Original Article

COMPARISON OF ACADEMIC PERFORMANCE OF 1ST YEAR MBBS MALE AND FEMALE STUDENTS IN THE SUBJECT OF PHYSIOLOGY

Shahroona Masud[1], Mahnoor Khurshid[2], Ayesha Fazal[3], Misbah ul Qamar[4], Maimona Tabbsum[5]

ABSTRACT:

Objective: To compare the academic performance of males with females in assessment tests of 1st-year MBBS in the subject of Physiology.

Subjects and Methods: It was a retrospective study conducted on the results of first-year MBBS students in the monthly assessment tests. After approval from the institutional research board, the results of monthly tests in five sessions 2013-14, 2014-15, 2015-16, 2016-17, and 2017-18 were included. Data were analyzed for the performance of girls and boys as a whole. Out of a total of 781 students admitted during these 5 years, 467 were females (60%) and 314 (40%) were males (fig. I). The performance of girls and boys was further categorized into four groups. G I: high achievers (marks ≥ 80%), G II: good students (marks70-79%), G III: average (50-70%), and G IV: poor (< 50%). The performance of girls and boys was assessed in each group and calculated as % age. The difference was tested by students' "t" test and a p-value of < 0.05 was regarded as significant.

Results: Among girls, the results were distributed into these 4 categories as follows: Group I= 0, Group II= 45 (9.6%), Group-III= 353 (75.6%) and Group IV = 69 (14.8%). As for the boys, the performance of each group was, Group I= 0, Group II = 7 (2.22%), Group III = 221 (70.39%), and Group IV = 86 (27.39%) boys respectively. (Table 1, fig 1) T-test value on 2 sample data was 7.5440, p-value = 0.00 (highly significant).

It was also observed that the first and second test showed an overall good result from both genders. The third test which was conducted after sports week in all the five sessions showed a decline in the performance of both the genders. The tests held after spring and summer vacations also had comparatively lower scores. The girls maintained their slight supremacy in these results as well. (Fig 3)

Conclusion: The academic performance of girls is significantly better than that of boys in all groups (p-value = 0.00). Both the groups give low performance after social events in college but finally cover up their deficiencies.

Key Words: Gender, Academic Performance, Medical Education

INTRODUCTION:

Education plays an important role in the lives of individuals to make them useful members of society.[1] It imparts knowledge, skills of reasoning, values, self-control and capacity of healthy social interaction and is processed at the level of the home, school and community.[2-3]

The academic performance of a student depends on multiple factors. These include the environment of an institution, its facilities, and discipline.[1] Students' desire to demonstrate their competency to teachers and parents, self-satisfaction, and the amount of hard work and dedication they put in also matters.[4] Females have been observed to be more dedicated to their education and work hard than males.[5] The number of females getting admission in

[1]Professor Physiology, AMDC, Lahore.
[2]House Officer, Akhtar Saeed Trust Hospital, Lahore.
[3,4]Assistant Professor Physiology, AMDC, Lahore.
[5]Senior Demonstrator Physiology, AMDC, Lahore.

medical education based on competency is increasing worldwide.[6-8] In a developing country like Pakistan, gender discrimination has caused hurdles in female education in the past.[9] The parents are paying the fees of private medical colleges to educate their children and this accomplishment matters a lot to them as well as the institution. This study was conducted to assess any difference in performance between the two genders in the last five sessions. It may help to take measures to improve the standard of those who are weak.[9]

MATERIAL AND METHODS:

This retrospective study was conducted at Akhtar Saeed Medical and Dental College in 2019. Approval from the institutional research board was taken. The sample was picked up using a universal sampling technique. Out of a total of 781 students, there were 467females (Girls) (60 %) and 314 males (Boys) (40 %) (Fig 1). The data comprised of results of all physiology tests of first-year students from the sessions 2013-14, 2014-15, 2015-16, 2016-17, and 2017-18. The results of monthly class tests for each student were summed up and an average % age was calculated. It was then divided into four groups. Data were categorized into four groups. Group-I included the number of students securing more than or equal to 80% marks, Group-II between 70 to 79%, Group-III between 50 to 69%, and Group IV 50% marks.

