

CREATING A LEVEL PLAYING FIELD: ADDRESSING GENDER BIAS IN UNDERGRADUATE MEDICAL STUDENT ASSESSMENTS

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ABSTRACT

Objectives: To identify the mechanisms to reduce gender bias during assessments in undergraduate medical education.

Material and Methods: A qualitative study with a phenomenological study design was conducted at a Public and Private Medical College in Peshawar, Pakistan, from July 2020 to October 2020. In this qualitative study, four gender-specific focal group interviews with undergraduate medical students and 10 individual interviews with senior faculty members were conducted by using a pre-tested & validated semi-structured interview guide. The interviews were recorded and transcribed verbatim. The thematic analysis of the data was done where codes were developed and organized into distinct categories giving rise to discrete themes. Data triangulation was done to increase the credibility and authenticity of the study.

Results: Out of 24 students and 10 faculty members, half of the participants were females who shared their perceptions about mechanisms to counteract gender bias in medical education. The analysis revealed 24 codes that were labeled and organized into 10 categories. The 4 themes deducted from these categories were Anti-Bias Training, Surveillance of Examination, Psychological Evaluation of Students & Faculty, and Transparency & Accountability.

Conclusion: Gender bias can substantially affect medical students' capacity to learn and succeed in their careers, is a well-established fact. Thus, to reduce gender bias in medical education, medical schools must take more excellent initiatives and promote anti-bias awareness sessions & workshops, post-examination feedback & reporting systems, and strict surveillance & accountability. Similarly, psychological evaluation of teachers & students, structured examination patterns, and promoting a panel of assessors for high stake exams are other strategies to counteract this issue in undergraduate medical education.

Keywords: Assessment, Gender bias, Reduce, Undergraduate Medical Education

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INTRODUCTION

Education plays a significant role in the transformation and progress of any society, thus providing a necessary pathway to grow, enrich and restructure the standards of any community. It is perceived that gender bias has affected this platform too.¹

It has been a growing international phenomenon that girls' academic performance is superior to boys' at secondary school and college levels of education. It is essential to consider the possibility of gender influences on student performances at this critical gate-keeping point.² Many studies in developed and developing countries have

revealed that girls have made significant achievements and excelled in all realms of education than boys.³

Professionals in education, psychology, sociology, history, and culture have identified and justified many reasons for girls' academic success. Literature asserted the importance of parental education, feminization of the teaching profession, personal freedom and higher status of boys in the family, rebellious behavior of boys, and involvement of boys in socio-economic activities as reasons attributed to the low educational performance of boys.^{4,5} However, people exhibit the typical stereotypical explanation for female students' success and attribute their success to their physical attractiveness and grooming in different parts of the world.⁶

We live in a sociocultural context, so prevailing social and gender stereotypes influence our perceptions and opinions in our environment. It is not easy to isolate yourself from the influence of society.^{1,7} Educational setups represent society and follow the same socialization process of unconscious biases, gender stereotyping, and gender roles. Egalitarian views and opinions are not suffi-

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cient to bring a positive change until they are followed by appropriate actions directed to address gender bias.⁸

Gender stereotyping and gender bias usually start at a very early stage of children's learning. Gender equity is not a spontaneous activity. Great efforts are needed to structure gender issues in society, particularly in education. The literature has proven few practices applied at the home & school level can help to strengthen the bias-free environment.⁹ Therefore, awareness and training of both parents & teachers to ensure that they are gender receptive are crucial for creating a bias-free environment. Both parents & teachers need to be aware of a gender-friendly atmosphere and learning methodologies. It will help grow our society's social infrastructure and make people receptive to the different needs of both genders, thus providing an equitable environment for both girls and boys.⁸ Practices like delegating group leadership roles equally to both boys and girls, intermittent use of "he" and "she" in learning activity references, and advocating children regarding gender equality are a few very elementary techniques to bring the desired change at the grass-root level.⁹ Literature provides few specific methods for the educational environment to counteract gender bias in education. Evidence-based interventions are required to create awareness and reduce implicit & psychosocial bias among students & faculty regarding gender.^{8,10} Similarly, incorporating gender issues in medical curricula, innovative & structured assessment tools, supporting women in senior & leadership roles, transparency, and strict accountability of cases can help counteract gender issues in educational assessment.^{11, 12,13}

There is a substantial gap in the literature on medical education regarding gender inequality especially, in

Asian countries.¹⁴ Due to our sociocultural context, gender bias in medical education has long been suspected.¹⁵ For understanding the gender-specific issues of medical students and teachers in these regions, there is an utmost need to conduct more research. The present study will help to identify the mechanisms to reduce gender issues during assessment in undergraduate medical education.

