

Evaluation of Out-Patient Care Educational Environment of National Defence University, Malaysia utilizing the ACLEEM Inventory

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Abstract

Purpose: A friendly educational environment is required for optimal learning, and students should be asked to provide feedback on their experiences to improve curriculum. Moreover, students' academic progress, mental growth, and physical well-being are influenced by the educational and clinical environment of the institute. Essential constituents of the educational climate include atmosphere, number of proper teaching-learning sessions and available amenities. Primary health care and ambulatory settings allow students ample opportunities to interact with patients and observe health promotional activities more often practiced at the community levels. The study aims to evaluate the outpatient care educational environment of National Defense University of Malaysia by seeking feedback from medical students using Ambulatory Care Educational Environment Measure (ACLEEM) instrument.

Methods: This was a cross-sectional study. The study participants were medical students of the earlier mentioned university. The universal sampling method was adopted. The ACLEEM validated instrument was utilized for the data collection. The instrument was developed on the basis of 5-point Likert Scale (Minimum: 0, and Maximum: 4).

Results: The response rate 100%. Most respondents were male, Malay and Muslim. The total mean score was 1.0±0.4. The domain mean scores for clinical teaching, clinical training, and support were 0.8±0.4, 1.1±0.4, and 1.1±0.5, respectively.

Conclusions: The ACLEEM questionnaire was found to be valid and reliable for local UPNM, Malaysian context. However, the overall ACLEEM scores reported for the present study is low, and some areas that could be improved. The UPNM authority should take appropriate measures to improve the educational environment to enhance the academic experiences of the medical students.

Keywords: ACLEEM, Medical Students, Outpatient setting, Primary health care, Educational environment.

INTRODUCTION

Learning has been defined functionally as changes in behavior that result from experience or mechanistically as changes in the organism that result from experience (1). Experience has been defined as an environmental event that is perceived by an organism, and that can alter behavior (2). Teaching is the process of attending to people's needs, experiences and feelings, and making specific interventions to help them learn things (3).

The educational environment has been more and more accepted as life and death for first-rate medical education (4-6). Essential constituents of the educational environment include atmosphere, number of proper teaching-learning sessions and available

amenities (7, 8). The significance of the educational environment for the standard of education is strengthened by research outcomes, illustrating that students' insights of the educational environment-quality inspire pupils' participation, contentment, and accomplishment (9). A constructive educational environment is a compulsory prerequisite to arouse and provoke student learning (10, 11). A constructive educational environment contributes a lot to the development and expansion of the quality of medical education (ME) has been increasingly appreciated. This has enthused the growth of quite a lot of educational environment evaluation instruments (12-14). So far, these educational environment inventories principally assess clinical and academic

environment of any medical, dental or health professional school, but not in any primary care teaching environment or ambulatory settings.

Primary health care (PHC), as a concept was officially launched by World Health Organization (WHO)/UNICEF in 1978 and defined PHC as follows: (15) "Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both country's health system, of which it is the central function and focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family, and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process (15). Primary health care ensures equitable health care and eventually equitable health (16). PHC was found "to be associated with enhanced access to health-care services, better health outcomes, and a decrease in hospitalization and use of emergency department visits. Primary care can also help counteract the negative impact of poor economic conditions on health" (17).

Medical schools around the world are now utilizing PHC settings to train medical students and teach more about the standard community health problems (18). Sociological perspectives need to be incorporated into the traditional biomedical curriculum to produce competency-based and community-oriented physicians. Many schools have entirely restructured their curricula with a community-oriented approach, and other medical institutions have also made significant changes by introducing a community-based element into their curriculum (18, 19). A study conducted in the UK found that out of the 32 undergraduate UK medical schools, 31 provided a variety of community-based education (CBE) training (20). The most popular form of CBE (89% of medical schools) was in PHC settings (general practice) contained within the first two years of study (20). Therefore, incorporation of community-based placements in PHC settings in medical curriculum is much essential to ensure health equity (21). There were a lot of effort to evaluate educational environment and a number instruments like the Anaesthesia Theatre Educational Environment Measurement (ATEEM) (22), the Surgical Theatre Educational Environment Measure (STEEM) (23), the Postgraduate Hospital Educational Environment Measure (PHEEM) (4), and the Dundee Ready Educational Environment Measure (DREEM) were developed (14). Nevertheless, none of these tools were especially focused to assess teaching and learning environments for ambulatory care (24). Fortunately, the ACLEEM was developed in 2013 (25, 26). In ambulatory care settings, patients do not stay in hospitals and patients are seen in outpatient clinics, emergency rooms, and primary care (25, 26). Training in these sites allows students ample opportunities to interact with patients who are less sick and close to their social context, multiple exposures to the same clinical problems, practice more complex and

transferable skills, and observe health promotion activities more often practiced in these environments (27).

