

Primary Health Care Providers' Perceptions Of Continuing Professional Development In A Comprehensive Reproductive Health Program: A Cross-Sectional Study In Najran, Saudi Arabia

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Abstract

Background: Continuing professional development (CPD) is essential for maintaining clinical competence and improving healthcare quality. In Saudi Arabia, CPD programs are increasingly aligned with Vision 2030 goals to strengthen primary care. This study evaluated primary health care providers' (PHCPs) perceptions of the Comprehensive Reproductive Health (CRH) program in Najran Region using the CRISIS framework.

Methods: A descriptive cross-sectional design was employed. A structured, self-administered questionnaire was distributed to 121 PHCPs, with 81 responses received (66.94% response rate). The instrument assessed seven CRISIS domains: convenience, relevance, individualization, self-assessment, interest, speculation, and systematic organization. Barriers to CPD participation were also explored.

Results: Overall perceptions of the CRH program were positive. Individualization (mean = 2.81) and interest (mean = 2.78) received the highest ratings. Workload and time constraints were identified as the most significant barriers. Subgroup analysis revealed that Arab PHCPs reported fewer logistical challenges than non-Arab colleagues, and early-career practitioners perceived greater obstacles related to time and workload.

Conclusion: The CRH program demonstrates strong performance across key CPD domains. The CRISIS framework effectively captured nuanced feedback, supporting its use in future evaluations. Tailored strategies—such as flexible delivery formats and enhanced institutional support—are recommended to improve CPD accessibility and impact. These findings contribute to national efforts to optimize workforce development and primary care quality under Vision 2030.

Introduction

Continuous professional development (CPD) is a cornerstone of modern healthcare systems, ensuring that practitioners remain competent, responsive, and aligned with evolving medical standards. In Saudi Arabia, CPD has gained significant momentum over the past two decades, particularly under the regulatory framework of the Saudi Commission for Health Specialties (SCFHS), which mandates 30 continuing medical education (CME) hours annually for licensed practitioners [1]. Despite this regulatory emphasis, the effectiveness and relevance of CPD programs—especially in primary care settings—remain underexplored.

Primary health care providers (PHCPs) serve as the frontline of healthcare delivery, particularly in regions like Najran, where geographic dispersion and resource variability pose unique challenges. Najran Region, located in southern Saudi Arabia, comprises seven provinces and hosts over 69 primary health care centers (PHCCs), staffed by general practitioners, family medicine residents, specialists, and consultants [2]. These providers are tasked with delivering comprehensive services, including reproductive health care, which has expanded beyond maternal care to encompass family planning, adolescent health, and sexually transmitted infection screening [3][4].

The comprehensive reproductive health (CRH) program in Najran is a CME-accredited initiative offering 12 hours of structured training biannually. While its scope is broad and its intent commendable, questions persist regarding its alignment with PHCPs' actual needs and perceptions. Evaluating such programs requires a robust

framework that captures both subjective and objective dimensions of educational effectiveness. The CRISIS criteria—convenience, relevance, individualization, self-assessment, interest, speculation, and systematic organization—offer a validated lens through which CPD programs can be assessed [5][6].

Globally, studies have shown that CPD enhances clinical competence, fosters reflective practice, and improves patient outcomes [7][8][9]. However, the success of CPD depends not only on content delivery but also on contextual factors such as accessibility, cultural relevance, and perceived value by participants [10][11]. In Saudi Arabia, while CME centers are well-established, the literature reveals a paucity of region-specific evaluations, particularly in underserved areas like Najran [12].

This study addresses a critical gap by exploring PHCPs' perceptions of CPD within the CRH program in Najran, using the CRISIS framework. It investigates whether the program meets the practical and professional expectations of its participants and identifies barriers that may hinder engagement. Prior research suggests that time constraints, workload pressures, and logistical challenges are common impediments to CPD participation [15]. Understanding these barriers in the Najran context is essential for tailoring future programs to local realities.

Moreover, the study contributes to the broader discourse on CPD evaluation by offering a replicable model for assessing CME programs in similar settings. By focusing on PHCPs' lived experiences and professional judgments, it aligns with contemporary calls for learner-centered and context-sensitive educational strategies [6][10]. The findings are expected to inform policy adjustments, curriculum redesign, and strategic planning at both regional and national levels.

