Research Square

Preprints are preliminary reports that have not undergone peer review.
They should not be considered conclusive, used to inform clinical practice,
or referenced by the media as validated information.

Integrating Flipped Classroom and Small-Group Discussion into Whole Person Care Education in Obstetrics and Gynecology: A Single-Center, Pre-Post Study

Wei-Jiun Tang
Keelung Chang Gung Memorial Hospital
Chin-Chieh Hsu
Linkou Chang Gung Memorial Hospital
Chang-Chyi Jenq
Linkou Chang Gung Memorial Hospital
Shu-Han Chang
Linkou Chang Gung Memorial Hospital
Shih-Yin Huang
Keelung Chang Gung Memorial Hospital
Tsia-Shu Lo
Linkou Chang Gung Memorial Hospital
Chih-Feng Yen
Linkou Chang Gung Memorial Hospital
Po-Fang Tsai
National Tsing Hua University
Hung-Hsueh Chou
ma2012@cgmh.org.tw

Linkou Chang Gung Memorial Hospital

Research Article

Keywords: Whole person care, holistic care, flipped classroom, small-group discussion, medical education

Posted Date: August 20th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-10364663/v1

License: This work is licensed under a Creative Commons Attribution 4.0 International License.
Read Full License

Additional Declarations: No competing interests reported.

Abstract

Background

Whole person care (WPC) education is essential but challenging during workload-intensive clinical rotations. This study evaluated trainees' perceived competence and learning experiences following participation in a combined flipped classroom (FC) and small-group discussion (SGD) curriculum for teaching WPC in obstetrics and gynecology (OB-GYN).

Methods

A retrospective analysis was conducted using routinely collected pre- and post-course assessment data from senior medical students (Clerk-2) and first-year postgraduate (PGY-1) physicians who completed their OB-GYN rotations at Chang Gung Memorial Hospital, Linkou, Taiwan, between September 2023 and December 2024. Two standardized WPC teaching modules were delivered using an FC model followed by tutor-facilitated SGDs. Questionnaires assessed trainees' perceived competence across multiple WPC domains, while a separate survey evaluated learner satisfaction.

Results

A total of 235 trainees (110 Clerk-2 students and 125 PGY-1 physicians) were included. Trainees demonstrated significant improvements across all WPC competencies (all $p < 0.05$). Clerk-2 students showed the greatest advancement in "Social Resources" (mean increase: 1.31 points), whereas PGY-1 physicians improved most in "Basic Medical Knowledge" (1.19 points), followed by "Psychological Support" (1.12 points). Overall trainee satisfaction was consistently high, with mean scores ranging from 4.5 to 4.8 out of 5.0.

Conclusions

The established WPC curriculum integrating FC and SGD was associated with improved self-perceived competence across multiple WPC domains and high learner satisfaction. This educational model provides a feasible and scalable approach for incorporating WPC into routine OB-GYN training.

INTRODUCTION

Whole person care (WPC), also referred to as holistic or biopsychosocial care[1], has gained increasing recognition in contemporary healthcare. This concept emphasizes that medical practice should be patient-centered, focusing on the individual as a whole rather than solely on the disease or its symptoms. WPC advocates for addressing not only the patient’s physical condition but also their psychological, emotional, social, and spiritual well-being[1–3]. Such a comprehensive approach seeks to

promote healing, enhance quality of life, and build a deeper therapeutic relationship between patients and healthcare providers.

In order to achieve better patient care through the concept of WPC, physicians and all healthcare professionals should receive appropriate education and training to become familiar with its principles and practice[4, 5]. In Taiwan, many medical schools and teaching hospitals have incorporated WPC into medical education over the past decade. Common teaching approaches include traditional lectures, role-playing[6], narrative medicine[7, 8] and multidisciplinary WPC conferences[9]. Although multidisciplinary case conferences provide a comprehensive approach for understanding WPC, heavy clinical workloads often make it difficult for professionals from different disciplines to gather at the same time, resulting in a low frequency of interprofessional meetings. Furthermore, because the discussion topics vary in each session, medical trainees rotating through departments at different times may not have equal opportunities to acquire comparable knowledge and learning experiences. As a result, identifying a standardized, low-burden, and reproducible approach to teaching WPC during clinical rotations remains an important, yet under-researched, area.