To the best of the investigator's knowledge, there had been no published research found on accessing student perception regarding primary health care educational environment in any Malaysian medical schools including Universiti Pertahanan Nasional Malaysia [(UPNM); National Defense University of Malaysia]. Faculty of Medicine and Defense Health, UPNM has five bachelor programs for medical graduation. In the year 2016 first batch of 50 students graduated. The year I and II mainly deal with preclinical studies. Clinical studies start from the Year III till Year V. UPNM Medical students principally do both in and outpatients clinical clerkship in Hospital Angkatan Tentera Tuanku Mizan (HAT MIZAN), Seksyen 2, Wangsa Maju, 3, Jalan 4/27a, 53300 Kuala Lumpur, Federal Territory of Kuala Lumpur, and Hospital Selayang, Lebuhraya Selayang-Kepong, 68100 Batu Caves, Selangor, Malaysia. HAT Mizan is a military hospital and Hospital Selayang is a public hospital. Both are the tertiary care hospital. UPNM medical lecturers, HAT Mizan, and Hospital Selayang consultants teach medical students. Each clinical post includes both in and outpatients teaching and learning sessions. Lectures are decided depending on the availability of patient shift teaching and learning sessions. Nevertheless, Medicine, Surgery, Obstetrics & Gynecology, Orthopedics, Psychiatry, and Otorhinolaryngology posting students visited out patient's clinic 2/3, 1, 1, 21 and 2 times a week respectively and each session comprises of 5 hours usually 8.00 AM to 1.00 PM. Thereafter, UPNM medical students start outpatient clerkship from Year III and end in Year V. The language of instruction is in English. Therefore, the current study findings will serve as first ever findings and baseline data by seeking feedback from medical students of UPNM using ACLEEM.

MATERIALS and METHODS

Study Design

This was a cross-sectional study.

Study Population

The study participants were year III, IV and V medical students of the UPNM, Malaysia.

Study Period

Data was collected between February 2017 and April 2017.

Sampling Method and Sample Size

Universal sampling method was adopted since the total study population was small (n=151).

Independent Variables: Independent variables such as age, sex, religion, academic grade admission profile, and pre-university education were incorporated to demonstrate socio-demographic profile of the study population.

Data Collection

The ACLEEM validated instrument (Appendix 1) was utilized for the data collection. The necessary permission was obtained

from the authors (25, 26). The instrument was developed on the basis of 5-point Likert Scale (Minimum: 0, and Maximum: 4). The questionnaire was pretested and validated in the local context. The questionnaire was administered to 15 (5+5+5) medical students who did not participate in the main study. A total of 136 questionnaires were distributed, and the responses were collected and analyzed for validity and reliability. The Cronbach alpha was calculated as 0.894 and Convergent Validity as 0.021–0.831, and thus ACLEEM possessed acceptable internal consistency and validity (Table 1). Cronbach's alpha values above 0.70 are regarded as satisfactory (27). Regarding convergent validity, most of the items correlate moderately to excellent to their domain ($p < 0.05$) (28).

Table 1. Reliability and Validity of the ACLEEM

| Domains | Cronbach's Alpha | Convergent Validity |
|-------------------|------------------|---------------------|
| Clinical Teaching | 0.926 | 0.196 – 0.930 |
| Clinical Training | 0.846 | -0.084 – 0.785 |
| Support | 0.577 | 0.124 – 0.678 |
| Total | 0.894 | -0.021 – 0.831 |