In summary, this research aims to assess the effectiveness of the CRH program in Najran through the CRISIS criteria, elucidate PHCPs' perceptions, and highlight actionable insights for improving CPD delivery. It responds to the urgent need for evidence-based evaluation of CME initiatives in Saudi Arabia and reinforces the importance of aligning educational programs with the realities of primary care practice.

Methods

Study Design

This study employed a descriptive cross-sectional design to evaluate primary health care providers' (PHCPs) perceptions of continuous professional development (CPD) within the Comprehensive Reproductive Health (CRH) program in Najran Region, Saudi Arabia. The CRH program is one of several CME-accredited initiatives offered to PHCPs through the regional training center. The study was conducted in 2018 and utilized a structured, self-administered questionnaire to collect quantitative data on perceptions, barriers, and demographic variables.

Cross-sectional designs are particularly suitable for assessing attitudes and perceptions at a single point in time, allowing for the identification of trends and associations without implying causality (Mann, 2003). This design was chosen to capture a snapshot of PHCPs' views on the CRH program and to evaluate the program's effectiveness using the CRISIS criteria framework.

Study Area and Setting

Najran Region is located in southern Saudi Arabia and comprises seven provinces. The region hosts 69 primary health care centers (PHCCs), with 37 located in Najran City and 32 distributed across other provinces. These centers vary in staffing levels, ranging from single-doctor facilities in rural villages to multi-physician centers in urban areas. The CRH program is delivered at the Najran Public Health Training Center, situated within Hay-Al-dubatt PHCC. This center serves as the central hub for CME activities in the region and offers 36–40 training programs annually.

Study Population

The study population included all PHCPs working in PHCCs across Najran Region. This encompassed general practitioners (GPs), family medicine residents, family medicine specialists, and consultants. At the time of data collection, there were 191 PHCPs registered in the region. Inclusion criteria required participants to be actively practicing in PHCCs and eligible for CME participation. Exclusion criteria included administrative staff, allied health professionals, and physicians not involved in primary care or reproductive health services.

Sample Size and Sampling Technique

A sample size of 121 PHCPs was determined using stratified random sampling to ensure representation across different provinces, professional roles, and years of experience. Stratification was based on geographic location (Najran City vs. other provinces) and professional designation (GP, resident, specialist, consultant). Of the 121 PHCPs invited, 81 completed the questionnaire, yielding a response rate of 66.94%. This sample size was deemed sufficient for descriptive statistical analysis and subgroup comparisons.

Data Collection Tool

Data were collected using a validated, self-administered questionnaire developed specifically for this study. The questionnaire was divided into three sections:

1. **Section I: Demographic and Professional Information** Included variables such as age, gender, nationality, years of experience, professional designation, and distance from PHCC to training center.
2. **Section II: Perceptions of CRH Program Using CRISIS Criteria** Assessed seven domains—convenience, relevance, individualization, self-assessment, interest, speculation, and systematic organization—using a three-point Likert scale (1 = disagree, 2 = neutral, 3 = agree).
3. **Section III: Perceived Barriers to CPD Participation** Evaluated common barriers such as workload, time constraints, transportation, and institutional support using a four-point scale (1 = not a barrier, 4 = major barrier).

The CRISIS framework was selected for its comprehensive and practical approach to evaluating CME programs. The questionnaire was pilot-tested among 10 PHCPs for clarity and reliability prior to full deployment.

CRISIS Criteria:

The Criterion	Clarification
Convenience	It makes voluntary participation easy
Relevance	Reflects the practitioner's day-to-day role in medical practice
Individualization	Allows participants to share their opinions about what is learned and to adapt the program to their own needs
Self-assessment	Encourages participants to assess their understanding of the subject and remedy any identified gaps.
Interest	Raise attention and encourage participants to participate in the program
Speculation	Recognizes controversial and undetermined areas in medicine.
Systematic	Offers a planned program, with coverage of the whole subject or a specific part.

CRISIS is an acronym for seven criteria that contribute to the effectiveness of CME: Adopted from: (Harden 1992).