RESULTS:

Among Females, the results were distributed into these categories as follows: Group I = 0. Group II = 45 (9.6%), Group III = 353 (75.6%) and Group IV = 69 (14.8%). As for the male students the performance in each group was, Group I = 0, Group II = 7 (2.22%), Group III = 221 (70.39%) and in Group IV = 86 (27.39%) boys respectively. (Table 1, fig II) student's t-test value on 2 sample data was 7.5440, p-value = 0.00 (highly significant).

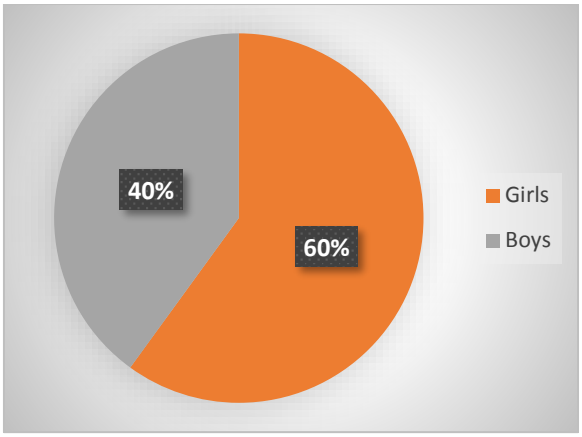

Fig 1. Percentage of Admission of the two genders in five years.

Table 1. Comparison of cumulative academic performance of Girls and Boys in monthly tests.

Groups	Girls (n=467)	Boys (n=314)
I (≥80%)	0	0
II (70-79%)	45	7
III (50-69%)	353	221
IV (<50%)	69	86

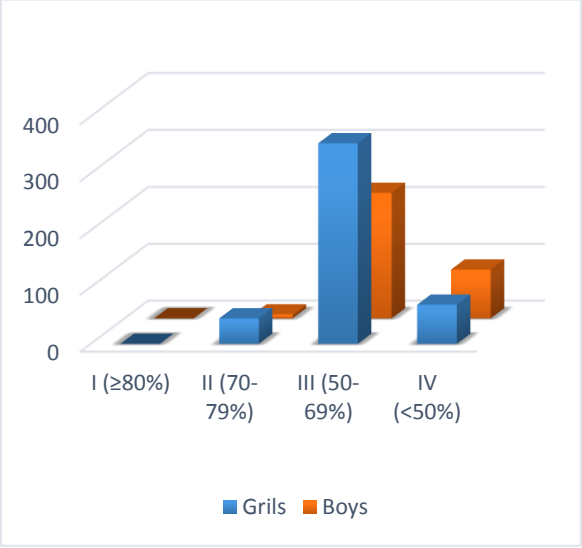

Fig 2. Comparison of academic performance of Girls and Boys (percentages) in monthly tests.

Table – 2. Overall pass percentage of Girls and Boys in Monthly Tests of five years.

Monthly Tests in five years	Girls Pass %	Boys Pass %	p-value
1	89.50749465	83.75796178	0.004**
2	89.50749465	78.66242038	0.00001**
3	80.0856531	65.2866242	0.000008**
4	84.18230563	70.98039216	0.0002**
5	71.52034261	69.74522293	0.13*

*Non significant **Significant

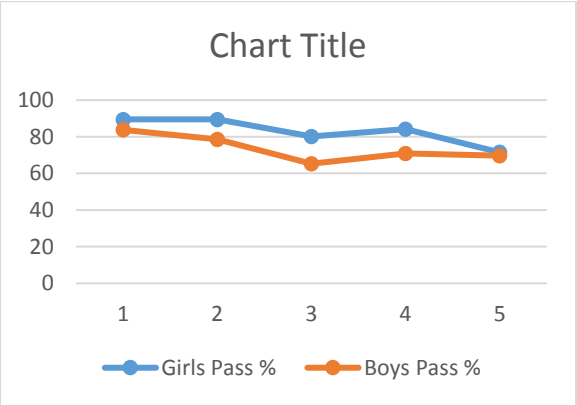

Fig 3. Overall pass percentage of Females and Males in Monthly Tests of five years.

