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| **Original Article** |

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| **Yearly Course Evaluations of Medicine in King Saud Bin Abdul Aziz University** |

**Course Evaluations Over the Years at College of Medicine; King Saud Bin Abdul Aziz University Jeddah**

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**ABSTRACT**

**Objective:** The purpose of our study is to inform the audience about the working and establishment of the evaluation unit at COM-JKSAU-HS, the challenges that the evaluation unit faced, to assess 'students' satisfaction with the courses over the years

**Study Design:** Descriptive cross-sectional study

**Place and Duration of Study:** This study was conducted at the College of Medicine, King Saud Bin Abdul -Aziz University for Health Sciences– Jeddah, Saudi Arabia July 2021 to June 2022.

**Materials and Methods:** All the medical students using consecutive sampling techniques were included in the study after IRB approval. Data for the academic years 2013 till 2020 was retrieved from the evaluation ''units' records. SPSS version 20.0 was used for data analysis.

**Results:** Our data showed that students were satisfied with the curriculum and the faculty. Over the years, students remained satisfied with the faculty, and courses taught. There was a decline, followed by a steady improvement in students’ satisfaction as we progressed towards institutionalizing a quality-conscious culture through accreditation. In addition, the students from clinical years were more satisfied with all the domains assessed than those from the preclinical years.

**Conclusion:** Though Establishing an evaluation unit and maintaining efficient learning and student satisfaction is tedious, but truly a worth mentioning experience in terms of institutional gains. Feedback should be valued and considered a guide to assessing the curriculum's effectiveness; it can act as a mirror to reflect on institutional performance and help reform accordingly. Students in the clinical phase tend to be more satisfied than those from the preclinical phase.

**Key Words:** Course evaluation, Evaluation unit, Student's satisfaction, College of Medicine Saudi Arabia

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**INTRODUCTION**

With changing trends worldwide to a culture of quality improvement and customer satisfaction, feedback and evaluation have become integral in all walks of life.

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Evaluation at an educational institute is an important tool to give an insight into institutional teaching and performance (1) Feedback has been considered a guide to improving curricular execution, student experience, and satisfaction by addressing their needs. (2) It helps build a relationship between the students and the institute.(3) This information can be used for institutional accreditation, 'faculty's performance appraisal and to motivate the faculty by honoring them with awards (4) as it is practiced at COMJ KSAU-HS.

Students are considered an essential stakeholder of any educational institution, and their feedback can help improve the system, thus leading to better satisfaction and improved learning experience (5,6) COMJ KSAU-HS is one of the institutes striving hard for excellence and considers student’s feedback as a vital guide (7).

The first batch of male students joined this prestigious institute in 2012, followed by female students in 2016. Furthermore, considering the importance of evaluation and the leadership's commitment to excellence, evaluation unit was established under the banner of the department of medical education in 2013.

At COM-J, there were 21 courses, including two medical research and one medical elective or field experience; there were ten courses in preclinical years) and 8 in clinical years Later from the academic year 2020, keeping stakeholders' feedback and institutional needs in mind, curricular reform took place, and each course duration was restructured to eight weeks. Previously, the duration of course execution was variable.

Courses are evaluated using a validated questionnaire. This evaluation helps us thoroughly examine course execution, helps us make judgments, and take action for further improvements accordingly. Data collection, analysis and compilation as the end-of-course evaluation report is followed by a meeting with the course coordinator. Action plans are carefully crafted, followed by recording meeting minutes, segregation, and disseminating concerns to the parent departments.Every possible step is taken to ensure that the issues raised are addressed before executing that particular course in the upcoming academic year.

As in other reputed educational institutes around the globe; evaluation reports are expected to work like brand ambassadors and add worth to our 'institute's performance on the competitive podium of education (6,8) Listening to 'students' feedback would make them inclusive to the process of decision making (9)

In this paper, we will discuss course evaluation over the years, and working of the evaluation unit at College of Medicine (COMJ-KSAUHS).

**MATERIALS AND METHODS**

This descriptive cross-sectional study was conducted at the College of Medicine, King Saud Bin Abdul -Aziz University for Health Sciences– Jeddah, Saudi Arabia. All the male and female medical students using consecutive sampling techniques were included in the study after IRB approval. The data retrieved from evaluation units’ record included data from the academic year 2013-14 till the academic year 2019-20.  The frequency and percentage were computed for categorical variables. For inferential statistics, ANOVA and Independent t-test was used. A value less than 0.05 was considered significant.