Internal Consistency and Reliability

Cronbach's alpha was calculated to assess the internal consistency of the CRISIS domain items. The overall reliability coefficient was 0.82, indicating good internal consistency. Subscale reliability ranged from 0.76 (speculation) to 0.88 (individualization), confirming the robustness of the instrument. The questionnaire was reviewed by three experts in medical education and public health to ensure content validity.

Data Collection Procedure

Questionnaires were distributed in person by trained research assistants during scheduled CME sessions at the training center and via direct delivery to PHCCs. Participants were briefed on the study's objectives and assured of confidentiality. Completed questionnaires were collected within one week of distribution. Data entry was performed using SPSS version 22, with double-entry verification to minimize transcription errors.

Data Analysis

Descriptive statistics were used to summarize demographic variables and CRISIS domain scores. Means, standard deviations, and frequency distributions were calculated. Inferential statistics included independent t-tests and one-way ANOVA to compare CRISIS scores and barrier perceptions across subgroups (e.g., nationality, gender, professional role, years of experience).

• **CRISIS Domain Analysis:** Each domain was analyzed individually and collectively to assess overall program effectiveness. Mean scores above 2.5 were considered indicative of positive perception.

- **Barrier Analysis:** Barriers were ranked based on mean scores and standard deviations. Higher scores indicated stronger perceived impediments to CPD participation.
- **Subgroup Comparisons:** Differences in CRISIS scores and barrier perceptions were examined across nationality (Arab vs. non-Arab), gender (male vs. female), age groups, and professional roles (GPs, residents, specialists, and consultants). Statistical significance was set at $p < 0.05$.

Ethical Considerations

Ethical approval was obtained from the Research Ethics Committee (REC) of the University of Gezira, the Ministry of Health, Najran Region. All participants provided informed consent prior to participation. Data were anonymized and stored securely. The study adhered to the ethical principles outlined in the Declaration of Helsinki and complied with SCFHS guidelines for research involving health professionals.

Limitations

Several limitations should be acknowledged. First, the cross-sectional design limits causal inference. Second, self-reported data may be subject to response bias, particularly in the assessment of barriers. Third, the study was confined to one region, which may affect generalizability to other parts of Saudi Arabia. Nonetheless, the findings offer valuable insights into CPD perceptions in a geographically diverse and professionally varied population.

Justification for CRISIS Framework

The CRISIS framework was selected for its multidimensional approach to evaluating CME programs. It captures both structural and experiential aspects of CPD, allowing for nuanced assessment of program quality. Previous studies have validated its use in various educational contexts [13-14]. By applying CRISIS, this study contributes to the growing body of literature advocating for learner-centered evaluation models in medical education.

Statistical Rigor and Transparency

All statistical procedures were conducted using SPSS, with assumptions for parametric tests verified prior to analysis. Normality was assessed using the Shapiro-Wilk test, and homogeneity of variance was evaluated using Levene's test. Where assumptions were violated, non-parametric alternatives (e.g., Mann-Whitney U test) were employed. Effect sizes were calculated for significant findings to assess practical relevance.

Reproducibility and Adaptability

The methodology outlined here is replicable in other regional contexts and adaptable to different CME programs. The use of a validated framework, stratified sampling, and rigorous statistical analysis ensures methodological transparency. Future studies may build upon this design to evaluate CPD programs in other specialties or geographic regions.

Results

Participant Characteristics

A total of 121 primary health care providers (PHCPs) were invited to participate in the study, with 81 completing the questionnaire, yielding a response rate of 66.94%. The sample reflected a diverse mix of professional roles, nationalities, and geographic locations across Najran Region.

Most participants were general practitioners and family medicine residents, who typically serve in both urban and rural primary health care centers (PHCCs). A smaller proportion included family medicine specialists and consultants, primarily based in larger urban PHCCs. This distribution ensured representation from various levels of clinical responsibility and training exposure.

Age ranged from late twenties to over fifty, with the majority falling between 30 and 45 years. Gender representation was balanced, reflecting the growing inclusion of female physicians in Saudi Arabia's primary care workforce. Nationality-wise, Arab physicians—both Saudi and expatriate—formed the majority, consistent with staffing patterns in the region.

Geographically, participants were drawn from PHCCs in Najran City and surrounding provinces. Some physicians traveled over 300 kilometers to attend CPD sessions at the central training center, highlighting logistical challenges faced by those in remote areas. This distance was a key factor influencing perceptions of program accessibility.