Flipped classrooms (FC) and small-group discussions (SGD) are both popular methods in modern education. In the FC model, students acquire foundational knowledge prior to class through educator-provided resources, such as pre-recorded videos[10]. This approach has been shown to improve academic performance and learner satisfaction, and has therefore been increasingly adopted in medical education[11–15]. Its use has further expanded following the COVID-19 pandemic[16], and it is now widely implemented in many teaching hospitals in Taiwan. However, concerns remain that some learners may not fully understand the pre-class materials, or may fail to complete them prior to in-person sessions[17, 18], which might be a problem especially for trainees who possess intensive clinical workloads at the same time. Similarly, while SGDs have demonstrated positive effects in enhancing learning motivation and facilitating interactive engagement, their efficacy fluctuates if the trainees are shy or less active participating in discussion [19], which could be a problem especially for Asian trainees, who are generally believed to be less active in group activity[20]. Whether combining FC and SGD could improve the efficacy of WPC learning remains unknown.

In the field of obstetrics and gynecology (OB-GYN), clinical scenarios are often emotionally complex and ethically sensitive, making them uniquely suitable yet challenging for WPC education. Multidisciplinary WPC meetings in OB-GYN are not held every month and only a small proportion of rotating trainees can participate in the activities.

To address these educational challenges, we established a structured WPC curriculum for rotating trainees in the Department of OB-GYN in Chang Gung Memorial Hospital (CGMH), Linkou, Taiwan, in early 2020. The curriculum has been continuously refined through routine educational quality improvement based on faculty experience and learner feedback. In 2023, the curriculum was further enhanced by integrating an FC approach with tutor-facilitated SGD. This design was grounded in constructivist theory[21] and social learning theory[22], emphasizing active knowledge construction and

learning through interaction within authentic clinical contexts. As part of this routine educational process, trainees completed standardized course evaluation questionnaires to monitor learning outcomes and support ongoing curriculum development.

The present study retrospectively analyzed the routinely collected educational evaluation data through questionnaires to assess trainees' perceived competence and learning experiences following participation in this established curriculum.

MATERIAL AND METHODS

Study Design

This retrospective study analyzed the educational assessment data collected from the established WPC curriculum in the Department of OB-GYN, CGMH, Linkou branch, between September 1, 2023 and December 31, 2024, to evaluate changes in trainees' self-perceived competence before and after participation in the established curriculum. The questionnaires analyzed in this study were routinely administered as part of the curriculum for educational quality assurance and curriculum improvement. The study was approved by the Institutional Review Board of CGMH, Linkou, Taiwan (IRB No. 202500730B0).

Study Population

Senior medical students in their second year of clerkship (Clerk-2) and first-year post-graduate (PGY-1) physicians who rotated through the Department of OB-GYN at CGMH, Linkou, Taiwan, between September 1, 2023, and December 31, 2024 were enrolled. All trainees participated in the curriculum as part of their routine clinical education.

Development of Teaching Modules

One obstetric and one gynecologic clinical scenario, both encompassing various multidimensional aspects of WPC, were selected and developed into teaching modules. Module 1, designed for Clerk-2 students, featured a 37-year-old woman at 20 weeks of gestation with a fetus diagnosed with trisomy 21. The content covered the patient’s general clinical history, prenatal diagnosis, trisomy 21 and its associated abnormalities, available management options, emotional turmoil, psychological impacts, the Genetic Health Act, counseling, social support resources, and spiritual support. Module 2, designed for PGY-1 physicians, involved a postmenopausal woman with cervical cancer. This module delivered medical knowledge on cervical cancer, the truth-telling process[23], detection of patient stress and emotional turmoil, psychological support, shared decision-making (SDM), and the primary prevention of cervical cancer.

The FC and SGD Teaching Model

The teaching model consisted of two components: an FC session followed by a SGD. The FC component involved a pre-class video for each module. A narrated PowerPoint presentation video was created for each teaching module, with contents covering the multidimensional aspects of WPC education. Each video was approximately 30 minutes in length and could be accessed freely on the e-learning platform of CGMH. Trainees were instructed to watch the pre-class video prior to participating in the group discussion.

The SGD was scheduled at least one week after the trainees started their OB-GYN rotation. Each discussion group consisted of approximately 8 to 10 trainees; however, the actual number of participants varied depending on clinical rotation schedules and shift assignments. Each discussion session lasted around 1 hour and was facilitated by an attending physician from the Department of OB-GYN. For both modules, a total of six attending physicians served as tutors and facilitated the discussions on a rotating basis. All tutors were certified clinical instructors accredited by the Department of Medical Education at CGMH and received standardized training on facilitating this specific teaching activity prior to program implementation. Tutors were also provided with pre-set questions to guide the discussions during the SGD. In addition, tutors evaluated trainees' engagement during the discussions as part of their academic assessment.