Table 2. The Characteristics of the Study Participants Who Completed ACLEEM Questionnaire (N=136)

| Variables | n (%) |
|---------------------------------|-------------|
| Sex | |
| Male | 79 (58.1%) |
| Female | 57 (41.9%) |
| Year of Study | |
| III | 39 (28.7%) |
| IV | 40 (29.4%) |
| V | 57 (41.9%) |
| Mean Age in Years (SD*) | |
| Year III | 21.2±0.22 |
| Year IV | 22.1±0.35 |
| Year V | 23.0±0.19 |
| Total Mean Age | 22.1±0.86 |
| Professional exam | |
| A | 17 (12.5%) |
| B | 100 (73.5%) |
| B- | 1 (0.7%) |
| C | 17 (12.5%) |
| C+ | 1 (0.7%) |
| Race | |
| Malay | 95 (69.9%) |
| Chinese | 13 (9.6%) |
| Indian | 28 (20.6%) |
| Religion | |
| Islam | 95 (69.9%) |
| Buddha | 13 (9.6%) |
| Hindu | 27 (19.9%) |
| Others | 1 (0.7%) |
| Admitted | |
| Cadet Officer | 104 (76.5%) |
| Territorial Army | 4 (2.9%) |
| Civil Student | 28 (20.6%) |
| Pre-University Education | |
| Matriculation | 8 (5.9%) |
| Certificate of Higher Education | 2 (1.5%) |
| Foundation Course | 126 (92.6%) |

*SD, standard deviation.

The ACLEEM questionnaire has 50 questions scored based on a five-point Likert scale ranging from 4 (strongly agree) to 0 (strongly disagree). The items are divided into three domains: clinical teaching (items 1–16), clinical training (items 17–38), and support (items 39–50). Because items 24 and 27 contained negative statements, reverse code for the scores are used. The maximum score of the questionnaire was 200 (24). In original study, domains were embedded into eight groups: Teachers (11 items: maximum 44 scores), Clinical Activities and Patient Care (11 items: maximum 44 scores), Protected Time (5 items: maximum 20 scores), Infrastructure (6 items: maximum 24 scores); Clinical Skills (6 items: maximum 24 scores), Assessment and Feedback (5 items: maximum 20 scores), Information communication and technology (3 items; maximum 12 scores), and Clinical supervision (3 items; maximum 12 scores). Information communication and technology (3 items) items were removed from the scale because of very low-reliability scores were observed using Pearson correlation and Manova test for comparison. Higher scores in ACLEEM inventory indicate a more positive result.

Data Analysis and Interpretation

In the current study, descriptive statistics and percentages were presented. Pearson correlation was used to assess the association between age, grade, and ACLEEM subgroup scores. ANOVA and MANOVA tests were used to compare the years of study for ACLEEM scores. SPSS Version 21 (IBM Corporation, Armonk, NY, USA) was used for data analyses.

Ethical Consideration

This research was approved by the Centre for Research and Innovation Management, UPNM, Malaysia. The Code of Research: UPNM/2016/SF/SKK/02; Memo No: UPNM (PPPI) 16.01/06/020 (02), 22 December 2016. The objectives of the study were explained to study participants and informed written consent were obtained before questionnaires were distributed. We also informed the participants on the possibility of utilising the data for publication. The students were also ensured that the study participation is voluntary and anonymous.

RESULTS

The total 136 questionnaires were returned, giving 100% response rate. Most respondents were male, Malay and Muslim. Details of the sociodemographic data were illustrated in Table 2. In general, Malaysian medical students start medical school at the age of 19 years and finishes at the age of 23 years; that makes five years of medical study. The mean age of the current study participants was 22.1±0.86 Years (Age Range was 21–23 years). The total mean score (± SD) of ACLEEM scores was 1.0±0.4 (Table 3). The domain mean scores for clinical teaching, clinical training, and support were 0.8±0.4, 1.1±0.4, and 1.1±0.5, respectively. There were no statistically significant differences observed between sexes in all three domains and total scores ($p > 0.05$) (Table 4). Additionally, there were no statistically significant differences observed in ACLEEM scores between Year of Study in Clinical Teaching ($p = 0.080$), Clinical Training ($p = 0.061$), and Support ($p = 0.117$) (Table 5). Nevertheless, there was statistically significant ($p = 0.045$) differences between Year III and IV in ACLEEM scores (Table 5).