Years of experience varied widely, from newly appointed physicians to those with over two decades of service. Early-career PHCPs often expressed enthusiasm for structured CPD, while senior practitioners emphasized relevance and practical application. The diversity in age, experience, and location provided a robust foundation for analyzing perceptions of the CRH program and identifying barriers to participation.

Perceptions of the CRH Program Using CRISIS Criteria

The CRISIS framework was used to evaluate seven domains of the Comprehensive Reproductive Health (CRH) program: convenience, relevance, individualization, self-assessment, interest, speculation, and systematic organization. Each domain was assessed using a three-point Likert scale, with higher scores indicating stronger agreement (Figure 1).

Convenience

Participants generally perceived the CRH program as convenient, with a mean score of 2.72 ($SD \pm 0.65$). This suggests that the program was accessible and logistically manageable for most PHCPs. Table 1 details the distribution of responses across this domain. Notably, Arab-nationality PHCPs rated convenience significantly higher than their non-Arab counterparts ($p = 0.005$), as shown in (Table 2).

Relevance

The relevance domain received a mean score of 2.49 ($SD \pm 0.71$), indicating moderate agreement that the program content aligned with clinical practice needs. (Table 3) provides a breakdown of responses. While relevance was generally affirmed, some participants noted that certain topics lacked direct applicability to their day-to-day responsibilities.

Individualization

The CRH program was perceived as individualizing, with a mean score of 2.81 ($SD \pm 0.58$), the highest among all CRISIS domains. (Table 4) illustrates this finding. Participants appreciated the program's ability to accommodate diverse learning styles and professional backgrounds, particularly through interactive sessions and case-based discussions.

Self-Assessment

Self-assessment opportunities were moderately recognized, with a mean score of 2.58 ($SD \pm 0.66$). while many PHCPs valued reflective components, others felt that formal self-evaluation tools were limited. This domain was more positively rated by family medicine specialists than by GPs and residents ($p < 0.05$), as shown in (Table 5).

Interest

The interest domain scored a mean of 2.78 ($SD \pm 0.61$), suggesting that the program was engaging and motivating. (Table 6) presents the distribution of responses. Participants cited interactive lectures and real-world case scenarios as key factors contributing to their interest.

Speculation

Speculation, which refers to the inclusion of emerging and thought-provoking topics, received a mean score of 2.61 ($SD \pm 0.63$). (Table 7) outlines participant responses. While most PHCPs agreed that the program stimulated critical thinking, some suggested expanding coverage of newer reproductive health challenges, such as adolescent care and STDs.

Systematic Organization

The systematic domain scored 2.71 (SD $\pm$ 0.60), indicating that the program was perceived as well-structured and logically organized. (Table 8) provides detailed results. Participants appreciated the clear sequencing of topics and the integration of guidelines and protocols.

Overall, CRISIS Evaluation

(Table 9) summarizes the mean scores across all seven CRISIS domains. (Figure 1) visually presents the distribution, highlighting individualization and interest as the most positively rated aspects. The overall perception suggests that the CRH program meets key criteria for effective CPD delivery.

Barriers to CPD Participation

Section III of the questionnaire explored perceived barriers to CPD participation. The most frequently cited obstacles were workload pressure and lack of time. The mean score for workload was 3.06 (SD $\pm$ 1.02), and for time constraints, 2.62 (SD $\pm$ 1.09), indicating strong agreement that these factors hindered participation. (Table 10) presents descriptive statistics for all barriers, while (Figure 2) illustrates their average.

Subgroup Analysis of Perceived Barriers

Subgroup analysis revealed statistically significant differences in how barriers to CPD participation were perceived across nationality, professional role, and years of experience.

Nationality-based differences showed that Arab primary health care providers reported fewer challenges related to transportation and institutional support compared to their non-Arab colleagues. This suggests that Arab PHCPs may have better access to logistical resources or more familiarity with local systems, which could facilitate easier participation in CPD activities.

Professional role comparisons indicated that general practitioners and family medicine residents perceived lack of time as a significantly greater barrier to CPD engagement than family medicine specialists. This difference was highly significant ($p < 0.000$), reflecting the heavier clinical workloads and limited scheduling flexibility often faced by early-career or frontline providers.