Outcome Assessment

Outcome Assessment

Three self-developed questionnaires were used, including two learning assessment questionnaires (one for each teaching module) and one trainee satisfaction questionnaire. As part of the routine curriculum, trainees completed a pre-class learning assessment questionnaire during orientation at the beginning of the rotation. Following completion of the SGD sessions, trainees completed the post-class questionnaire together with the satisfaction questionnaire. Tutors did not have access to questionnaire responses, and the results were not used for trainees' academic evaluation. Responses to all questionnaires were recorded using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The learning assessment questionnaires were developed according to the learning objectives of each teaching module and existing literature on WPC and medical education. The Module 1 questionnaire consisted of 14 items covering four domains: basic medical knowledge (Items 1–6), psychological support (Items 7–10), social resources (Items 11–13), and spiritual care (Item 14) (Appendix 1). The Module 2 questionnaire consisted of 10 items assessing four domains: basic medical knowledge (Items 1–3), communication and patient care (Items 4–5), psychological support (Items 6–8), and primary prevention of cervical cancer (Items 9–10) (Appendix 2). The trainee satisfaction questionnaire consisted of 17 items evaluating instructional content (Items 1–2), the FC and SGD formats (Items 3–7), instructor performance (Items 8–11), and overall course satisfaction (Items 12–17) (Appendix 3).

Validity and Reliability of the Questionnaires

Content validity was evaluated by an expert panel comprising six members from different professional backgrounds, including one gynecologist, one obstetrician, two medical educators from non-OB-GYN specialties, one nursing faculty member, and one medical student representative. Each expert independently rated the relevance of every questionnaire item using a 5-point Likert scale. Ratings of 4 or 5 were considered acceptable for calculating the content validity index. Scale-level content validity was evaluated using the Scale-level Content Validity Index based on the average approach (S-CVI/Ave). The S-CVI/Ave values of all three questionnaires exceeded 0.96, indicating excellent content validity[24].

The reliability of the questionnaires was evaluated using Cronbach's alpha coefficient based on the data collected from the study participants. Because the spiritual care domain of the Module 1 questionnaire consisted of only one item, the overall Cronbach's alpha was calculated using the remaining 13 items. The overall Cronbach's alpha was 0.97 for the Module 1 questionnaire and 0.93 for the Module 2 questionnaire. Subscale Cronbach's alpha coefficients for the domains in each questionnaire ranged from 0.87 to 0.93, indicating good to excellent internal consistency.

Statistical Analysis

Pre- and post-class questionnaire scores were compared using paired t-tests. Although responses were collected using a Likert scale, mean domain scores were treated as continuous variables, consistent with common practice in medical education research. Repeated-measures analysis of variance (ANOVA) was performed to compare the magnitude of improvement across different learning domains, followed by Bonferroni-adjusted post hoc pairwise comparisons. All statistical tests were two-sided, and a P value < 0.05 was considered statistically significant. All statistical analyses were conducted using IBM SPSS Statistics (version 22.0) and Microsoft Excel.

RESULT

Participant Characteristics

Between September 1, 2023, and December 31, 2024, a total of 239 trainees rotated to the Department of OB-GYN in CGMH, Linkou, including 114 Clerk-2 students and 125 PGY-1 physicians. All participants completed both the pre- and post-class questionnaires except for 4 medical students, who did not complete pre-class questionnaires, and were therefore excluded. Thus, 110 Clerk-2 students and 125 PGY-1 physicians were included in the final analysis.

Pre-Post Changes in Perceived Competence of WPC Domains

Table 1 summarizes the pre- and post-class scores for the 14 learning items in Module 1, which was assigned to Clerk-2 students. Significant improvements were observed across all items following the

intervention. Mean pre-class scores ranged from 2.95 to 3.52, whereas mean post-class scores increased to between 4.23 and 4.56. The mean differences between pre- and post-class assessments ranged from 1.00 to 1.42 points on the 5-point Likert scale, with all items demonstrating statistically significant improvements.

When comparing the domains in Module 1, the "Social Resources" domain showed the greatest advancement, with a mean improvement of 1.31 points (95% CI: 1.11–1.52) (Fig. 1). While the module effectively enhanced all competencies, post-hoc analysis revealed that the progress in “Social Resources” was significantly higher than that in "Psychological Support" ($p = 0.008$). Other than this specific difference, the students achieved a relatively balanced and consistent improvement across all other domains.

