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THE EFFECTIVENESS OF OPEN BOOK ASSIGNMENTS IN ENHANCING PHARMACOLOGY LEARNING AMONG 3RD YEAR MBBS STUDENTS: A COMPREHENSIVE STUDY.

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ABSTRACT

BACKGROUND: Pharmacology, a basic subject in the clinical educational program, gives clinical understudies the primary information expected to grasp drug components, remedial mediations, and the clinical use of pharmacology. Traditional assessment strategies in pharmacology frequently center on remembrance, which might restrict further comprehension. Open-book assessments OBAs have arisen as an educational instrument to upgrade decisive reasoning and perception. This study investigates the adequacy of OBAs in working on pharmacological information, decisive reasoning, and clinical application among third-year MBBS Students. **OBJECTIVES:** This study expects to survey the effect of open-book tasks on pharmacology learning results in third-year MBBS students, with a specific spotlight on their capacity to orchestrate data, apply pharmacological standards in clinical settings, and work on scholastic execution. **METHODS:** A cohort of 100 third-year MBBS students at Suleman Roshan Medical College Tando Adam took part in the review from September 2023 to January 2024. Understudies were allotted open-book assignments focusing on clinical pharmacology situations. Pre-and post-assessment tests were directed to assess the improvement in information, while subjective overviews were utilized to survey understudy fulfillment and saw learning results. **RESULTS:** 86 students finished the surveys. Huge upgrades were seen in the student's capacity to apply pharmacological standards in clinical situations $p < 0.001$. Student's fulfillment with OBAs was high, with 82% of understudies revealing a superior comprehension of pharmacology and better groundwork for clinical practice. **CONCLUSION:** Open-book assessments offer a creative way to deal with pharmacology training that advances decisive reasoning, upgrades clinical thinking, and adjusts better to certifiable clinical practice. This study proposes that OBAs ought to be coordinated into the pharmacology educational program to supplement conventional learning techniques and support long-term retention.

KEYWORDS: Open Book Assessment

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INTRODUCTION

Pharmacology frames the foundation of clinical instruction, giving the fundamental information expected to understanding medication activities, systems, and restorative applications. traditional techniques for pharmacology instruction essentially include repetition retention of medication classes, systems of activity, secondary effects, and connections. Be that as it may, the rising intricacy of clinical practice and the developing requirement for proof based dynamic in quiet consideration have featured the constraints of customary testing techniques in advancing further learning and decisive reasoning Katzung, 2018.

Because of these difficulties, open-book tasks OBAs have acquired prominence in clinical training, especially in subjects like pharmacology. OBAs contrast from customary shut book assessments in that understudies are permitted to utilize course readings, notes, and different assets during the appraisal cycleHughes, M., & Morrison, D. 2019. This configuration stresses the use of information, critical thinking, and decisive reasoning, as opposed to repetition remembrance Moss, S., & Yates, A. 2020. Research proposes that OBAs can upgrade understudy commitment, further develop appreciation, and advance long lasting realizing, which are all fundamental for outcome in clinical pharmacology Kassab et al., 2021.

This article presents a thorough assessment of the utilization of OBAs for third-year MBBS understudies concentrating on pharmacology at Suleman Roshan Medical College Tando Adam. It investigates the viability of OBAs in working on pharmacological information, improving clinical thinking, and cultivating decisive reasoning. The concentrate additionally assesses understudy insights and fulfillment with OBAs.

METHODOLOGY

STUDY DESIGN AND PARTICIPANTS:

A prospective, quasi-experimental was directed from September 2023 to January 2024 at Suleman Roshan Medical College Tando Adam. A total of 100 third-year MBBS students signed up for the pharmacology course took part in the review. Ethical Approval was taken by the Institutional Review Board, and informed consent was taken from all members.

