group Mentoring Programme was implemented as an innovative, interactive and integrated instructional method in the Universiti Sains Malaysia medical school curriculum designed to enhance and strengthen medical students training in soft skills and professional development. This study was conducted to evaluate first- and second-year medical students' perceptions of and attitudes towards the Programme.

**Methodology:** A cross sectional study was carried on 314 medical students. Questionnaires assessing medical students' perceptions and attitudes towards the Programme were administered. Data were analysed by using SPSS version 12.

**Results:** 45.9 % of the students perceived the BigSib Students' Peer-Group Mentoring Programme as successful. More than 50% of the students are willing to participate in the Programme. About 60% of the students perceived it as an effective Programme in developing their soft skills and professionalism.

**Conclusion:** Medical students have positive attitudes toward the Programme and it is perceived as a successful and effective Programme in developing students' personal attributes. Similar peer-group mentoring programme may be considered relevant to be incorporated into the medical curriculum in the future.

**Keywords:** Medical Students, Mentoring, BigSib Programme, Soft Skills, Student Support

#### 1.0 Introduction:

The School of Medical Sciences (SMS), Universiti Sains Malaysia practices an integrated, problem-based and community-oriented medical curriculum. This five year programme is divided into three phases. Phase I (year 1) is the fundamental year focusing on organ-based systems, Phase II (year 2 and 3) continues the system-based

approach and introduces the basics of clinical clerkship. Phase III (year 4 and 5) is the clinical phase whereby the students are rotated through all the clinical disciplines (1). The school adopts the SPICES approach in the implementation of its curriculum, i.e. Student oriented, Problem based, Integrated, Community oriented, Electives and Self learning and Systematic (2-3).

Ethical issues, communication and soft skills were realized as important elements in the curriculum since the inception of the school (1). Relevant inputs were imparted to students at various places in the time table. This practice was improved and consolidated from time to time. In the mid-nineties a "Students' Motivational Unit" was established to assist students who needed counseling and was soon followed by a more formal Student Development Unit. In 1996 this unit was combined with another parallel component of the school's curriculum, the Bioethics and Communication Skills Programme and was renamed as the Student Personal and Professional Development Programme (PPDP). In line with the Malaysian Ministry of Higher Education directive to all institutions of higher learning to emphasize soft skills in all university curriculums (4), SMS once again renamed the PPDP to Student Soft Skills and Development Programme (Program Pembangunan Insaniah Pelajar - PPIP) in 2007. This programme facilitates and coordinates soft-skills development activities in the curriculum to foster the development of good personal attitude and professional behavior in the undergraduate. It also helps the undergraduates to adapt to challenges in the learning process.

A major part of the PPIP is the BigSib Students' Peer-Group Mentoring Programme, also known as the BigSib Programme. It is an innovative, interactive and integrated (Triple-I) instructional method designed to enhance and strengthen medical students training in soft skills and professional development. This programme acts as a platform for interaction between the school, the seniors (second year students) and the first-year medical students, and helps the latter in the adjustment to new campus life as well as promoting personal development. The BigSibs are a group of second-year medical students, selected based on academic performance and attitude. The roles of BigSib are to act as Siblings, Eyes and Ears for the school, Counselor, Role-model and Trainer (SECRET). As siblings they are expected to share experience, support and help the juniors. As Eyes and Ears of the school, they help in early detection and

notification of first-year medical students' problems to PPIP. Functioning as counselors, they assist juniors in solving their problems, recognizing their potential and strengths, and motivate and supervise juniors to improve academic performance. The BigSibs are expected to be a role-model to the first-year medical students. They are also expected to act as trainers in the student development programme modules.

The programme activities focus on the formation of positive Attitudes, promotion of racial Integration and development of Soft skills (AIS). Formation of positive attitudes focuses on the development of self-directed learning skills, resiliency, accountability and respect toward self, teacher, elders and peers. Promotion of racial integration focuses on the promotion of understanding among the medical students who are of multiracial and multicultural background. Development of soft skills deals with the development of adaptation, teamwork, communication and leadership skills, as well as assertiveness and self-confidence. BigSib activities consist of BigSib-1<sup>st</sup> year meetings, additional 1<sup>st</sup> year activities and BigSib projects. BigSib-1<sup>st</sup> year meetings are held at least once a month for 2 hours duration. Two BigSibs will handle a group of first-year students and will carry out 6 modules with their groups. The modules include indoor games, a workshop on a selected topic, village tracking or treasure hunt, telematch, public speaking and a picnic, visit or outing. Every BigSib are required to use their own ideas and creativity to run each module. Additional 1<sup>st</sup> year activities consist of trial examinations, 1<sup>st</sup> year community placements, a BigSib-1<sup>st</sup> year camp and the BigSib dinner. The trial examinations are held 1 or 2 weeks before the real examinations to familiarize first-year medical students with the examination format. 1<sup>st</sup> year community placements expose the students to community service in order to improve their communication and teamwork skills. BigSibs are expected to help and advice them regarding the community placement programme activities. The BigSib-1<sup>st</sup> year camp is designed as the initial ice-breaking activity for the BigSibs and their respective