Table 2 presents the pre- and post-class questionnaire scores for the 10 learning items in Module 2, which was assigned to PGY-1 physicians. Similarly, significant improvements were observed across all items following the intervention. Mean pre-class scores ranged from 3.07 to 3.73, while mean post-class scores increased to between 4.36 and 4.60. The mean differences between pre- and post-class scores ranged from 0.84 to 1.34 points on the 5-point Likert scale, and all items showed statistically significant improvements.

The most notable progress of domains in Module 2 occurred in the domain of "Basic Medical Knowledge", which increased by 1.19 points (95% CI: 1.07–1.32), followed by "Psychological Support" with a mean increase of 1.12 points (95% CI: 0.97–1.26) (Fig. 2). Notably, the improvements in these domains were significantly greater than those in "Communication" and "Disease Prevention" ($p < 0.01$). This indicates that the module was particularly powerful in boosting the physicians' core medical knowledge and their ability to provide psychological support.

Trainees’ Satisfaction with the Teaching Model

Figure 3 summarizes the mean satisfaction scores for 17 survey items across the two modules. The results indicated high levels of trainee satisfaction across all dimensions, including instructional contents, FC and SGD format of teaching, instructor performance, and overall course satisfaction.

For Module 1, mean scores across the 17 items ranged from 4.5 to 4.8. Similarly, Module 2 received consistently high ratings, with mean scores ranging from 4.5 to 4.7. Both teaching courses achieved their highest ratings in the "Instructor performance satisfaction" category (items 8–11), especially 4.8 for Module 1. These findings suggested that the instructional design and delivery for both topics were highly effective, as all mean scores remained well above 4.5 on the 5-point Likert scale.

DISCUSSION

In this retrospective educational evaluation study, we demonstrated that combining FC and SGD effectively enhanced perceived competence for WPC among Clerk-2 students and PGY-1 physicians

during their OB-GYN rotations. Significant improvements were observed in both clinical modules developed for this study: a pregnant woman facing a high risk of trisomy 21 and a postmenopausal woman with cervical cancer. In addition, high levels of satisfaction with the teaching module were reported in both scenarios, with the majority of trainees agreeing that this instructional model enhanced their learning experience and promoted a deeper understanding of WPC.

The greatest mean score improvement after the FC and SGD model was observed in the domain of “Social Resources” in Module 1. This finding might be related to the fact that social resources were seldom emphasized during traditional, disease-oriented medical school curricula, and therefore leaving an unmet need for medical education. Through this teaching model combining FC and SGD, trainees learned about available social resources patients need, and the motivation to seek and utilize appropriate resources when caring for patients with other rare or severe diseases. In Module 2, the largest improvement was observed in the domain of "Basic Medical Knowledge". This may be attributed to the complexity and evolving nature of cancer management. Furthermore, PGY-1 physicians generally possess more clinical experience in patient care and communication, and some of them had opportunistic exposure to WPC-related teaching. As a result, their relative improvement in domains such as communication or psychosocial support might be less prominent compared to their gains in foundational knowledge.

The overall effectiveness of this combined instructional model can be attributed to the integration of the strengths of both FC and SGD for several reasons. First, the use of concise 30-minute pre-class instructional videos enabled trainees to acquire essential foundational knowledge within a relatively short period. In demanding clinical rotations such as those in the OB-GYN department, heavy workloads often lead to poor compliance or low learning engagement[17, 18]. By restricting the videos to 30 minutes, this model successfully avoided excessive additional demands on trainees’ limited rest time after clinical duties. This streamlined approach promoted active learning and cognitive engagement through pre-class preparation, aligning consistently with constructivist learning theory[21].

Second, after FC, the tutor-guided SGDs facilitated deeper and more meaningful discussions rather than spending time on basic clarification. In traditional SGD, when learners possess differing levels of baseline knowledge, those with insufficient foundational understanding may feel less confident contributing to discussions. This issue is particularly relevant among Asian learners, who are often considered more reserved in group-learning environments[20], frequently resulting in discussions being dominated by only a small number of participants[19]. In our model, this shared knowledge base effectively minimized these disparities and prevented uneven participation.

Last but not least, incorporating trainees’ participation and engagement during discussions into their academic assessment provided a practical incentive. Providing both the confidence derived from foundational knowledge and a clear assessment framework encouraged even the more reserved or shy learners to become actively involved in the discussion process. This interactive peer-learning experience

successfully enhanced higher-level learning and active knowledge construction, which aligns closely with social learning theory[22].

