ORIGINAL ARTICLE

Acceptability and Appropriateness of Patient-centered, Family-focused, Community-oriented (PFC) Lens in the Ortho-Geriatric Fracture Liaison Service among Family and Community Medicine Trainees

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ABSTRACT

Background. In Family and Community Medicine (FCM) residency training, the biopsychosocial approach to care was translated to a teaching strategy and cognitive framework called patient-centered, family-focused, and community-oriented (PFC) lens. However, the PFC lens documented in a matrix has no evidence of its implementation acceptability and appropriateness for the users in the FCM training program.

Objective. To determine the acceptability and appropriateness of the integration of the PFC lens in the Ortho-Geriatrics Fracture Liaison Service (OG-FLS) in applying the family medicine principles and achieving family practice required competencies of the residents in a tertiary hospital FCM training program.

Methods. A cross-sectional survey was conducted using a 15-item self-administered pre-tested online questionnaire to gather feedback and experiences on the PFC lens integration. Answers to open-ended questions were coded and analyzed with MaxQDA and synthesized into themes while numerical rating scales were analyzed with Microsoft Excel into means and standard deviation.

Results. Nineteen residents answered the questionnaire. There were 47 OG-FLS patients referred to the service. Overall, the acceptability of the approach among FCM residents had an average score of 9.26 (SD ± 0.99) while appropriateness was rated 9.26 (SD ± 1.09) with 10 points as the highest score. The competencies achieved reported by residents were communicating effectively, collaborating with interprofessional teams, demonstrating clinical competence, and practice of biopsychosocial approach.

Conclusion. The PFC lens integration in OG-FLS is acceptable and appropriate in the practice of multidisciplinary care in the in-patient setting among FCM residents. Its integration is aligned with the expected competencies of a family physician that trainees can apply in future practice.

Keywords: biopsychosocial care, patient-centered care, family-focused care, community-oriented care

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INTRODUCTION

The biopsychosocial (BPS) approach to care is a systems-based approach adapted in the early years of family medicine training that strengthened the expertise of primary care teams to think of patients within the context of families and communities.[1] The approach was also applied in various medical management of different illnesses such as breast cancer, chronic pain, migraine, and gestational excessive weight gain.[2–5] It has shown to improve patient satisfaction and decrease health care costs.[6,7] In the basic medical education, the BPS approach was documented but the evidence of its explicit utility remain insufficient.[8,9] In Southeast Asia, a study from Indonesia in 2014 found that causes of inappropriate referrals were limited understanding of person-centered care principles and insufficient health services to diagnose and treat common biomedical problems.[10]

In the Philippines, Leopando et al. translated the BPS approach into a patient-centered, family-focused, and community-oriented care (PFC) lens via the PFC matrix.[9] It differs from the broad BPS approach because of its structured and predictable form and the distinct community-oriented viewpoint. Integrating the PFC matrix is a novel teaching strategy that has been used to educate Family and Community Medicine residents about the BPS approach. The PFC lens is also a cognitive framework for residents to develop competence in providing comprehensive care in the different settings of primary care.

The PFC matrix has been applied in different teaching and service-learning avenues since 2000.[9] It has been widely used in teaching students, in Family and Community Medicine (FCM) residency training programs, and in the in-patient services. One of the in-patient services that has used the PFC matrix extensively is the Ortho-Geriatric Fracture Liaison Service (OG-FLS). It is a multi-disciplinary service led by a team of orthopedic surgeons with the aim of improving holistic management of geriatric patients' fractures to prevent subsequent fractures.[11] It is composed of orthopedic surgeons, general internist, cardiologist, endocrine specialist, pain specialist, rehabilitation medicine, and family medicine. In 2021, there were 18 OG-FLS referrals received by the FCM department but it was in 2022, that PFC matrix integration was fully implemented.[12] In practice, it is uncommon for specialist to refer to primary care physicians, general practitioners, or family physicians in a larger health system.[13,14] This multidisciplinary service is a unique situation needing further studies to capture its effect to family physicians training in a tertiary hospital. In particular, there is a gap in the evidence to support the acceptability and appropriateness of the PFC lens integration to training and practice. Therefore, this study aimed to determine the acceptability and appropriateness of the integration of the PFC framework documented in a matrix, in the OG-FLS in applying the family medicine principles and achieving family practice required competencies of the residents in a tertiary hospital FCM training program. Furthermore, this study also aimed to determine the number of patients and families of OG-FLS enrolled in family health service by each resident, the number of multidisciplinary conferences (MDC) attended by residents where the PFC matrix was presented, and lastly, to describe the experiences and insights of residents in using the PFC in OG-FLS.