Table 3. Minimum and maximum scores and mean scores of ACLEEM domains

| Domains | Number of Items | N | Minimum Score | Maximum Score | Mean Score |
|-------------------|-----------------|-----|---------------|---------------|------------|
| Clinical Teaching | 16 (1-16) | 136 | 0 | 26 | 0.8±0.4 |
| Clinical Training | 22 (17-38) | 136 | 2 | 41 | 1.1±0.4 |
| Support | 12 (39-50) | 136 | 0 | 32 | 1.1±0.5 |
| Total | 50 (1-50) | 136 | 8 | 89 | 1.0±0.4 |

Missing=14

Table 4. Comparison of ACLEEM Domains based on sex (N=136)

| Variables | All (N=136) | Male (n=79) | Female (n=57) | p-value* |
|-------------------|-------------|-------------|---------------|----------|
| Clinical Teaching | 12.4 (6.2) | 12.3 (6.1) | 12.6 (6.2) | 0.743 |
| Clinical Training | 23.2 (8.1) | 23.0 (7.6) | 23.5 (8.8) | 0.714 |
| Support | 13.4 (5.6) | 13.8 (5.8) | 13.0 (5.4) | 0.427 |
| Total | 49.1 (17.5) | 49.0 (17.3) | 49.1 (17.8) | 0.976 |

Values were presented as mean (standard deviation).

*p value <0.05; Independent t-test

Table 5. Comparison of ACLEEM Domains Based on Years (N=136)

| Variables | Year III (n=39) | Year IV (n=40) | Year V (n=57) | p-value* |
|-------------------|-----------------|----------------|---------------|-------------------|
| Clinical Teaching | 13.7 (5.0) | 13.2 (6.8) | 11.05 (6.2) | 0.080 |
| Clinical Training | 25.5 (7.7) | 23.4 (7.9) | 21.5 (8.2) | 0.061 |
| Support | 14.5 (5.6) | 14.1 (5.1) | 12.3 (5.8) | 0.117 |
| Total | 53.6 (14.6) | 50.6 (18.1) | 44.8 (18.1) | 0.045 (III & IV)* |

Values were presented as mean (standard deviation).

*p value <0.05; ANOVA

There was little positive correlation found with age of study participants and scores on Teachers (p=0.005), Clinical Activities and Patient Care (p=0.005), Protected Time (p=0.043) Infrastructure (p=0.033); Clinical Skills (p=0.011). Nonetheless, no correlation found in Assessment and Feedback (p=0.241) and Clinical supervision (p=0.279) (Table 6). Again, there was no correlation found with academic grade of Study participants and Teachers (p=0.992), Clinical Activities and Patient Care (p=0.438), Protected Time (p=0.158) Infrastructure (p=0.562); Clinical Skills (p=0.565) and Assessment and Feedback (p=0.264). Nevertheless, little positive correlation found with Clinical supervision (p=0.043) (Table 6).

Table 6. Correlation between Different items of ACLEEM Questionnaire with Age and Current Academic Grade Using Pearson Correlation Test (N=136)

| | r-value | p-value | Interpretation |
|--------------------------------------|---------|---------|-----------------------------|
| Age Versus | | | |
| Teachers | 0.239 | 0.005 | Little positive correlation |
| Clinical Activities and Patient Care | 0.238 | 0.005 | Little positive correlation |
| Protected Time | 0.174 | 0.043 | Little positive correlation |
| Infrastructure | 0.183 | 0.033 | Little positive correlation |
| Clinical Skills | 0.217 | 0.011 | Little positive correlation |
| Assessment and Feedback | 0.101 | 0.241 | No correlation |
| Clinical Supervision | -0.093 | 0.279 | No correlation |
| Grade Versus | | | |
| Teachers | -0.001 | 0.992 | No correlation |
| Clinical Activities and Patient Care | -0.067 | 0.438 | No correlation |
| Protected Time | -0.122 | 0.158 | No correlation |
| Infrastructure | -0.050 | 0.562 | No correlation |
| Clinical Skills | -0.050 | 0.565 | No correlation |
| Assessment and Feedback | -0.096 | 0.264 | No correlation |
| Clinical Supervision | 0.173 | 0.043 | Little positive correlation |

Notes: Information communication and technology domain (with 3 items) was removed because of very low-reliability scores.