In an aging society, educating young physicians about WPC has become increasingly important for improving the quality of patient care. Concurrently, an increasing number of healthcare professionals are leaving tertiary teaching hospitals in pursuit of a better work-life balance, resulting in heavier clinical and teaching workloads for the remaining staff. Under these circumstances, our teaching model reduces the need to gather multiple healthcare professionals simultaneously and overcomes the logistical limitations of infrequently scheduled multidisciplinary case conferences. By integrating multidisciplinary perspectives into structured, pre-recorded learning materials, this approach expands learning opportunities without substantially increasing faculty workload. It also helps simulate real-world collaborative care, which is often difficult to achieve in routine clinical settings. The reproducibility of this class format makes it a highly feasible teaching activity that can be seamlessly integrated into the training programs of various medical professionals.

Several limitations of this study should be acknowledged. First, because this study lacked a comparison group receiving traditional teaching or no intervention, the observed improvements may not be attributed solely to the FC-SGD model. Second, although improvements were observed in almost all trainees, the magnitude of improvement varied among groups. This variation could be attributed to baseline differences among the trainees or differences in facilitation styles among the tutors. Finally, long-term follow-up was not conducted to evaluate the sustainability of the trainees' understanding of WPC or its implementation in clinical practice. Future studies should employ performance-based assessments, such as Objective Structured Clinical Examinations (OSCEs) and multisource (360-degree) evaluations, to examine whether trainees are able to integrate the principles of WPC into their routine clinical practice following participation in this educational curriculum.

CONCLUSION

In conclusion, the integration of FC with SGD appears to be a feasible and well-accepted approach for introducing WPC concepts to medical trainees during their OB-GYN rotations. As an introductory educational program, this curriculum was associated with improvements in trainees' perceived competence across multiple WPC domains, while receiving high levels of learner satisfaction. To our knowledge, this is the first study to describe the use of a combined FC–SGD model for introducing WPC concepts in OB-GYN training. Future studies incorporating objective assessments and longitudinal follow-up are warranted to determine whether these perceived educational benefits translate into sustained clinical performance and the integration of WPC principles into routine patient care. This educational model may serve as a practical first step in helping trainees recognize and appreciate the multidimensional nature of WPC early in their clinical education. We hope that this model can be expanded to additional OB-GYN topics or even to other departments, providing a scalable and sustainable framework for integrating WPC education into clinical training programs across medical specialties.

Declarations

Ethics approval and consent to participate

This study was approved by the Institutional Review Board of Chang Gung Memorial Hospital, Linkou, Taiwan (IRB No. 202500730B0). All methods were carried out in accordance with relevant guidelines and regulations. The requirement for informed consent was waived by the Institutional Review Board because this study involved a retrospective analysis of de-identified educational assessment data that had been routinely collected for educational quality assurance and curriculum improvement rather than for research purposes.

Consent for publication

Not applicable.

Availability of data and materials

The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

Funding

This study was supported by Chang Gung Memorial Hospital (Grant No. CMRPG3Q0211) and National Tsing Hua University (Grant No. 114QF025E1). The funding body had no role in the design of the study; collection, analysis, or interpretation of data; writing of the manuscript; or the decision to submit the manuscript for publication.

Acknowledgements

The authors sincerely thank all senior medical students and postgraduate year-one physicians who participated in the Whole Person Care educational curriculum. We also acknowledge the faculty members of the Department of Obstetrics and Gynecology and the Department of Medical Education at Chang Gung Memorial Hospital, Linkou, for their continuous efforts in developing, refining, and implementing this educational program.

Disclaimers: The authors declare no conflicts of interest.