METHODS

Study Design

This was a cross-sectional study using an online self-administered questionnaire focusing on the feedback and experiences on the PFC lens integration in FCM training.

Study Setting

The study was conducted on November 21 to December 31, 2022 in the University of the Philippines-Philippine General Hospital Department of Family and Community Medicine (UP-PGH DFCM). All second and third year residents in 2022 (N=19), served at least more than one year as a resident, had seen at least one OG-FLS referral, and had presented at least one PFC matrix with a consultant or in an MDC meeting were included. All first year FCM residents and those who resigned in the middle of the year were excluded.

Sampling and Sample Size

The sampling done was total enumeration.

Survey Development/ Instrument

The 15-item questionnaire was constructed by the authors based on the learning objectives in the residency training manual.[15] The questionnaire aimed to describe the implementation outcomes of acceptability and appropriateness of incorporating PFC through a matrix in OG-FLS (implementation strategy). Acceptability is the perception of residents about the integration of case-based learning instruction in the application of PFC lens in OG-FLS referrals. Appropriateness, on the other hand, is the perceived relevance of the PFC approach to future practice by the residents.

The specific information collected were name, sex, year level, number of patients and families of OG-FLS who were enrolled in family health service by each resident, number of multidisciplinary conferences attended by residents where the PFC matrix was presented, and the collective experiences/insights of FCM residents in using the PFC matrix on its acceptability and appropriateness in OG-FLS.

Acceptability was explored using open-ended questions about what was discovered, surprises during the process, affirmed concepts, questions, and concerns (DSAQ_method). The DSAQ_is a reflective learning process where learners recall their experiences and critically analyze it that will help them achieve greater self-awareness and identify the gaps

in learning and areas for improvement.[16] It is an innovative teaching strategy utilized by students in the learning units of University of the Philippines College of Medicine in understanding their experiences and processing the learning in their rotation from the Department of Family and Community Medicine. It is also being used by the FCM residents for facilitating their self-reflection in the different learning settings in training.

It was pre-tested among five first year residents who were not included in the study to check for consistency of questions and clarifications. After pre-testing, no revisions were recommended on the questionnaire. The validity and reliability of the questionnaire were not measured statistically due to limited time.

Data Collection

All residents who qualified in the inclusion criteria were requested to answer the 15-item self-administered questionnaire from November-December 2022 via online Google form. The link to the form was sent via email and personal messages. Follow-up of responses was done every week. Included in the form was the informed consent that was obtained from the residents. The residents were informed that their participation is voluntary and may withdraw anytime during the conduct of the study. Resident identities were kept anonymous using coded data collection forms.

Data Analysis

All quantitative data were analyzed using Microsoft Excel Version 16.16.21 in computing for the mean and standard deviation for numerical data. The qualitative data were analyzed using inductive and deductive content analysis using the licensed version of MAXQDA Standard 2022 software. Emergent coding was used to categorize the themes that appeared in the DSAQ. For the competencies, responses underwent direct coding using the Philippine Academy of Family Physicians Program outcomes as the main themes. Coding was solely done by the primary author and was reviewed three times to ensure alternative interpretations were not missed. In this study, no subgroup analysis was done and no missing data were noted.

Ethics Approval

This study was approved by the UP Manila Ethics Board (CODE: UPMREB 2022-0592-EX).

RESULTS

All 19 residents answered the questionnaire with a response rate of 100%. There were nine second year residents and ten were third year residents. There were forty-seven OG-FLS patients referred to FCM with an average of 2 (SD ± 1) referrals attended per resident in 2022. Thirty-eight families enrolled in FCM were OG-FLS ($\bar{X}$ = SD ± 1) and twenty-nine MDC were attended by residents ($\bar{X}$ = SD ± 1).