MATERIAL AND METHODS

This study was conducted at a Public and Private Medical College in Peshawar, Pakistan, from July 2020 to October 2020. A qualitative research design with a phenomenological approach was employed. Final-year MBBS students and senior faculty teaching them with more than two years of teaching experience were selected for this study. Participants were purposively selected through the maximum variation sampling technique. Twelve faculty members had to be interviewed but due to the non-availability of Assistant professors in Private Medical College, only 10 faculty members were interviewed. A semi-structured interview guide was developed and validated by subject experts and a pilot study was carried out. Consent from the participants was obtained and anonymity and confidentiality were ensured. The interviews were recorded and transcribed verbatim. The thematic analysis of the data was done by Braun & Clarke method.¹⁶

RESULT

In this study, half of the participants were females who shared their perceptions regarding addressing gender bias in medical education. The analysis revealed 24 codes that were organized and collated into 10 categories. The themes deducted from these categories were

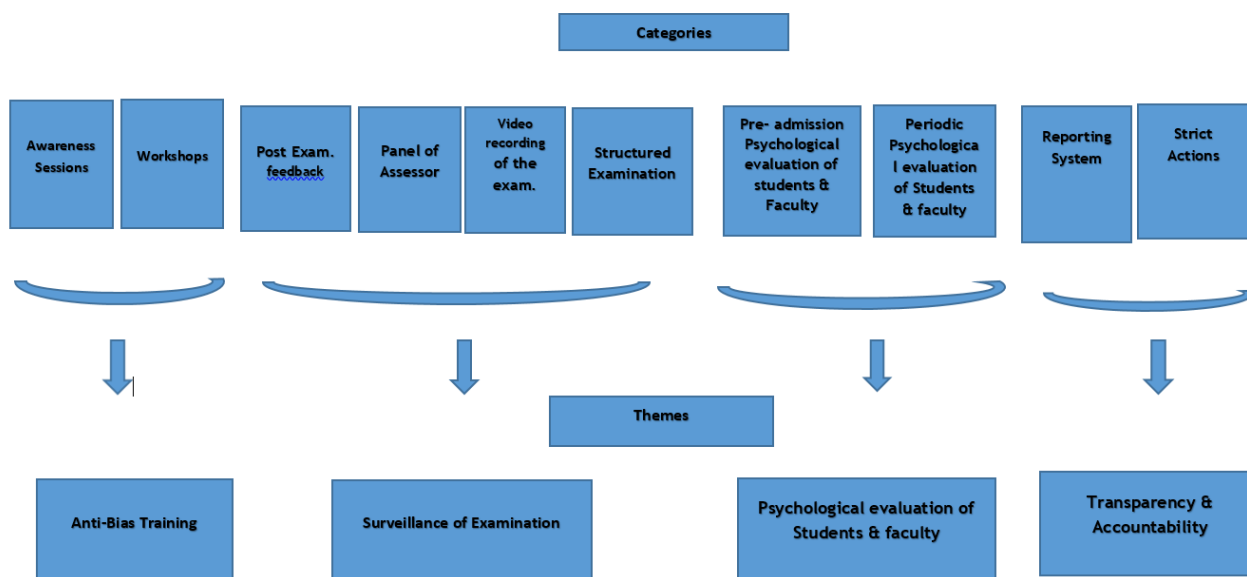


Fig 1: Thematic Analysis of the Data

Anti-Bias Training, Surveillance of Examination, Psychological evaluation of Students & Faculty, and Transparency & Strict Accountability as shown in Fig 1. The participants believed that Anti-bias training sessions/workshops, Surveillance of examinations, psychological evaluation of Students & Faculty, and Transparency & Strict accountability could play a strategic role as a unified solution in medical academia to address this issue.

DISCUSSION

This project revealed the importance of creating awareness regarding gender roles, stereotypes, and prejudices in our educational system. This study emphasizes conducting awareness sessions both for students and faculty in medical institutions to create an atmosphere for accepting gender equality and equity in academics. These awareness sessions both for students and faculty would represent the first step towards creating gender equality in medical institutions.

"Honestly, encourage discussion on this subject. It is a sensitive issue people avoid talking about it as it branches out into many other problems. Awareness sessions should be arranged both for students and teachers."

Most of the participants believed that a collaborative effort from the families, society, and educational system could help to change these existing stereotypes in our learning environment.

"We cannot eliminate gender bias, but we can control this issue I think the most important thing is to create awareness and education regarding this issue. So that both students and teacher know their roles. I think we should more focus on the upbringing of the family. The family is the basic unit of the culture. If the family norms are such that this concept of bias is discouraged, the socio-cultural norms will automatically change."