groups. The BigSib Dinner is held as recognition of the BigSib efforts. BigSib Projects are exclusive for BigSibs to ensure their involvement in organizing and implementing a project. The projects include a visit to another institution, jungle tracking, a picnic, motivation seminars for secondary school students, and a workshop on a selected topic. A group of BigSibs will be tasked to organize each project for the rest of the members. Weekly meetings are held between the BigSibs and the BigSib supervisor from the Medical Education Department to plan the suitable strategies and approaches needed to carry out the tasks and planned activities.

This study aims to evaluate the medical students' perception and attitudes towards the BigSib Programme. It is hoped that the information will be able to improve the programme further.

## 2.0 Methodology:

A cross sectional study was done on January 2008 at the School of Medical Sciences, Universiti Sains Malaysia. The study population was the first- and second-year medical students. Data was collected using validated questionnaire (Cronbach's Alpha value for knowledge, perceptions and attitudes domain was 0.72, 0.93 and 0.97 respectively). The questionnaire consists of four main parts. The first part is regarding personal information. The second part assesses students' knowledge regarding the programme. Students were asked to respond to items using 'Yes', 'No' or 'Not sure'. The correct answers were given 1 mark and incorrect or 'not sure' answers were given 0 mark. The third and fourth part of the questionnaire assesses students' perception and attitudes towards the Programme. This section was rated using a 5 scale-Likert score. The questionnaire was administered to 449 medical students who had undergone the programme in early January 2008. Data analysis was done using SPSS version 12. For the purpose of analysis, responses in the third

and fourth part of the questionnaire were divided into three categories: strongly agree and agree, undecided, and strongly disagree and disagree. Chi-square goodness of fit test was done to compare between responses in each categorical data. A few identified items were divided into 2 categories and Pearson Chi-square was used to determine relationship of variables with perception of success. The association between identified variables and perception of success was considered to be significant at p-value of less than 0.05. Multiple Logistic Regression test was used to determine the individual effect of identified variables. A variable was considered to have significant effect at p-value of less than 0.05.

## 3.0 Results

314 (70%) medical students responded to the questionnaire. 211 were female (67.2%) and 103 male (32.8%) with 204 Malays (65.4%), 90 Chinese (28.8%), 15 Indians (4.8%) and 3 other races (1%). 136 (64.0%) of respondents were first-year medical students and 68 (36%) were in the second-year. 43 (13.7%) were BigSibs.

The mean percentage score for knowledge was 74.1%.

Table 1 shows that the students have a positive perception of this programme in terms of promoting teamwork, respect, self confidence, reducing stress and helping to adjust to campus life. They also perceive that the programme is useful and well organized. However there is a relatively less positive perception regarding promoting interaction between students and lecturers and half of the students were not clear about the programme objectives.

Table 2 shows that the majority of the students noticed a positive improvement in most of their behaviors except for punctuality. Students prefer non-lecture-based compared to lecture-based activities

(Table 3). They also perceived that the BigSib roles were well achieved (Table 4).

45.9% of the respondents agreed that the programme was successful and less than 20% of respondents disagreed. BigSib status and gender were the determinant factors that affected the perception of the programme's success (Table 5).

#### 4.0 Discussion

Literature on peer-group mentorship is generally scarce; making comparison with previous studies difficult. Available data on similar programmes makes little mention on details of programme structure. This study is an attempt to look at the effectiveness of a structured approach in students' mentorship in shaping students' character and attitude formation. (5-6). Cottrell et. al (7) found that only half of medical students surveyed were highly satisfied with a mentoring scheme which was run based on personal tutor to a student approach. Malik, S. (8) reported that only less than one fifth (18.4%) of students perceived faculty to student groups approach scheme as successful. Our study, in contrast, found that more than half of the medical students surveyed were satisfied with the programme and more than two fifth (45.9%) perceived it as successful. This suggests that the mentoring scheme based on students to students approach in USM medical school is relatively better perceived and more successful.