Table 1. The Frequency of the Themes from the DSAQ* of FCM Residents (N=19) on Acceptability of Patient-centered Family-focused Community-oriented Lens Integration in Ortho-Geriatrics-FLS

Themes	Subtheme	Frequency of Responses among FCM Residents
New knowledge and experience gained by the respondents in the conduct of PFC integration (discoveries)	Concise data organization	10
	Patient context	6
	Clinical competency†	2
	Important role of FCM physician	2
	Holistic care	2
Concepts that gave the most impact to the respondents (surprises)	Utility of PFC Matrix	6
	PFC approach to care	5
	Comprehensive approach to care	2
	Important role of FCM physician	2
	Uniqueness of PFC to profession	1
	Time consuming	1
	Individualistic care on telemedicine	1
Concepts that were strengthened in the activities (affirmed)	Family-focused care	9
	Community-oriented care	2
	Home care	2
	Systems-based thinking and planning	2
	Patient-centered care	1
	Importance of biopsychosocial approach	1
Prevailing unanswered questions or concerns about the PFC matrix (questions)	Improve PFC matrix construction	3
	Improve matrix presentation to non-FCM	2
	Continuity of care	2
	More practice	1

**DSAQ: Discoveries, Surprises, Affirmations, Questions*
†Diagnosis and management of osteoporosis and fracture in the elderly

The acceptability of PFC integration in terms of the new knowledge and experience gained by the residents include the skill of concise data organization using the matrix and understanding of the patient context (Table 1). The concepts with the most impact were the utility of the matrix, the PFC approach to care, and the comprehensive approach to the management of elderly patients with fractures. The integration strengthened the concepts of family-focused care, community-oriented care, home care, and system-based thinking.

The acceptability of the approach among FCM residents had an average rating score of 9.26 (SD ± 0.99). The second and third year FCM residents gave the average rating of 9 (SD ± 1.12) and 9.5 (SD ± 0.85), respectively. However, questions and concerns for improvement on the process of PFC and OG-FLS were also captured by the survey. The

Table 2. Competencies Achieved by DFCM Residents with the Integration of PFC* Lens in OG-FLS† based on PAFP§ Program Outcomes

Competency	Subtheme	Frequency of Responses of FCM residents
Communicate effectively	Counseling skills	7
	Effective communication	4
	Transition care preparation	3
	Family engagement	2
Collaborate with interprofessional team	Leadership skills	3
	Collaboration	3
	Comprehensive and holistic planning	1
	Systems-based thinking	1
Demonstrate clinical competence	Comprehensive geriatric assessment	1
Practice of biopsycho-social approach	Practice of the PFC matrix	6
	Family-focused care	4

*PFC: Patient-centered Family-focused Community-oriented
†OG-FLS: Ortho-Geriatric Fragility Liaison Service
§PAFP: Philippine Academy of Family Physicians

residents asked, "*How do we proceed with the continuity of care and when do we stop?,"* and *"How do we proceed to integrate the findings to the community level once the patient was sent home?."* There were suggestions for creating a PFC template for follow-up consultation and making a PFC matrix specifically for OG-FLS. There was a comment, *"summarizing with figures is usually much easier to do when done by hand vs using [computer] applications."*

The appropriateness of the PFC lens was measured through the perceived relevance of the approach to future practice by the residents (n=3). Important reasons include emphasis on caring for the whole person (n=7), giving structure to the practice (n=4), promoting continuity of care (n=3), and appropriateness to follow-up in the OPD (n=1). The appropriateness of the approach had the same rating compared to acceptability with an average rating score of 9.26, (SD ± 1.09). For second and third year FCM residents, the average ratings were 9 (SD ± 1.32) and 9.5 (SD ± 0.85), respectively.