It was also observed that the first and second test showed an overall good result from both genders. The third test which was conducted after sports week in all the five sessions showed a decline in the performance of both the genders. The tests held after spring and summer vacations also had comparatively lower scores. The females maintained their significant supremacy in these results as well. (Table 2, Fig 3)

DISCUSSION:

Education is a process devised by man to improve upon its standards in respect of earning and social life.[9] The medical education helps in getting respectable jobs along with a chance to serve humanity.[10-11] Success in the field of medicine requires highly competent and hardworking individuals. Most of the educational institutions teaching medicine are concerned about the factors that could influence their results.[6] There have been many studies that compare the performance of the two genders in the field of social sciences, mathematics, medicine, and others and gave variable results.[12-14] Worthy of note is the fact that an increasing number of female students are opting for this field and succeed in getting admission on basis of merit.[6-8] Our study included a total of 781 students who were enrolled in this institute during the 5 years (2013 to 2017). There were 467 (60%) females and 314 (40%) males showing a rise in the number of female students in accordance with the previous studies.[6-8] The female students showed a significantly better result (p-value = 0.00) than males throughout the academic year as confirmed by similar findings in some other studies.[5-8,13] The results of one study showed no such difference. We can attribute their result to a different set of social values in the community of KPK where females have just started to surge up from an era of suppression. There was a significant decline in the performance of both genders after social activity week but then attained the previous level afterward.

CONCLUSION:

The academic performance of girls was significantly better than that of boys in all groups (p-value = 0.00). Both the groups gave low performance after social events in college but finally covered up their deficiencies.

AUTHOR'S CONTRIBUTION:

SM: Planing and collection of data, drafting of article
MK: Checking plagiarism and frazing of article
AF: Data collection and bibliography
MQ: Statistical Analysis and reviewing of article
MT: Data collection

REFERENCES:

1. Kapur R. Factors influencing the students academic performance in secondary schools in India. University Of Delhi. 2018. https /www research gate net> Publication>324819919. 2018 April 28.
2. Lamichhane CD. Understanding the education philosophy and its implications. NCC Journal. 2018 Jun 14;3(1):24-9.
3. Darling-Hammond L, Flook L, Cook-Harvey C, Barron B, Osher D. Implications for educational practice of the science of learning and development. Applied Developmental Science. 2019 Sep 9:1-44.
4. Deepak KK, Al-Umran KU, Al-Sheikh MH, Al-Rubaish A. The influence of gender on undergraduate performance in multiple choice testing in clinical disciplines at University of Dammam, Saudi Arabia. Al Ameen J. Med. Sci.2011;4(2):123-30.
5. Khwaileh FM, Zaza HI. Gender differences in academic performance among undergraduates at the University of Jordan: Are they real or stereotyping. Coll. Stud. J**.** 2011 Sep 1;45(3):633-48.
6. Hdii S, Fagroud M. The effect of gender on university students' school performance: the case of the National School of Agriculture in Meknes, Morocco. Kultūra ir visuomenė: socialinių tyrimų žurnalas, 2018, nr. 9 (1), p. 67-78. 2018.
7. Andersen JP, Schneider JW, Jagsi R, Nielsen MW. Gender variations in citation distributions in medicine are very small and due to self-citation and journal prestige. Elife. 2019;8. ; e45374 published online july 15 doi 10.7554/Elife 45374.
8. Bhatti MA, Anwar M. Does entry test make any difference on the future performance of medical students?. JPMA. 2012 Jul 1;62(7):664.
9. Faisal R, Shinwari L, Hussain SS. Academic performance of male in comparison with female undergraduate medical students in Pharmacology examinations. JPMA. 2017;67(204).
10. Saad SM, Fatima SS, Faruqi AA. Students' views regarding selecting medicine as a profession. JPMA. The Journal of the Pakistan Medical Association. 2011 Aug;61(8):832-6.
11. Hahn RA, Truman BI. Education improves public health and promotes health equity. Int J Health Serv. 2015 Oct;45(4):657-78.
12. Al-Mously N, Salem R, Al-Hamdan N. The impact of gender and English language on the academic performance of students: An experience from new Saudi medical school. J. Contemp. Med. Edu**.** 2013;1(3):170-6.
13. Fajar S, Hussain M, Sarwar H, Afzal M, Gilani SA. Factors Affecting Academic Performance of Undergraduate Nursing Students. IJSSM. 2019 Jan 31;6(1):7-16.
14. Dunin PO. Effect of gender on students' academic achievement in Secondary Schools Social Studies. JEP. http://www. iiste. org (online) vol. 2014;5.