#### Students' knowledge

The students' knowledge about the programme was very good (the mean percentage score was 74.1%). It indicated that the programme was well known among the students even though it was relatively a new programme. It perhaps reflected that the programme activities were relevant and appropriate for the medical students. Factors such as formal, regular and consistent activities possibly contributed to this finding although this needs further study.

#### Students' perceptions of the BigSib Programme.

Generally, medical students have very positive perception towards the programme. They felt that participation in the activities helped improve their level of self-confidence and promoted mutual respect and communication among their peers, thus reducing their level of stress. It is noteworthy that previous studies in Malaysia have noted a high level of stress among medical students (9-10). Therefore in an attempt to improve this situation it appears that a student mentorship programme which offers consultation to students from academic staff and senior medical students will be beneficial (9).

The organization of the BigSib programme was however perceived to be somewhat unsatisfactory. This is perhaps largely due to the difficulties in the organization of such a mentorship programme involving many personnel and requiring close coordination. Students generally felt that a closer personal relationship with their BigSibs would enhance the effectiveness of the programme. This is in keeping with findings from other studies (8).

#### Students' attitude toward BigSib activities

Students tend to prefer non-lecture-based activities than didactic approaches. Outdoor activities such as jungle and village tracking, visits, camping, community services and board games were perceived to have greater impact than lecture-based activities.

#### Students' attitude towards roles of BigSibs

The effectiveness of the BigSib programme depends a lot on the effectiveness of role models involved throughout the programme. Although students were satisfied with BigSib roles, areas indicated as needing improvement include uniformity in carrying out their functions in accordance with their prescribed aims and objectives. This can be improved by conducting training prior to the beginning of the programme.

### **The students' perceptions of changes in qualities occurring in themselves and those involved in the programme.**

Most of the students felt the BigSib programme helped in improving their personal qualities especially teamwork skills, self-confidence, leadership skills such as accountability, responsibility and problem-solving skills and stress coping skills. Similar findings were found in other studies (11-12). Buddeberg-Fischer & Herta (5) reported that mentoring proved to be an important career-advancement tool.

### **Students' perceptions of BigSib Programme as a successful programme.**

The programme was rated well by the majority of students regardless of year of study or race. This is a positive point for the programme.

Female students' perceptions were found to be more positive. It is possible that the activities were more suitable for female students compared to male students. This warrants further study as it is important that the activities attract both female and male students.

It is perhaps unsurprising to note that the perceptions of students who were BigSibs were more positive compared to non-BigSib students. Although this study was limited to the measurement of the students' perceptions, it is an early indication of the benefits of such programmes in student development. The actual impact of such programmes on those who participate need

to be established in future longitudinal studies. This is especially important because even though mentoring programmes are seen as a positive development in medicine, there is little evidence of its effectiveness in the long-term so far (5-6).

About 16% of the students felt that the programme was unsuccessful. Even though this is a relatively small percentage, the reasons for disagreement need to be elaborated in further studies to further improve the programme.

### **Response rate**

The relatively high students' response rate in this study (approximately 70%) compared with the response rate of approximately 40% obtained by Cottrell et al. (7) using the same survey method is perhaps an indication of students' strength of feelings and their perceived need for a system of student support (8).

### **5.0 Conclusion:**

Medical students have very positive perception of and attitudes towards the Big Sib programme. The students perceived it as a successful and effective programme. The programme helped in promoting and fostering the development of soft skills and professionalism among medical students. Similar peer-group mentoring programme may be considered relevant to be incorporated into the medical curriculum in the future.