The competencies achieved by the resident in the PFC integration were explored. The competencies were vis a vis with the Philippine Academy of Family Physicians program outcomes (Table 2). The competencies include communicating effectively, collaborating with interprofessional teams, demonstrating clinical competence, and practice of biopsychosocial approach. Counseling skill was the most frequent subtheme mentioned followed by effective communication while for interprofessional collaboration, the most frequent subtheme mentioned were leadership skills and collaboration. Comprehensive geriatric screening was mentioned as a subtheme in terms of demonstrating clinical competence while the practice of the PFC matrix was the most frequent subtheme for the practice of the biopsychosocial approach.

The experiences of residents in the multidisciplinary conferences (MDC) were described. Through this MDC, appreciation of the perspective of other services was mentioned by five residents. One of the observations was, *"It was a good experience because we were able to gather different perspectives from different co-managing services and talking to them thru MDC was good for the patient also because we were able to communicate better and clarify plans, which was sometimes difficult to do in the chart. We also learn a lot from different co-managing services."* Through this activity, the following themes of their experiences also emerged: better communication between services (n=2), appreciated the process of doing the multidisciplinary conferences (n=2), and exercised respect to patient and family autonomy (n=2) during the meetings. Positive emotions were also felt by residents after attending the MDC. Examples are *"accomplished, valued, inspired, and happy."* Others also felt pressured (n=1) and anxious (n=2) especially during the presentations.

DISCUSSION

The study showed that the integration of PFC lens in OG-FLS was acceptable and appropriate in applying the family medicine principles and achieving family practice required competencies of the residents in a tertiary hospital FCM training program. The overall experience of residents with the PFC integration showed the utilization of the matrix and they were able to appreciate the benefits of MDCs attended. The number of OG-FLS referrals in 2022 doubled compared to previous year. These referrals were enrolled in the outpatient clinic for family-focused care. This kind of referral is unique because primary care physicians, general practitioners, or family physicians commonly refer to a specialist in a larger health system.[13,14] The involvement of FCM physicians in multidisciplinary care advocated the importance of biopsychosocial care and continuity of care in a highly specialized tertiary hospital. This has implications in closing the referral loop in the primary care setting.[17]

Both the acceptability and appropriateness average rating score of residents are consistent with the collective, more positive insights, and experiences they shared. The use of the PFC matrix, enabled the residents to integrate biomedical and psychosocial data, context, competencies, and holistic care. The PFC matrix table facilitated concise and organized data presentation which promoted good communication among providers of care leading to successful collaborative practice.[18] These outcomes indicate that the structured format of the PFC matrix addresses two criticisms of BPS approach of care: being too general or non-selective and having no process for obtaining information from the patient.[19,20] This study elicited that filling out the matrix was laborious probably because there are parts needing multiple patient and family encounters to obtain information (e.g.,

family-focused and community-oriented section). The utility of the matrix is also challenged by electronic medical records flexibility to accommodate the needed information such as genograms. A resident observed that hand drawings and writings are still faster than using computer applications. Collaboration between family physicians and electronic medical record experts to develop innovative approaches in recording family information is recommended.[21]

The clinical competencies expected of a family physician are further enhanced during training. The involvement in MDC reinforces collaboration with several specialties in the field of medicine to deliver quality and continuing care for patients, families, and communities.[22] This collaborative care is the essence of team-based care where members contribute their expertise to achieve better patient outcomes whether in the community or hospital setting.[23] Integrating the PFC lens via a matrix to actual practice addresses the lack of training and lack of time as a hindrance to practice BPS approach.[24] The enhancement of family-focused care in this study shows the importance of family concepts into FCM training.[21] Despite its utility in this study, BPS approach remained criticized and said to be limited in explaining disease causality.[25] In the series of focus group discussion done by Astin et al. in 2002 in the United States, many medical students and residents perceived that integrating psychosocial factors and behavioral/mind–body methods into medical diagnoses and treatment would not improve management and patient outcomes. Not all respondents were committed to adopt such an approach.[24] Given its limitations, integrating the PFC lens in OG-FLS supported BPS approach in understanding the illness and the patient context as part of the contributory factors to patient outcomes.