Table 7. Comparing Different Groups under ACLEEM Questionnaire between Different Years of Study Using Manova Test (N=135)

| | Percentage of Total Score Estimated Marginal Mean (95% Confidence Interval) | | | Partial F-statistics (df) | p-value* |
|--------------------------------------|---|-------------------------|-------------------------|---------------------------|--------------------------|
| | Year III (n=39) | Year IV (n=40) | Year V (n=56) | | |
| Teachers | 84.52 (82.167, 86.877) | 84.55 (82.220, 86.871) | 89.06 (87.093, 91.024) | 6.069 (2, 132) | 0.003^a |
| Clinical Activities and Patient Care | 77.38 (74.449, 80.308) | 80.44 (77.552, 83.337) | 82.62 (80.174, 85.064) | 3.690 (2, 132) | 0.028^b |
| Protected Time | 78.85 (75.797, 81.895) | 80.625 (77.614, 83.636) | 82.321 (79.777, 84.866) | 1.509 (2, 132) | 0.225 |
| Infrastructure | 74.46 (70.831, 78.092) | 73.70 (70.115, 77.285) | 78.93 (75.899, 81.959) | 2.980 (2, 132) | 0.054 |
| Clinical Skills | 79.49 (76.666, 82.308) | 82.90 (80.114, 85.686) | 84.5 (82.146, 86.854) | 3.678 (2, 132) | 0.028^c |
| Assessment and Feedback | 80.92 (77.549, 84.297) | 82.30 (78.968, 85.632) | 82.86 (80.041, 85.673) | 0.386 (2, 132) | 0.681 |
| Clinical Supervision | 51.28 (45.639, 56.925) | 53.00 (47.428, 58.572) | 48.21 (43.505, 52.924) | 0.892 (2, 132) | 0.412 |

*p-value for multivariate F-test is **0.032** (Pillai's trace)

^aThe significant difference is between Year III vs. Year V (p-value=0.012) and Year 4 vs. Year 5 (p-value=0.012).

^bThe significant difference is between Year III vs. Year V (p-value=0.022).

^cThe significant difference is between Year III vs. Year V (p-value=0.024).

Notes: Information communication and technology domain (with 3 items) was removed because of very low-reliability scores.

In Table 7 different domains under ACLEEM questionnaire were compared between different years of study using Manova Test. There were statistically significant differences observed regarding scores on Teachers between Year-III vs. Year-V ($p=0.012$) and Year-IV vs. Year-V ($p=0.012$); regarding scores on **Activities and Patient Care** between Year-III vs. Year-V ($p=0.022$) and regarding scores on clinical skills between Year-III vs. Year-V ($p\text{-value}=0.024$).

DISCUSSION

This ACLEEM questionnaire possessed an acceptable level of Cronbach's Alpha and Convergent Validity. Accordingly, this questionnaire can be considered as reliable and valid for local Malaysian context (28). The current study population predominantly constituted mainly of male participants; this finding could be explained as the male students admitted faculty of medicine and defense health, UPNM higher in number than their female counterpart.

A friendly educational environment is required for optimal learning and students should be asked to provide feedback on their experiences to improve curriculum (14). Moreover, students' academic progress, mental growth, and physical well-being are influenced by the educational and clinical environment of the institutes (12). It is of real concern that the total mean score of the current study found to be quite low from other overseas studies (29, 30). Students assessed the educational environment at UPNM as negative, and there are many scopes for improvements across all three domains and eight sub-domains. The most troubled area identified is 'supervision' which needs much attention and immediate intervention. The overall low scores can be explained as this medical school is quite new and only two batch had been graduated so far. Subsequently, with time and regular updating the curriculum hopefully primary health care educational environment will be improved in future. There were no statistically significant differences observed between sexes in three domains of ACLEEM like one earlier study (30). Again, there were no statistically significant differences observed between the years of study in all three domains individually, but significant differences observed in total. Lack of statistically significant difference between the sex and year of study may be due to the respondents were from the same cohort, lived in the same hostel, and many things of their life is quite the same. Moreover, the current respondents live a restricted life.

There was little positive correlation observed in five domains with the respondents' age. This can be explained by increase in age the respondents' state of mind changes, get more experienced with the system, their ability to realization alters. Again, no correlation found in six domains with the respondents' academic grade can be explained that grade of the respondents does not have an impact on scoring ACLEEM questionnaire.