References

1. Thomas H, et al. Definition of whole person care in general practice in the English language literature: a systematic review. BMJ Open. 2018;8(12):e023758.
2. Thomas H, Best M, Mitchell G. Whole-person care in general practice: The nature of whole-person care. Australian J Gen Pract. 2020;49:54–60.
3. Borrell-Carrió F. R.M. Suchman Al Fau - Epstein, and R.M. Epstein, *The biopsychosocial model 25 years later: principles, practice, and scientific inquiry.* (1544–1709 (Print)).
4. Leslie KF, et al. Pharmacy Education Through the Patient's Lens: A Call to Advance Whole-Person Care. Am J Pharm Educ. 2025;89(8):101472.
5. Scott Barss K. Spiritual Care in Holistic Nursing Education: A Spirituality and Health Elective Rooted in T.R.U.S.T. and Contemplative Education. J Holist Nurs. 2020;38(1):122–30.
6. Roe S, et al. A cross-disciplinary approach to learning medical physiology and behavioral skills involving drama students performing as simulated patients. Adv Physiol Educ. 2024;48(2):297–303.
7. Huang CA-O et al. *The influence of narrative medicine on medical students' readiness for holistic care practice: A realist synthesis.* (1365–2923 (Electronic)).
8. Qian J, et al. The impact of a narrative medicine program on obstetrics and gynecology residents' empathy ability. BMC Med Educ. 2024;24(1):1436.
9. Jefferies H, Chan KK. *Multidisciplinary team working: is it both holistic and effective?* (1048-891X (Print)).
10. Rotellar C, Cain J. Research, perspectives, and recommendations on implementing the flipped classroom. Am J Pharm Educ. 2016;80(2):34.
11. McLaughlin JE, et al. The flipped classroom: a course redesign to foster learning and engagement in a health professions school. Acad Med. 2014;89(2):236–43.
12. King AM et al. *Replacing Lectures with Small Groups: The Impact of Flipping the Residency Conference Day.* West J Emerg Med, 2018. 19(1): pp. 11–17.
13. Hew KF, Lo CK. Flipped classroom improves student learning in health professions education: a meta-analysis. BMC Med Educ. 2018;18(1):38.
14. Yao QY, et al. The Effectiveness of the Student-Centered Flipped Classroom Approach in Medical Anatomy Teaching: A Quasi-Experimental Study. Clin Anat. 2025;38(4):496–504.
15. Oudbier J, et al. Enhancing the effectiveness of flipped classroom in health science education: a state-of-the-art review. BMC Med Educ. 2022;22(1):34.
16. Huang TX, et al. Combing pre-workshop, web-based learning and hands-on workshop as a flipped classroom clinical skill training model during the COVID-19 pandemic. Taiwan J Obstet Gynecol. 2022;61(5):755–60.
17. Lai C-L, Hwang G-J. A self-regulated flipped classroom approach to improving students' learning performance in a mathematics course. Comput Educ. 2016;100:126–40.
18. Sun JCY, Wu YT, Lee WI. The effect of the flipped classroom approach to OpenCourseWare instruction on students' self-regulation. Br J Edu Technol. 2017;48(3):713–29.

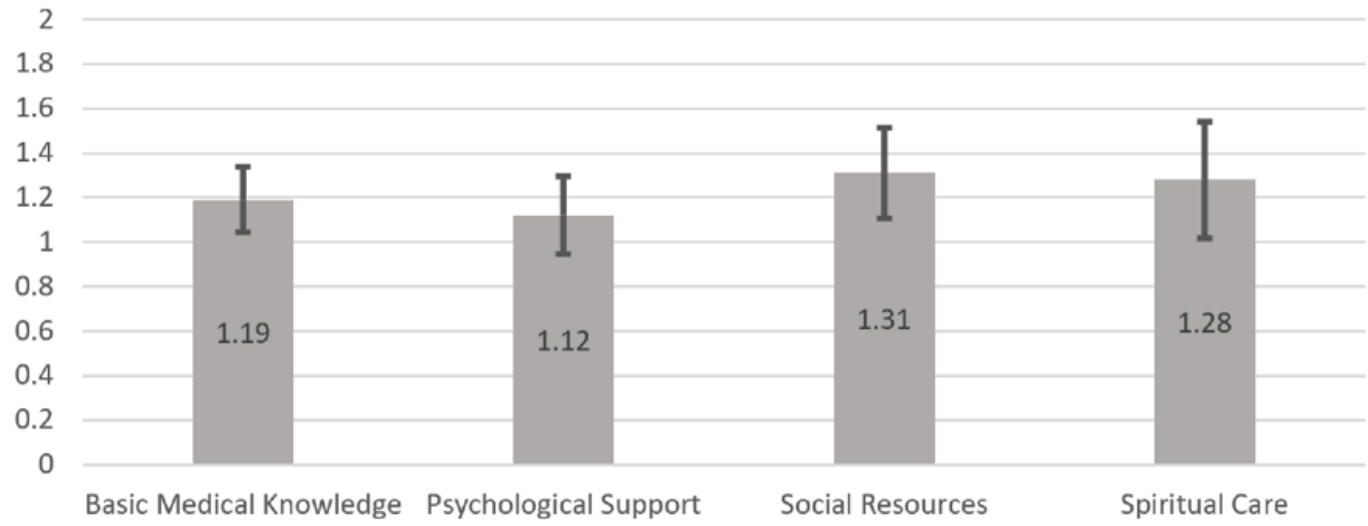
19. Fallah-Karimi S, Ghaljaie F, Khalilzadeh-Farsangi Z. Comparison of the effects of role-playing, small group discussion, and traditional teaching methods on nursing students' self-efficacy. BMC Med Educ. 2025;25(1):1354.
20. Jackson L. Passive Asian students'? A cross-cultural analysis of humility in education. Asia Pac J Educ. 2025;45(5):1488–503.
21. Bada D, Olusegun S. *Constructivism Learning Theory: A Paradigm for Teaching and Learning*. 2015.
22. Bandura A, Walters RH. Social learning theory. Volume 1. Prentice-hall Englewood Cliffs, NJ; 1977.
23. Tang W-R, et al. Truth telling in Taiwanese cancer care: patients' and families' preferences and their experiences of doctors' practices. Psycho-oncology. 2017;26(7):999–1005.
24. Polit DF, Beck CT. *The content validity index: are you sure you know what's being reported? Critique and recommendations.* (0160–6891 (Print)).