SPSS version 20.0 was used for data analysis. This study included all the course evaluation reports whose response rate was above 60%. The questionnaire was designed by medical educationists with input from different stakeholders, followed by pilot testing and validation.

**RESULTS**

**Trends over the years:** Over the years, students remained satisfied with the faculty and courses taught with a decline followed by a steady improvement in student satisfaction.

**Table No.1: Demographic Characteristics.**

|  |  |  |  |
| --- | --- | --- | --- |
| Academic year | Number of courses | Level of study | Number of courses |
| 2013-2014 | 10 | \*Phase II | 101 |
| 2014-2015 | 14 | \*\*Phase III | 52 |
| 2015-2016 | 18 | Total | 153 |
| 2016-2017 | 23 | Gender | Number of courses |
| 2017-2018 | 28 |
| 2018-2019 | 26 | Male | 114 |
| 2019-2020 | 34 | Female | 39 |
| Total | 153 | Total | 153 |

\*Preclinical (Phase II)

\*\*Clinical years (Phase III)

Chart, line chart

Description automatically generated

Figure No. 1: Academic Year with Mean

**Trends based on the level of study that is the difference in preclinical (Phase II) and clinical years (Phase III):** On analyzing data to determine any difference based on the level of study, it was seen that the students from clinical years were more satisfied with all the domains assessed than those from the preclinical years. In addition, a statistically significant difference in mean faculty rating of clinical years was seen.

**Table No.2:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **N** | **Mean** | **SD** | **95% CI** | | **p-value** |
| Overall Evaluation | 2013-2014 | 10 | 3.43 | .535 | 3.046 | 3.812 | 0.376 |
| 2014-2015 | 14 | 3.33 | .983 | 2.763 | 3.897 |
| 2015-2016 | 18 | 3.60 | .731 | 3.233 | 3.960 |
| 2016-2017 | 23 | 3.50 | .589 | 3.245 | 3.755 |
| 2017-2018 | 28 | 3.48 | .674 | 3.221 | 3.744 |
| 2018-2019 | 26 | 3.63 | .814 | 3.305 | 3.963 |
| 2019-2020 | 34 | 3.80 | .628 | 3.583 | 4.022 |
|  | Total | 153 | 3.58 | .712 | 3.464 | 3.692 |  |
| Quality of | 2013-2014 | 10 | 3.19 | .519 | 2.815 | 3.559 | 0.014 |
| 2014-2015 | 14 | 3.35 | .856 | 2.851 | 3.839 |
| 2015-2016 | 18 | 3.63 | .654 | 3.306 | 3.956 |
| 2016-2017 | 23 | 3.65 | .490 | 3.436 | 3.860 |
| 2017-2018 | 28 | 3.62 | .536 | 3.408 | 3.824 |
| 2018-2019 | 26 | 3.70 | .681 | 3.429 | 3.979 |
| 2019-2020 | 34 | 3.91 | .504 | 3.737 | 4.089 |
|  | Total | 153 | 3.65 | .618 | 3.552 | 3.749 |  |
| \*Course coordinator Rating | 2013-2014 | 10 | 3.51 | .930 | 2.847 | 4.177 | 0.371 |
| 2014-2015 | 14 | 3.62 | 1.257 | 2.890 | 4.342 |
| 2015-2016 | 18 | 3.97 | .851 | 3.542 | 4.388 |
| 2016-2017 | 23 | 3.56 | .778 | 3.227 | 3.901 |
| 2017-2018 | 28 | 3.64 | .796 | 3.331 | 3.948 |
| 2018-2019 | 26 | 3.70 | .910 | 3.335 | 4.071 |
| 2019-2020 | 34 | 3.98 | .582 | 3.776 | 4.182 |
|  | Total | 153 | 3.74 | .841 | 3.608 | 3.877 |  |
| Mean Faculty Rating | 2013-2014 | 10 | 3.67 | .264 | 3.477 | 3.855 | <0.001 |
| 2014-2015 | 14 | 3.77 | .382 | 3.548 | 3.989 |
| 2015-2016 | 18 | 4.13 | .279 | 3.989 | 4.267 |
| 2016-2017 | 23 | 3.96 | .290 | 3.833 | 4.084 |
| 2017-2018 | 28 | 3.89 | .360 | 3.750 | 4.030 |
| 2018-2019 | 26 | 4.04 | .431 | 3.864 | 4.212 |
| 2019-2020 | 34 | 4.16 | .270 | 4.064 | 4.252 |
|  | Total | 153 | 3.99 | .360 | 3.930 | 4.045 |  |
| Course coordinator Rating (as faculty) | 2013-2014 | 10 | 3.53 | 1.201 | 2.666 | 4.384 | 0.465 |
| 2014-2015 | 14 | 3.64 | 1.354 | 2.860 | 4.423 |
| 2015-2016 | 18 | 4.09 | .958 | 3.615 | 4.568 |
| 2016-2017 | 23 | 3.55 | .996 | 3.117 | 3.979 |
| 2017-2018 | 27 | 3.66 | .873 | 3.311 | 4.002 |
| 2018-2019 | 24 | 3.79 | 1.108 | 3.321 | 4.257 |
| 2019-2020 | 30 | 3.98 | .669 | 3.731 | 4.231 |
|  | Total | 146 | 3.77 | .985 | 3.610 | 3.932 |  |