Furthermore, using multivariate analysis of variance (Manova) analysis to compare scores between the years of study, there were statically significant differences observed in some components of ACLEEM questionnaire. This can be explained with progressing in the year of study the respondents' maturity regarding their primary

health care educational environment changed. Sociologists identify age as one of the most ultimate groups forming social life (20, 31, 32). Nonetheless, subjective age is similarly or more significant than chronological age in many processes (33, 34). Subjective age is a multidimensional construct that specifies how old a person senses and into which age group a person categorizes himself or herself (20, 35). Additionally, it can also be explained by specific changes to the out-patient care educational program by study year that may influence the responses of study participants to the sub-groups of ACLEEM questionnaire.

This is a cross-sectional study with its own inherent limitations. The research sample was collected from only one public medical school using relatively small sample size. Additionally, a significant portion of the study participants were cadet officers. Therefore, they lead a regulated life because of military regulation. Hence, the study findings cannot be generalized. Further studies are required on a longitudinal basis to explore various aspects involving more students of multiple medical institutions.

CONCLUSION

The ACLEEM questionnaire was valid and reliable for local UPNM, Malaysian context. The overall ACLEEM scores in our study are low in comparison to studies conducted in other countries. ACLEEM evaluates the quality of educational programs providing relevant feedback about several aspects of a teacher, infrastructure, assessment, patients care, supervision, etc. hospital and ambulatory settings. There are many aspects of the educational program which are performing well, and some areas that could be improved. The UPNM authority should take appropriate measures to enhance the educational environment to enhance the experiences of the medical students.

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Ethics Committee Approval: This research was approved by the Centre for Research and Innovation Management, UPNM, Malaysia.

Informed Consent: Written informed consent was obtained from patient who participated in this case

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - MH, GMK, ATMEH, JVG ; Design - MH, GMK, ATMEH, JVG; Supervision - MH, NSABO, SNNBL; Materials - MH, NSABO, SNNBL; Data Collection and/or Processing - MH, NSABO, SNNBL; Analysis and/or Interpretation - NAAR, MZI, ATMEH; Literature Review - MH, MZI, Writing - MH, MAAM; Critical Reviews - MH, MAAM

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Appendix 1

The Questionnaire for ACLEEM Study

Measuring the Educational Environment in Ambulatory Settings

Please fill in this information and then read the instructions below.

All Information Remains Strictly Confidential

This is a Research Study Will Help to Formulate Better Curriculum for Medical Education and to Develop More Holistic Doctor for Peoples of Malaysia.

How to fill out the questionnaire

Below is a list of statements. Please read each statement **VERY CAREFULLY** and rate how strongly you agree or disagree with it by giving Tick Mark (✓) your answer. There are no right or wrong answers, or trick questions.

Please do not write your name and matriculation number or anything which can detect your personal identity.

YOU MUST ANSWER EVERY QUESTION, FOR THE SCALE TO BE VALID.

SOCIO-DEMOGRAPHIC DATA

Year of Study: III / IV / V. **Sex:** Male / Female. **Date of Birth:** _____. **Today's Date:** _____. **Grade in Last Professional Examination:** _____. **Race:** Malay / Chinese / Indian / Others (Please Specify if Others): _____. **Religion:** Islam / Buddha / Hindu / Others (Please Specify if Others): _____. **Pre-University GPA:** _____. **Pre-University Education:** Matriculation / Certificate of Higher Education / Foundation Course / Diploma / Others (Please Specify if Others): _____. **You are Admitted as:** Cadet Officer / Territorial Army / Civil Student.