Tables

Tables 1 and 2 are available in the Supplementary Files section.

Figures

Figure 1.



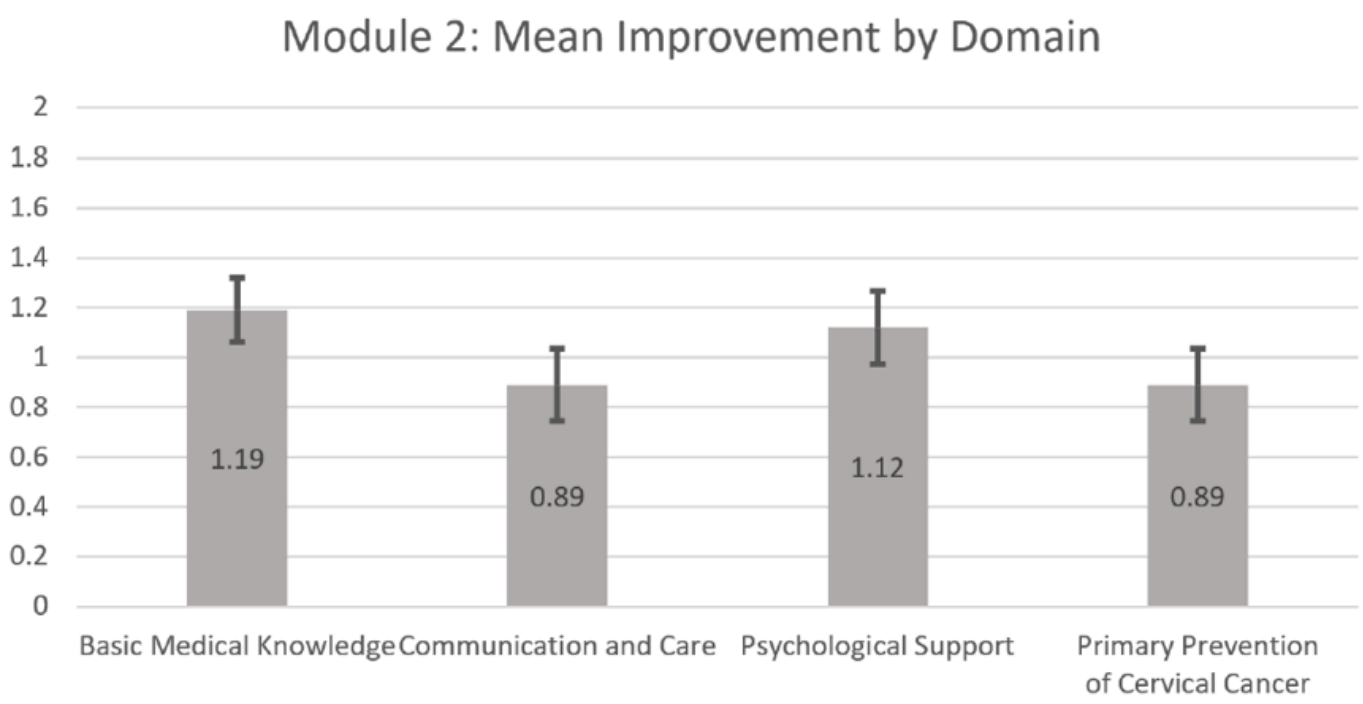
Error bars represent 95% confidence intervals. Domain differences were analyzed using repeated-measures ANOVA with Bonferroni post hoc correction.