*ANOVA* \*Course coordinator rating as coordinator

**Table No.3:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **N** | **Mean** | **SD** | **95% Cl** | | **p-value** |
| Overall Evaluation | \*Phase II | 101 | 3.5 | .66 | -.425 | .086 | 0.191 |
| \*\*Phase III | 52 | 3.7 | .80 |
| Quality of Course | Phase II | 101 | 3.6 | .57 | -.402 | .011 | 0.064 |
| Phase III | 52 | 3.8 | .69 |
| \*\*\*Course coordinator Rating | Phase II | 101 | 3.7 | .82 | -.358 | .211 | 0.610 |
| Phase III | 52 | 3.8 | .88 |
| Mean Faculty Rating | Phase II | 101 | 3.8 | .30 | -.529 | -.329 | <0.001 |
| Phase III | 52 | 4.3 | .29 |
| Course coordinator Rating (as faculty) | Phase II | 96 | 3.7 | .98 | -.461 | .220 | 0.484 |
| Phase III | 50 | 3.9 | .99 |

Independent t-test \*Preclinical (Phase II) \*\*Clinical years (Phase III)

\*\*\* Course coordinator rating as coordinator

**Table No.4:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **N** | **Mean** | **SD** | **95% Cl** | | **p-value** |
| Overall Evaluation | Male | 114 | 3.6 | .71 | -.338 | .185 | 0.564 |
| Female | 39 | 3.6 | .74 |
| Quality of Course | Male | 114 | 3.6 | .63 | -.369 | .083 | 0.214 |
| Female | 39 | 3.8 | .57 |
| \*Course coordinator Rating | Male | 114 | 3.7 | .87 | -.396 | .222 | 0.581 |
| Female | 39 | 3.8 | .74 |
| Mean Faculty Rating | Male | 114 | 4.0 | .37 | -.148 | .116 | 0.810 |
| Female | 39 | 4.0 | .32 |
| Course coordinator Rating (as faculty) | Male | 113 | 3.8 | 1.03 | -.285 | .488 | 0.604 |
| Female | 33 | 3.7 | .84 |

Independent t-test \* Course coordinator rating as coordinator

**Table No.5:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **N** | **Mean** | **SD** | **95% CI** | | **p** |
| **Phase II** | Overall Evaluation | Male | 70 | 3.5 | 0.66 | -.376 | .191 | 0.519 |
| Female | 31 | 3.6 | 0.68 |
| Quality of Course | Male | 70 | 3.5 | 0.59 | -.407 | .079 | 0.183 |
| Female | 31 | 3.7 | 0.51 |
| Course coordinator Rating | Male | 70 | 3.7 | 0.87 | -.424 | .284 | 0.695 |
| Female | 31 | 3.8 | 0.73 |
| Mean Faculty Rating | Male | 70 | 3.8 | 0.31 | -.237 | .020 | 0.096 |
| Female | 31 | 3.9 | 0.27 |
| Course coordinator Rating (as faculty) | Male | 69 | 3.8 | 1.05 | -.262 | .626 | 0.418 |
| Female | 27 | 3.6 | 0.81 |
| **Phase III** | Overall Evaluation | Male | 44 | 3.7 | 0.78 | -.785 | .453 | 0.593 |
| Female | 8 | 3.8 | 0.95 |
| Quality of Course | Male | 44 | 3.7 | 0.68 | -.778 | .290 | 0.363 |
| Female | 8 | 4.0 | 0.75 |
| \*Course coordinator Rating | Male | 44 | 3.8 | 0.90 | -.890 | .478 | 0.548 |
| Female | 8 | 4.0 | 0.82 |
| Mean Faculty Rating | Male | 44 | 4.3 | 0.28 | -.279 | .165 | 0.607 |
| Female | 8 | 4.3 | 0.31 |
| Course coordinator Rating (as faculty) | Male | 44 | 3.8 | 1.01 | -1.172 | .575 | 0.495 |
| Female | 6 | 4.1 | 0.93 |