These gender awareness campaigns could help highlight how gender bias would be unfair & immoral and could affect students' professional careers. These sessions could also help as norm-setting strategies in institutions and organizations because individuals who discriminate may be unconscious of their prejudices while assessing others.^{17,18} "You are dependent on your stereotypes – but stereotypes can be changed."¹⁸

Ozlem Midik et al. observed that boys were less conscious of gender concepts than girls in their study. This attitude indicated male insensitivity towards gender issues and reflected the philosophy of socializing agents in their lives to shape their beliefs and opinions. Teaching institutions would further strengthen and shape this process of gender in-sensitization. So, creating awareness and fostering change was regarded as the crucial means of carrying out hidden preconceptions that may be filled with biases or stereotypes in the educational environment.¹⁹

Anne Boring also recommended that institutions regularly adopt gender bias awareness programs for students to reduce prejudice in the evaluations of teachers.²⁰

Kollmayer M et.al recommends the importance of training and workshops for faculty and students on this issue. The study emphasizes pre-service training and in-service training of teaching faculty to ensure that they are gender-sensitive and bias-free during the teaching and examination process. There should be personal development programs for faculty to create a gender-neutral environment for the student in the learning environment to help students reach their maximum potential. He emphasized that teachers can play a significant role in fostering gender equality and equity at academic institutions. Their own gender-stereotyped beliefs and educational practices have been demonstrated to encourage gender bias in students.²¹

However, translating research findings into the societal structure is challenging. These training and workshops can help people not develop associations between their apparent beliefs and implicit activated stereotypes.²²

"I now realize that the major differences between boys and girls are found in my perception of them – not in their cognitive skills."²²

Morgan et al. also suggested incorporating explicit training for students and junior & senior faculty to create an atmosphere of gender equality and equity within academic medicine. Such activities would not only help to remove prevailing biases but also help to transfer the skills needed to counteract sociocultural norms that promote prejudices.¹¹

The majority of the study participants mentioned the concepts of Transparency and Accountability as a fundamental tool for creating gender equality in medical education. The participants felt it challenging to report such discriminatory behavior or atmosphere during an examination in a teaching institution. There was no specific process and policy for reporting such discrimination issues in medical institutions to deal with such a situation. The participants concluded that now it's time to avoid discussing this subject and start addressing it. One participant commented:

"There should be supervision/surveillance of the oral assessment process. Similarly, the administration should take serious action on it. They usually avoid such issues by saying that it happens & ignore it."

One of the participants commented:

"The institutional management should have the power to strictly supervise such issues. Similarly, students should be given that confidence that his/her complaints regarding faculty/specific department should be entertained and their complaints should be taken seriously by

management.”

Samuriwo et al. suggested that medical colleges need to struggle for more significant actions to reduce gender bias in this noble profession. The study emphasized the promotion of a top-down fashion to involve regular analysis of gender-specific challenges within medical institutions and an active & centralized mechanism for reporting & strict accountability of such cases in medical schools. The students should also be given the confidence to report any evidence of bias during medical education as students' reporting rates were usually low due to the perceptions of ineffectiveness.^{23,24}

The study participants emphasized the pre-employment and periodic psychological evaluation of faculty and students to have an insight into their personality traits. Pre-employment and periodic psychological screening have also been in common practice to determine the mental & emotional vulnerability of employees in almost every service and institution. A personality component of psychological assessment can help to learn about the inbuilt and social elements of one's personality so that problems can be figured out in the early stage & the best approach.²⁴

The study conducted in Turkey supported that psychological assessment and evaluation of teachers must be a continuous process in any educational system which should start from with pre-service teacher training and proceed until every stage of in-service programs.²⁵

This study has established helpful information on the solution to reduce gender bias in our educational environment but due to the subjectivity of the phenomenon, this study should be replicated in other medical institutes of the province in a different context to have a broader vision that would help to counteract this issue and devise the counter-mechanism for addressing this issue in our educational system. This research opens a window for further research on this subject that could help to establish the precise relationship between the role of gender and education.

CONCLUSION

Gender bias is a debatable and controversial psychological phenomenon in our educational system. Concerted action that aims to recognize and address gender bias in teaching & assessments may be a starting point in reducing such inequities. Thus, to reduce gender bias in medical education, medical schools must take more remarkable initiatives and promote evidence-based interventions to counteract such issues in the educational environment. The medical schools should endorse and encourage anti-bias awareness sessions & workshops for both students & Faculty, Feedback & Surveillance mechanisms for examination, Pre-recruitment & Periodic psychological evaluation of both teachers & students and Transparency & Accountability of reported cases to counteract

gender issues in undergraduate medical education.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

- Aliya B:** Conceptualization, methodology design, data, and writing of the original draft.
- Ahmed F:** Analysis, and critical review of the manuscript.
- Kashif L:** Data collection and literature review
- Jamil B:** Supervision, bibliography, and proofreading

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.



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