The questions and concerns of residents on limited continuity of care in the current implementation of OG-FLS in a tertiary hospital reflect community-oriented lens application. The service limitations are due to the facility itself, different schedules set by the different services of the MDC for follow-up, and health system policies. There are also recurring service delivery challenges even in developed countries like Spain and Germany, and in the Asia- Pacific region implementing OG-FLS. The identified limitations were ineffective communication between FLS and primary care physicians, inadequate human resource to coordinate care, and insufficient funding.[26–28] In the context of Universal Health Care (UHC) in the Philippines, the primary care provider within the health care provider network (HCPN) should be able to assist patients and families navigate the system within the HCPN.[29] Recent survey among family physicians in the Philippines showed that there are still gaps on information technologies, networking, and other resources to adhere to UHC regulations.[30] Ideally, those patients referred to a tertiary hospital for OG-FLS should have had their primary care provider first to ensure continuity of care. Patients enrolled in the OG-FLS can be endorsed back for continuity of care to their primary care provider, a process called "closing the referral loop."[17] Regardless of the limitation, the FCM trainee is expected to apply the PFC lens in the management of their patients. The application of the PFC lens not only in primary care level, but also in all levels of care will be significant in achieving a people-centered health service delivery that is cognizant of cultural differences, values and beliefs, and social determinants of health.[29]

The authors recognize that this study has limitations. The study focused on the acceptability and appropriateness of the PFC approach in the multidisciplinary care of FCM residents. It was limited to their experiences in the implementation of OG-FLS in one tertiary hospital. For the questionnaire, the reliability and validity were not measured, and follow-up interviews such as key informant or focus group discussion were not done. The baseline information on the family's perception and satisfaction, patient and training outcomes were not part of this study. Because of these limitations, the authors suggest interpreting the data with caution as generalizability of the data is limited. The questionnaire used in this study will need further validation and modification.

The authors also acknowledged potential biases and instituted control measures. Experience bias of respondents from the varying competencies on the use of PFC was addressed by the processing and reporting done by the second and third year residents to the consultants when they utilize PFC in the OG-FLS conference. Other modes of data gathering such as interviews and small group discussions were also recommended to further minimize experience bias. Acquiescence and participant bias were minimized using open-ended questions for them to express their thoughts freely and respondents' names were anonymized. Despite the limitations, this study showed the utility of the PFC lens in the multidisciplinary in-patient setting. The PFC lens' whole person care and emphasis on continuity of care can be beneficial for the UHC implementation.

In the conduct of this research and considering its limitations, the authors recommended further studies on the insights and perception of FCM residents on the effect of the matrix on the duration of consults, explore also the viewpoint of other medical specialties on the PFC lens, and compare the implementation of OG-FLS with PFC in other institutions. Regarding the implementation outcomes, more studies were recommended on the acceptability and appropriateness of the PFC matrix among older trainers and residents from other institutions focusing on the challenges encountered, and its sustainability in terms of influencing policy changes in health. Explore the influence of other variables in the perception and practice of PFC lens such as gender, areas of practice, length of practice as a clinician, and kinds of institutions whether public or private. With longer data collection time, more in-depth interviews can be done including key informant interviews and focus group discussions to determine the impact of PFC on the training

outcomes of FCM residents during and after the training for further advancement of FCM specialty, and ultimately, the effect of PFC lens on both the patients and family health outcomes.

CONCLUSION

The PFC lens integration in OG-FLS is acceptable and appropriate in the practice of multidisciplinary care in the in-patient setting among FCM residents in UP-PGH. Its integration is aligned with the expected competencies of a family physician that trainees can apply in future practice. As a teaching tool in imprinting the biopsychosocial approach in FCM training of residents in UP-PGH, the PFC lens documented in a matrix was seen to be instrumental in achieving these competencies. The results of this study showed the utility of the PFC matrix in a service-learning activity such as OG-FLS and obtained learner feedback. Moving forward, the PFC lens as a participatory framework of holistic care can contribute to successful implementation of UHC by promoting quality improvements, standard of care, and continuity of care through the establishment of primary care provider and inter-facility networks that is patient-centered, family-focused, and community-oriented for better health system navigation.

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Statement of Authorship

Both authors certified fulfillment of ICMJE authorship criteria.

Author Disclosure

Both authors declared no conflicts of interest.

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