**Table 1: The students' perception of the Big Sib Programme.**

Items	Response frequency, n (%)			X <sup>2</sup> Statistic	p-value*
	Strongly agree & Agree	undecided	Strongly disagree & Disagree		
<b>Positive</b>					
Help in promoting medical students work together.	214 (68.2)	71 (22.6)	29 (9.2)	179.7	< 0.001
Promotes respect	173 (55.1)	95 (30.3)	46 (14.6)	78.4	< 0.001
Willing to involve in Big Sib activities.	169 (54.0)	85 (27.2)	59 (18.8)	63.4	< 0.001
Help in reducing medical students' stress.	150 (47.9)	83 (26.5)	80 (25.6)	30.0	< 0.001
Helps in improving self-confidence	141 (45.0)	122 (39.0)	50 (16.0)	44.2	< 0.001
Helps in adjustment to the campus life.	132 (42.2)	109 (34.8)	72 (23.0)	17.6	< 0.001
Promotes interaction among the students and lecturers.	85 (27.1)	100 (31.8)	129 (41.1)	9.6	0.008
<b>Negative</b>					
Medical students are not clear with aims and objectives.	156 (50.0)	86 (27.6)	70 (22.4)	40.2	< 0.001
Does not help in study.	82 (26.3)	86 (27.6)	144 (46.2)	23.2	< 0.001
Is not well organized.	81 (25.9)	102 (32.6)	130 (41.5)	11.6	< 0.001
Wastes medical students' time.	7 (25.0)	111 (35.6)	123 (39.4)	10.4	0.005
Boring and meaningless.	72 (22.9)	97 (30.9)	145 (46.2)	26.3	< 0.001
Useless.	40 (12.7)	97 (30.9)	177 (56.4)	90.5	< 0.001

\* Chi-square goodness of fit. P-value of <0.05 as significant at 95% CI

**Table 2: The students' perception on behavioral or quality changes they saw in themselves.**

Items	Response frequency, n (%)			$\chi^2$ Statistic	p-value*
	Markedly improve & Improve	No change	Markedly worsen & Worsen		
Ability to work in team.	224 (72.5)	76 (24.6)	9 (2.9)	235.0	< 0.001
Respect to each other.	189 (61.2)	104 (33.7)	16 (5.2)	145.3	< 0.001
Accountable/ Responsible	181 (58.0)	119 (38.1)	12 (3.8)	140.6	< 0.001
Ability to solve problem.	158 (51.1)	133 (43.0)	18 (5.8)	108.2	< 0.001
Ability to make use of opportunity	155 (49.7)	140 (44.9)	17 (5.4)	110.3	< 0.001
Leadership	152 (48.7)	138 (44.2)	22 (7.1)	97.9	< 0.001
Ability to deal with problems	151 (48.6)	140 (45.0)	20 (6.4)	101.9	< 0.001
Self-awareness	151 (48.4)	144 (46.2)	17 (5.4)	109.4	< 0.001
Self-confidence.	136 (44.0)	160 (51.8)	13 (4.2)	120.8	< 0.001
Ability to cope with stress.	133 (43.0)	152 (49.2)	24 (7.8)	92.6	< 0.001
Ability to counsel others.	131 (42.4)	152 (49.2)	26 (8.4)	88.5	< 0.001
Resilience	98 (31.5)	194 (62.4)	19 (6.1)	148.2	< 0.001
Ability to manage time properly	97 (31.4)	161 (52.1)	51 (16.5)	59.3	< 0.001
Punctuality.	91 (29.5)	153 (49.5)	65 (21.0)	39.7	< 0.001

\* Chi-square goodness of fit. P-value of <0.05 as significant at 95% CI

**Table 3: The students' attitudes towards Big Sib activities.**

Activity	Response frequency, n (%)			X <sup>2</sup> Statistic	p-value*
	strongly prefer & prefer	undecided	strongly not prefer & not prefer		
<b>Non Lecture-based</b>					
Annual dinner	262 (85.0)	31 (10.1)	15 (4.9)	372.2	< 0.001
Jungle tracking	254 (82.7)	30 (9.8)	23 (7.5)	337.4	< 0.001
Visits	253 (82.1)	40 (13.0)	15 (4.9)	333.2	< 0.001
Village Tracking	247 (80.5)	39 (12.7)	21 (6.8)	308.4	< 0.001
Camping	247 (80.2)	34 (11.0)	27 (8.8)	304.6	< 0.001
Community services	230 (74.7)	53 (17.2)	25 (8.1)	240.7	< 0.001
Telematch	214 (69.5)	50 (16.2)	44 (14.3)	181.2	< 0.001
Board games	211 (68.5)	59 (19.2)	38 (12.3)	173.6	< 0.001
Debate	113 (36.7)	82 (26.6)	113 (36.7)	6.2	< 0.05
<b>Lecture-based</b>					
Motivation session	173 (56.2)	68 (22.1)	67 (21.7)	72.3	< 0.001
Workshop	154 (50.2)	75 (24.4)	78 (25.4)	39.2	< 0.001
Seminar	110 (35.7)	92 (29.3)	106 (34.4)	1.7	0.419
Group meeting/ discussion	98 (32.2)	81 (26.6)	125 (41.1)	9.7	< 0.05
Lecture at hall	43 (14.2)	72 (23.8)	187 (61.9)	115.2	< 0.001