| Question Number | Question | Strongly Agree | Agree | Unsure | Disagree | Strongly Disagree |
|-----------------|--|----------------|-------|--------|----------|-------------------|
| 1. | Working in the Out-Patient Care (OPC) enables me to develop my problem-solving skills. | | | | | |
| 2. | The teaching staff in the OPC have good clinical skills. | | | | | |
| 3. | The teaching staff in the OPC are up to date in their knowledge and skills. | | | | | |
| 4. | My teachers in the OPC use teaching methods that are appropriate for each subject matter. | | | | | |
| 5. | I feel that my clinical teachers are appropriately qualified to carry out their teaching duties. | | | | | |
| 6. | My clinical teaching staff are interested in improving the quality of the teaching activities in the OPC | | | | | |
| 7. | I can develop my interpersonal skills in the OPC | | | | | |
| 8. | I get my evaluations in a timely manner from the teachers in the OPC | | | | | |
| 9. | I feel that the assessment methods used in the OPC are compatible with the teaching methodology | | | | | |
| 10. | I have a clear idea about the objectives and learning outcomes of my educational activities in the OPC | | | | | |
| 11. | I feel that the learning objectives and outcomes of the OPC are achieved appropriately | | | | | |
| 12. | I am allowed to participate actively in external educational events and medical meetings. | | | | | |
| 13. | My teachers in the OPC use teaching and learning activities effectively | | | | | |
| 14. | The allocated teaching time in the OPC is respected by the clinical teachers | | | | | |
| 15. | My clinical teachers provide me with feedback about my strengths and weaknesses. | | | | | |
| 16. | My clinical teachers are enthusiastic about teaching. | | | | | |

| Question Number | Question | Strongly Agree | Agree | Unsure | Disagree | Strongly Disagree |
|-----------------|--|----------------|-------|--------|----------|-------------------|
| 17. | Working in the OPCs gives me learning opportunities in a wide variety of diseases. | | | | | |
| 18. | In the OPC I learn to treat patients with conditions that are specifically related to ambulatory care. | | | | | |
| 19. | My clinical teachers in the OPC appropriately emphasize the doctor-patient relationship | | | | | |
| 20. | In the OPC I learn from the experience of my clinical teachers | | | | | |
| 21. | My clinical teachers are good professional role models for me. | | | | | |
| 22. | The clinical facilities in the OPC are suitable for working with patients in my specialty | | | | | |
| 23. | I have the opportunity to follow up my patients appropriately in the OPC | | | | | |
| 24. | I have insufficient time with each patient in the OPC. | | | | | |
| 25. | My activities in the OPC are clearly programmed | | | | | |
| 26. | I am able to refer my patients for evaluation by multidisciplinary teams | | | | | |
| 27. | There are insufficient clinical supervisors for the number of residents in the OPC. | | | | | |
| 28. | I can obtain clinical supervision when I need it | | | | | |
| 29. | I feel that I have the appropriate level of responsibility for my patients in the OPC | | | | | |
| 30. | I feel that my clinical supervisors consider my opinions in clinical decision making about my patients | | | | | |
| 31. | I feel that I treat my patients in the OPC according to the treatment protocols for their conditions and illnesses | | | | | |
| 32. | I am able to learn the required practical procedures in the OPC | | | | | |
| 33. | I feel that I am learning to become confident in my specialty in the OPC. | | | | | |
| 34. | I feel that the clinical rotations in the OPC are preparing me properly for my professional future | | | | | |
| 35. | In the OPC I manage clinical problems taking into account the social and emotional aspects of my patients | | | | | |
| 36. | I am able to learn to adjust my work to the resources available in the OPC | | | | | |
| 37. | I am able to carry out health education activities in the OPC | | | | | |
| 38. | I feel that my time in the OPC is preparing me to address the health needs of the country | | | | | |
| 39. | The teachers in the OPC respond to my personal concerns appropriately | | | | | |
| 40. | The workload allows me to balance the clinical care of my patients with my educational activities | | | | | |
| 41. | I can keep my work and personal life in balance when I am working in the OPC | | | | | |
| 42. | My working hours in the OPC permit adequate rest and eating times | | | | | |
| 43. | I feel part of the team in the OPC. | | | | | |
| 44. | I receive support from other OPC residents when I need it. | | | | | |
| 45. | I feel that other members of the healthcare team are willing to help me when I need it. | | | | | |
| 46. | I have adequate access to computers and Internet in the OPC | | | | | |
| 47. | The OPC provides lockers to keep my personal belongings safe. | | | | | |
| 48. | There are adequate bathroom facilities in the OPC. | | | | | |
| 49. | The OPCs have adequate supplies and instruments to render quality professional care. | | | | | |
| 50. | The clinical files and / or information systems of the OPC give me adequate access to patient information. | | | | | |

Thanks for Your KIND Cooperation.