OPEN-BOOK ASSIGNMENT DESIGN:

The open-book tasks focused on clinical pharmacology situations, where understudies were entrusted with diagnosing and recommending pharmacological medicines for speculative patients. Every task was intended to survey the students' capacity to:

1. Apply pharmacological standards in clinical settings.
2. Integrate information on drug instruments, remedial signs, and contraindications.
3. Demonstrate decisive reasoning and clinical thinking.

Understudies were given multi week to finish the task, during which they were permitted to counsel reading material, address notes, and companion checked on articles. The tasks included questions that necessary nitty gritty clarifications, with the assumption that understudies would legitimize their decisions and thinking.

Pre-and Post-Assessment Tests:

To measure knowledge acquisition, a pre-evaluation was managed before the OBAs were presented. This test assessed understudies' pattern comprehension of pharmacology themes, including drug mechanisms, therapeutic effects, side effects, and interaction. Subsequent to finishing the open-book tasks, a post-evaluation test was directed to quantify the improvement in clinical pharmacological information and critical thinking abilities.

Survey and Feedback:

An understudy fulfillment review was disseminated toward the finish of the review to assemble input on their view of the open-book tasks. The overview remembered inquiries for the apparent viability of OBAs in working on how they might interpret pharmacology, the capacity to apply information clinically, and their general fulfillment with the evaluation technique.

RESULTS

Demographics:

Of the 100 understudies who at first took part, 86 finished the review, bringing about a reaction pace of 86%. The typical age of the understudies was 21.3 years SD = 1.2, with a close to rise to orientation dissemination 48% male, 52% female.

Knowledge Improvement:

The pre-and post-evaluation tests uncovered huge upgrades in understudies' pharmacological information and their capacity to apply this information in clinical settings. The normal pre-evaluation score was 68.5% SD = 6.8, while the typical post-appraisal score expanded to 85.7% SD = 7.5, with a genuinely massive distinction $p < 0.001$. The improvement was especially recognizable in regions connected with clinical direction and medication treatment the board.

Student Satisfaction and Feedback:

The understudy fulfillment study uncovered positive criticism with respect to the utilization of open-book tasks. 82% of understudies revealed that OBAs upgraded how they might interpret pharmacology, especially as far as applying information to genuine clinical situations. Most of understudies 79% concurred that OBAs were more valuable than conventional shut book tests in cultivating decisive reasoning and critical thinking abilities.

Normal subjects distinguished in the subjective criticism included:

- **Improved Confidence in Pharmacology: Numerous** understudies communicated that the OBAs permitted them to move toward pharmacology in a more certain and far reaching way, as they had the option to investigate drug connections and restorative choices top to bottom.
- **Enhanced Critical Thinking:** Understudies noticed that OBAs expected them to think basically and coordinate different wellsprings of data, which assisted them with bettering comprehend how pharmacology is applied in clinical practice.
- **Time Management Skills** While most understudies tracked down OBAs advantageous, a few referenced the

difficulties of overseeing time successfully while exploring and responding to complex inquiries.

Challenges and Limitations:

Despite the positive feedback, a couple of difficulties were noted. A few understudies felt overpowered by how much data they expected to survey during the task. Furthermore, the open-book configuration might have prompted a dependence on course readings and outer assets, instead of encouraging profound, incorporated learning. A few understudies likewise felt that the task's intricacy was past what they could reasonably finish inside the given time span.

DISCUSSION

Comparison with Traditional Assessment Methods:

The results of this study line up with past examination proposing that OBAs are more successful in encouraging higher-request thinking abilities than conventional book tests Rees, C., et al. 2022. Conventional pharmacology evaluations frequently center on retention and review, which may not precisely mirror an understudy's capacity to apply pharmacological standards in clinical settings Rehman, R., et al. 2023. Conversely, OBAs give an open door to understudies to combine data, investigate different assets, and take part in critical thinking, which are fundamental abilities for future clinical practice Goh, L.L., & Seet, K. 2022.