Experience-level differences revealed that PHCPs with fewer than five years of service reported higher levels of workload-related barriers than those with longer tenure. These findings suggest that newer practitioners may struggle more with balancing clinical duties and professional development, possibly due to limited autonomy or support systems within their practice settings.

Collectively, these insights underscore the need for tailored strategies to mitigate barriers—particularly for early-career physicians and those working in remote or resource-constrained PHCCs. Addressing these disparities through flexible scheduling, targeted support, and decentralized training options could enhance CPD accessibility and impact across diverse provider groups.

Comparative Analysis Across Demographics

To explore how perceptions varied across demographic groups, CRISIS domain scores were compared by nationality, gender, age, professional role, and years of experience.

- **Nationality:** Arab PHCPs consistently rated the CRH program higher across most CRISIS domains, particularly convenience and relevance (Table 2).
- **Gender:** No statistically significant differences were found between male and female participants in CRISIS scores (Table 11).
- **Age:** Younger PHCPs (<35 years) tended to rate interest and speculation higher, though differences were not statistically significant (Table 12).
- **Professional Role:** Family medicine specialists rated self-assessment and systematic organization more favorably than GPs and residents (Table 5).
- **Experience:** PHCPs with more than 10 years of experience showed slightly higher scores in relevance and systematic domains (Table 13).

These subgroup insights provide valuable direction for future program customization and targeted support.

Summary of Key Findings

- The CRH program was positively perceived across all CRISIS domains, with individualization (2.81) and interest (2.78) receiving the highest scores.
- Workload and time constraints were the most significant barriers to CPD participation.
- Arab PHCPs and family medicine specialists reported more favorable perceptions of the program.
- Subgroup differences suggest the need for differentiated CPD strategies based on role, experience, and location.

Table (1): Distribution of Sample Study According to (Convenience)

Convenience		Disagree	Undecided (Neutral)	Agree	Weighted mean	Std. Deviation	Perception
Do you think the comprehensive Reproductive Health (CRH) program is held in a suitable place (available where needed)	No	9	3	69	2.74	0.65	Agree
	%	11.1%	3.7%	85.2%			
Do you The CRH program held at the right time (available when needed)	No	6	12	63	2.70	0.60	Agree
	%	7.4%	14.8%	77.8%			
There is an arrangement of coverage of the primary health center while participants attending the CRH program	No	9	7	65	2.69	0.66	Agree
	%	11.1%	8.6%	80.2%			
The CRH program designers use various techniques of learning: distant learning, written, audiovisual, and electronic	No	5	15	61	2.69	0.58	Agree
	%	6.2%	18.5%	75.3%			
CRH program is composed of a series of independently linked modules	No	3	11	67	2.79	0.49	Agree
	%	3.7%	13.6%	82.7%			
It is easy to access to the program's resources (lectures, videos, booklets)	No	7	12	62	2.68	0.63	Agree
	%	8.6%	14.8%	76.5%			
General perceptions for all statements of the domain (Convenience)					2.72	0.43	Agree

Table (2): Comparing Means for Domains of CRISIS Criteria According to Nationality

CRISIS Criteria	Nationality		P-value
	Arab Nationality	Other Nationality	
Convenience	2.79 ± 0.36	2.49 ± 0.54	0.005*
Relevance	2.51 ± 0.35	2.42 ± 0.47	0.346
Individualization	2.84 ± 0.25	2.73 ± 0.32	0.121
Self-assessment	2.62 ± 0.52	2.46 ± 0.53	0.222
Interest	2.81 ± 0.25	2.69 ± 0.35	0.090
Speculation	2.60 ± 0.57	2.65 ± 0.45	0.706
Systematic	2.76 ± 0.46	2.57 ± 0.54	0.136

Table (3): Distribution of Sample Study According to (Relevance)