Figure 1. Mean improvement by domain (Module 1)

Figure 1

See image above for figure legend.

Figure 2.



Error bars represent 95% confidence intervals. Domain differences were analyzed using repeated-measures ANOVA with Bonferroni post hoc correction.

Figure 2. Mean improvement by domain (Module 2)

Figure 2

See image above for figure legend.

Figure 3: Trainees' satisfaction score of Module 1 and Module 2

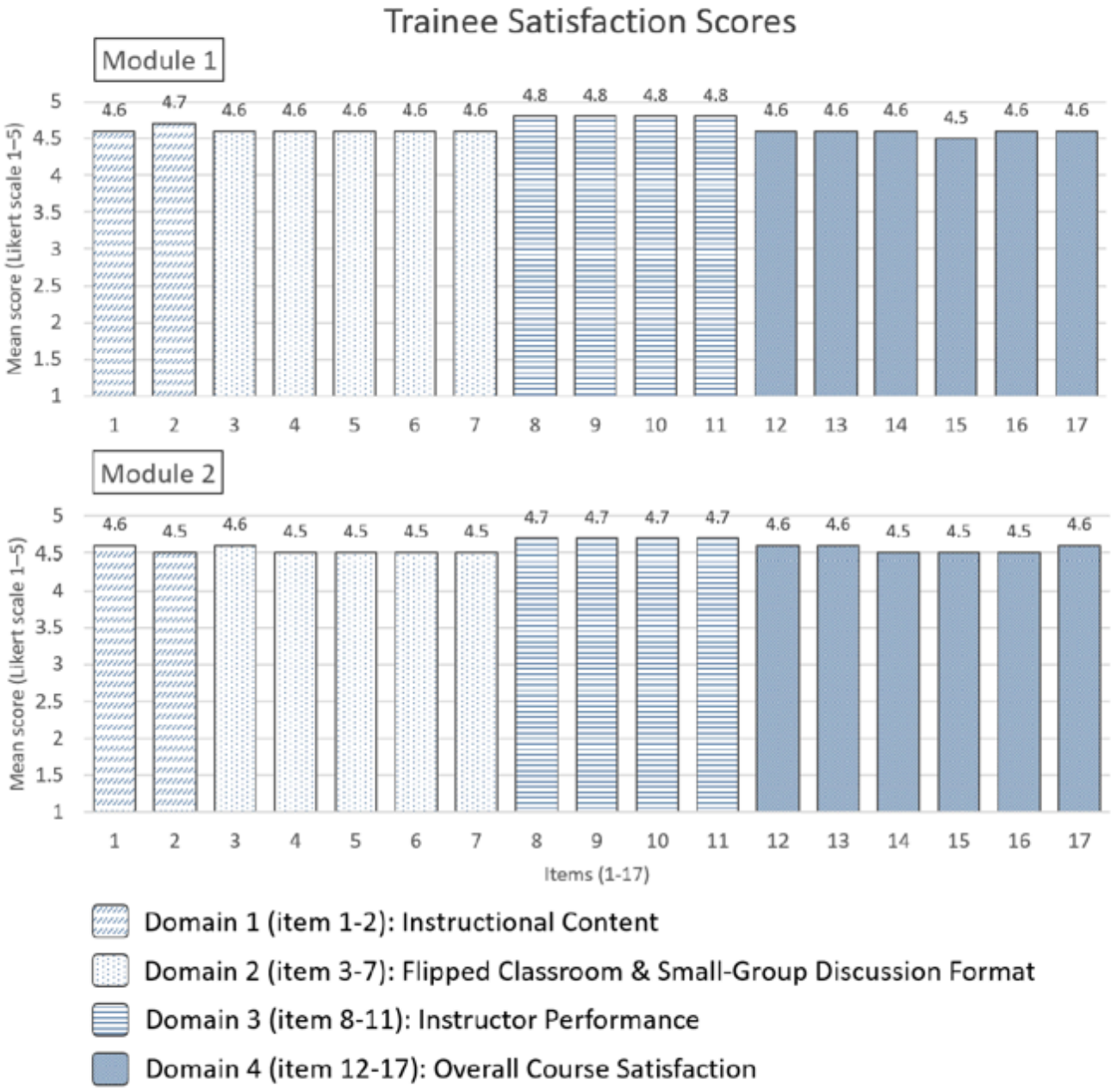


Figure 3

See image above for figure legend.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- AppendixQuestionnaires.docx
- Tables.docx