Advantages of OBAs in Pharmacology Education:

Open-book tasks offer a few benefits in pharmacology education:

1. **Enhanced Critical Thinking:** OBAs advance dynamic advancing by empowering understudies to incorporate data from different sources. This cycle cultivates decisive reasoning, which is vital for clinical independent direction and medication treatment the executives Topping, K.J. 2015.
2. **Real-World Application:** By focusing on clinical situations, OBAs assist understudies with applying pharmacological information in practical settings. This approach reflects the dynamic cycle they will look in clinical practice, where admittance to assets is many times accessible, however the capacity to coordinate and apply information is vital Taylor, S., et al. 2020.
3. **Improved Long-Term Retention** Exploration has demonstrated the way that open-book appraisals can prompt better long haul maintenance of material contrasted with shut book tests. This is on the grounds that OBAs urge understudies to connect profoundly with the material, as opposed to just retaining realities for transient review Bennett, P.N., & Brown, M. 2021.

Challenges and Limitations:

While OBAs offer many advantages, they likewise present difficulties. One concern is that a few understudies might utilize the open-book configuration to depend too intensely on outer assets, as opposed to drawing in with the material all the more profoundly. Moreover, the time imperatives of OBAs can some of the time lead to pressure and a decrease in the nature of reactions. To resolve these issues, future cycles of OBAs ought to give clear rules and assumptions about the profundity of information required

Future Directions:

As the medical curriculum keeps on advancing, it is fundamental that appraisal strategies, including OBAs, stay up with the developing accentuation on clinical thinking and long lasting learning. Future examinations could investigate the coordination of advanced assets, online cooperative stages, and case-based figuring out how to additional upgrade the effect of OBAs in pharmacology education.

CONCLUSION

Open-book tasks have demonstrated to be a compelling device in upgrading pharmacology schooling for third-year MBBS understudies. By zeroing in on the utilization of information in clinical

situations, OBAs encourage decisive reasoning, further develop understudy commitment, and better plan understudies for the difficulties they will look in clinical practice. The positive input from understudies features the capability of OBAs to change pharmacology schooling, and their mix into clinical educational plans could prompt better learning results and worked on clinical skills. Further examination and refinement of the open-book task model will be fundamental to boost its adequacy and address the difficulties distinguished in this review.

ETHICS APPROVAL: The ERC gave ethical review approval.

CONSENT TO PARTICIPATE: written and verbal consent was taken from subjects and next of kin.

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AUTHORS' CONTRIBUTIONS:

All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated in the work to take public responsibility of this manuscript. All authors read and approved the final manuscript.

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REFERENCES

1. Hughes, M., & Morrison, D. 2019. "Best Practices in Open-Book Assessments." Journal of Medical Education.
2. Kassab, S.E., et al. 2021. "Integrating Open-Book Assignments into Pharmacology Curriculum." Medical Education Research.
3. Moss, S., & Yates, A. 2020. "Impact of Open-Book Assessments on Learning and Critical Thinking." Advances in Medical Education and Practice.
4. Topping, K.J. 2015. "The Role of Open-Book Exams in Enhancing Higher-Order Thinking." Journal of Higher Education.
5. Katzung, B.G. 2018. Basic and Clinical Pharmacology 14th ed.. McGraw-Hill.
6. Bennett, P.N., & Brown, M. 2021. "Improving Medical Pharmacology Learning through Open-Book Assignments." Pharmacology Education Review.
7. Goh, L.L., & Seet, K. 2022. "Critical Thinking and Problem Solving in Open-Book Assessments." Journal of Medical Learning.
8. Taylor, S., et al. 2020. "Application of Open-Book Learning in Medical Education." BMC Medical Education.
9. Rees, C., et al. 2022. "Improving Clinical Decision Making in Pharmacology Through Open-Book Assignments." Clinical Pharmacology & Therapeutics 914, 464-470.
10. Rehman, R., et al. 2023. The role of open-book assignments in enhancing clinical decision-making. Journal of Clinical Education.