Independent t-test \* Course coordinator rating as coordinator

**Overall Trends based on gender:** No statistically significant gender-based difference in 'students' satisfaction was found. Further details can be found in the table 4.

**Gender-based trends on segregating data for Preclinical (Phase II) and Clinical years (Phase III):** Females were found to rate most of the domains higher, but no statistically significant gender-based difference in 'satisfaction was found. Further details can be found in the table 5

**DISCUSSION**

Establishing an evaluation unit was quite challenging as it took time for all the stakeholders to accept the need and importance of a fully functional evaluation unit. However, this challenge was overcome by personal and professional development activities targeting the audience to understand the importance of feedback in a quality-conscious culture. Apart from discussing establishing an evaluation unit and the faced challenges, this study intended to measure students' satisfaction with the courses over the years and to determine any difference in satisfaction based on gender or year of study.

For this study, satisfaction on overall course evaluation is considered a rating of 3.5-3.9, while a rating of 4 and above is considered highly satisfactory. Generally speaking, our students were satisfied with the courses taught. A steady increase in satisfaction followed by a declinewas followed by another steep rise in satisfaction in the academic year 2018 onwards. It is worth mentioning that the college worked hard to achieve excellence and accreditation from the National Commission for accreditation, awarded in AY 2020-21. Tedious efforts to achieve accreditation led to a holistically improved system and thus could be related to the gradual increase in satisfaction.

A carefully designed well balanced questionnaire with limited number of questions aim to avoid 'respondents' fatigue and maintain a satisfactory response rate. {10} Maintaining an adequate response rate is considered crucial to assure data validity. (11)

Though clinical years are considered very stressful, (12) here in our study, students' ratings in the clinical years were higher than that of preclinical years. At COMJ, a supportive environment of regular feedbacks and close faculty contacts could have led to higher student satisfaction. (13) In clinical years, students tend to have more real-life exposure where they can critically link their theoretical knowledge to real-life clinical practice(14) Our study found a statistically significant difference with higher students' satisfaction in the clinical years. Regarding basic sciences, many studies support that students fail to recall or link basic science-related knowledge, thus could impact students' satisfaction with basic sciences (15) Regular reviewing and revisiting basic science curriculum could enhance student’s satisfaction(16)

At COMJ KSAU-HS, Evaluation reports are considered an essential guide to improve and build up a relationship of mutual trust between the institute and students. (17) Stakeholders satisfaction is considered one of the most important key performance indicators.

Course evaluations target the content, infrastructure, and faculty involved in the teaching process. There might be single or multiple questions related to the faculty (18) At COM-JKSAU-HS, each Faculty member is rated individually on a five-point Likert scale. Close-ended questions are followed by an open-ended segment where the students are encouraged to speak their heart out. (19)  The Faculty's role and importance cannot be denied. (20). They play a pivotal role in the overall environment, students' experience, and satisfaction. (21) Statistically significant difference was found in the mean faculty rating, where students from clinical years rated their faculty higher than in the preclinical years. Mean course coordinator rating for clinical years was higher than that of the preclinical years but not statistically significant. It is worth mentioning that the course coordinators in both phases are clinicians and carefully selected based on previous performance.