\* Chi-square goodness of fit. P-value of <0.05 as significant at 95% CI

**Table 4: The students' attitudes towards Big Sib roles.**

Big Sib Roles	Response frequency, n (%)			$\chi^2$ Statistic	p-value*
	strongly acceptable & acceptable	undecided	strongly unacceptable & unacceptable		
Sibling	243 (78.9)	55 (17.9)	10 (3.2)	297.6	< 0.001
Eyes and Ears	199 (64.6)	76 (24.7)	33 (10.7)	144.6	< 0.001
Counselor	191 (62.2)	87 (28.3)	29 (9.5)	131.7	< 0.001
Role-model	241 (78.2)	48 (15.6)	19 (6.2)	283.7	< 0.001
Trainer	234 (76.0)	59 (19.2)	15 (4.9)	261.4	< 0.001

\* Chi-square goodness of fit. P-value of <0.05 as significant at 95% CI

**Table 5: The determinants factors for students' perceptions of the Big Sib Programme as a successful Programme**

Variable	Students' perceptions of success		LR statistics	p-value*
	Yes n (%)	No n (%)		
Big Sib Status				
Big Sib	33 (80.5)	8 (19.5)	57.9	< 0.001
Non-Big Sib	108 (40.6)	158 (59.4)		
Gender				
Male	35 (34.7)	66 (65.3)	47.3	0.004
Female	106 (51.5)	100 (48.5)		
Race				
Malay	93 (46.3)	108 (53.7)	39.2	0.695
Non-Malay	47 (45.2)	57 (54.8)		
Year of study				
First year	80 (40.2)	119 (59.8)	39.1	0.815
Second year	61 (56.5)	47 (43.5)		

\* Multiple Logistic Regression. P-value of < 0.05 as significant at 95% CI.

## References

1. Zabidi A.M.Hussin and Mustaffa Embong. Attitude formation and ethics among medical students – strategies adopted by the School of Medical Sciences Universiti Sains Malaysia, *Malaysian Journal of Medical Sciences*, 1997; **4**(1): 87-91.
2. Zabidi A.M. Hussin and Fuad AR. Medical education in Universiti Sains Malaysia, *Malaysian Journal of Medical Sciences*, 2002; **57** Suppl E: 8-12.
3. Nor Mohd Adnan Azila, Jaafar Rogayah and Z.A.M.H. Zabidi-Hussin. Curricular trends in Malaysian medical schools: innovations within, *Ann Acad Med Singapore*, 2006; **35**: 647-54.
4. National Higher Education Action Plan 2007-2010, Ministry of Higher Education, Malaysia, 2007.
5. Buddeberg-Fischer B & Herta K-D. Formal mentoring Programmes for the medical students and doctors – a review of the Medline literature, *Medical Teacher*, 2006; **28**(3): 248-257.
6. Sloan R & Taylor G. The impact of general practitioners trained as mentors: a study of mentoring activity and potential, *Mentoring & Tutoring*, 2003; **11**(3): 311-330.
7. Cottrell, D. J., McCrorie, P. & Perrin, F. The personal tutor system: an evaluation. *Med Educ* 1994; **28**(6): 544-9.
8. Malik, S. Students, tutors and relationships: the ingredients of a successful student support scheme. *Med Educ* 2000; **34**(8): 635-41.
9. Sherina MS, Lekhraj R, Nadarajan K. Prevalence of emotional disorder among medical students in a Malaysian university, *Asia Pacific Family Medicine*, 2003; **2**: 213-217.
10. Zaid, Z. A., Chan, S. C. & Ho, J. J. Emotional disorders among medical students in a Malaysian private medical school. *Singapore Med J*, 2007; **48**(10), 895-9.
11. Slockers, M., Van De Ven, P., Steentjes, M. & Moli, H. Introducing first-year students to medical school: experiences at the Faculty of Medicine of Erasmus University, Rotterdam, The Netherland, *Medical Education*, 1981; **15**: 294-297.
12. Morzinski, J., Dierh, S., Bower, D. & Simpson, D. A descriptive cross-sectional study of formal mentoring for faculty, *Family Medicine*, 1996; **28**: 434-438.

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