As found in our study, other studies found most students to be satisfied with clinical outpatient training compared to theoretical teaching. (22) Some studies suggest that students have raised their voices in favor of clinical teaching and limiting preclinical teaching to self-directed ones. This would facilitate to acquire real-life practical experience. (23)

Acting on the feedback is vital to ensure the vitality of the whole process. (24) If loops are not closed, issues raised are not addressed, then the purpose of evaluation dies. At COMJ feedback on faculty's performance is reviewed with important stakeholders, and decisions are made accordingly for the upcoming academic year. The course coordinator's opinion based on his personal experience is also considered, e.g. if someone were not good at submitting MCQs, that would be addressed personally by the course coordinator and assessment unit by sending reminders to submit timely MCQs. Those who were not good at writing MCQ would be referred to the faculty enhancement unit to encourage them to attend workshops. Issues raised and discussed are disseminated to concerned departments for remedial measures.

Since the inception of the evaluation unit, this unit has faced multiple challenges. First, the low-rated faculty was unwilling to accept its rating and would become defensive. Following a track record of student's feedback over the years from different students at different levels helped us make a convincing impression on the performance of individual faculty members. Open-ended questions helped us get a detailed impression of their performance and identified some weaknesses. Collecting data and maintaining an optimum response rate remains another challenge; specifically, the response rate from the faculty remains very low. Initially, the issues raised were forwarded to the concerned departments they were reluctant to own and respond. The commitment of higher-level leaders and the need for institutional accreditation, ensured a gradual but sustained shift to a culture of responding to feedback.

Constant reminders and encouragement by the presence of representatives from the evaluation unit in important committees and meetings helped stakeholders realize the importance of feedback. This was reiterated by NCAAA's demands for accreditation, which emphasized on responding to feedbacks. Gradually with time, some behavior modification is seen in the form of support and ownership to feedbacks, but still, we have a long way to go.

We consider student feedback as a rich source of information. If this rating is not used for development, stakeholders might lose trust in the process. (25) Thus, evaluation data collected at our institute is used to improve teaching and overall experience, as suggested by many studies (19) Apart from planning future involvement or training our faculty, this feedback is used to modify the curriculum based on need.

Our institute follows a clear and systematic approach where all the requests by the faculty and students are assessed and weighed for feasibility by stakeholders. Some of the decisions taken based on feedback were; reviewing of curriculum to avoid repetition of objectives, dividing heavy lecture objectives, reviewing the sequencing of educational activities & different exam components, and selecting appropriate days for PBL sessions, improvement in clinical teaching by introducing residents as effective support, to add new topics, review and modification of lecture titles, review and updating Problem-based learning cases, equal credit hour distribution among all the courses, Improving learning resources and infrastructure, providing sufficient self-directed learning time before exams and many more. Introducing change is a challenge, but taking all the stakeholders aboard facilitated a smooth transition to change.

Multiple social, academic, and environmental factors can affect student satisfaction (7) Characteristics of students can predict Student satisfaction, and gender is one of them. Some of the studies found females to be more satisfied as compared to male medical students (22) which is contrary to our study, where no statistically significant gender-based difference was found in 'students' satisfaction. The female medical college is still budding and is at its initial stages. This comparison would be better in the years to come.

Quality assurance is of concern in higher education, all walks of life, and worldwide. (17) Maintaining a culture of quality is challenging and needs constant monitoring. Feedbacks help maintain a culture of checks and balances. COMJ gradually institutionalized a culture of quality, while preparing for accreditation, we grew and built a quality-conscious team. After multiple reviews and acting on feedbacks, COMJ was accredited by National Center for Academic Accreditation and Evaluation.

**CONCLUSION**

Student feedback is an essential indicator of the quality of education and should be used as a guide for future institutional and curricular development. Though establishing an evaluation unit and responding to feedback to maintain efficient learning and student satisfaction is tedious, but truly a worthwhile experience in terms of institutional gains.

Feedback is a direct way to assess the effectiveness of the curriculum; it can act as a mirror to reflect on institutional performance and help reform accordingly. Students in the clinical phase tend to be more satisfied than those from the preclinical phase.

**Limitation and Recommendations:** This study is just a single-center experience, so the results are not generalizable. Nor did we use a standardized, internationally recognized questionnaire. If a validated, globally accepted questionnaire is developed in future it will allow a holistic insight from all around the globe. In addition; a globally unified questionnaire could easily allow us to make a standardized comparison. It is the need of the hour to consider student’s feedback as a vital guide that could lead to improvement.

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**Author’s Contribution:**

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