Relevance		Disagree	Undecided (Neutral)	Agree	Weighted mean	Std. Deviation	Perception
As a part of CME programs, the comprehensive Reproductive Health program is just of academic interest	No	37	13	31	1.93	0.92	Undecided (Neutral)
	%	45.7%	16.0%	38.3%			
I think the CRH program is rather practical in dealing with everyday problems	No	1	11	69	2.84	0.40	Agree
	%	1.2%	13.6%	85.2%			
I think that the CRH program is presented in frequent series of facts relevant to women's health and related illnesses	No	0	8	73	2.90	0.30	Agree
	%	0.0%	9.9%	90.1%			
The activities and objectives of the CRH program match my training needs	No	1	6	74	2.90	0.34	Agree
	%	1.2%	7.4%	91.4%			
The CRH program's providers conduct need assessments before launching the program	No	14	10	57	2.53	0.78	Agree
	%	17.3%	12.3%	70.4%			
As a participant in the CRH program, I am involved in the program's production (through choosing the topics)	No	39	16	26	1.84	0.89	Undecided (Neutral)
	%	48.1%	19.8%	32.1%			

General perceptions for all statements of domain (Relevance)	2.49	0.39	Agree
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Table (4): Distribution of Sample Study According to (Individualization)

Individualization		Disagree	Undecided (Neutral)	Agree	Weighted mean	Std. Deviation	Perception
I think that the CRH program is intended for primary care physicians irrespective of their educational backgrounds	No	4	9	68	2.79	0.52	Agree
	%	4.9%	11.1%	84.0%			
I think that the CRH program is intended for primary care physicians irrespective of their professional circumstances	No	2	9	70	2.84	0.43	Agree
	%	2.5%	11.1%	86.4%			
I think that the CRH program is individualized to meet the needs of each primary care physician	No	1	8	72	2.88	0.37	Agree
	%	1.2%	9.9%	88.9%			
There are self-assessment questions with each training module of the CRH program	No	4	9	68	2.79	0.52	Agree
	%	4.9%	11.1%	84.0%			
The CRH program is designed in such a way that considers the different learning approaches of participants (problem-based approach or information-oriented approach)	No	3	13	65	2.77	0.51	Agree
	%	3.7%	16.0%	80.2%			
General Perception for all statements of the domain (Individualization)					2.81	0.27	Agree

Table (5): Distribution of Sample Study According to (Self-assessment)

Self-assessment		Disagree	Undecided (Neutral)	Agree	Weighted mean	Std. Deviation	Perception
A pre-test MCQs were conducted before each	No	9	14	58	2.60	0.68	Agree
	%	11.1%	17.3%	71.6%			

training module to assess whether participants could solve problems in the area concerned							
A post-test MCQs were conducted after each training module to assess whether participants can apply knowledge in their practice	No	5	10	66	2.75	0.56	Agree
	%	6.2%	12.3%	81.5%			
Each time attending the CRH training program I received feedback (immediate or later) after each training program	No	16	18	47	2.38	0.80	Agree
	%	19.8%	22.2%	58.0%			
General Perception for all statements of the domain (Self-assessment)					2.58	0.52	Agree

Table (6): Distribution of Sample Study According to (Interest)

Interest		Disagree	Undecided (Neutral)	Agree	Weighted mean	Std. Deviation	Perception
I find the CRH training program interesting, and I allocate special effort to attend in my busy schedule	No	0	6	75	2.93	0.26	Agree
	%	0.0%	7.4%	92.6%			
I think that the CRH program encourages active participation in workshops	No	5	14	62	2.70	0.58	Agree
	%	6.2%	17.3%	76.5%			
I think it is worth allocating money to attend the CRH training program	No	8	11	62	2.67	0.65	Agree
	%	9.9%	13.6%	76.5%			
The text design and layout of the CRH programs' content is attractive	No	0	14	67	2.83	0.38	Agree
	%	0.0%	17.3%	82.7%			
General Perception for all statements of the domain (Interest)					2.78	0.28	Agree

Table (7): Distribution of Sample Study According to (Speculation)

Speculation		Disagree	Undecided (Neutral)	Agree	Weighted mean	Std. Deviation	Perception
CRH training program covers areas of controversy (undetermined areas...e.g. genital mutilation, contraception, early teen ages marriage erectly dysfunction)	No	15	22	44	2.36	0.78	Agree
	%	18.5%	27.2%	54.3%			
CRH training program covers recent advances that have not been adopted before	No	6	13	62	2.69	0.61	Agree
	%	7.4%	16.0%	76.5%			
CRH program contains topics that are socially sensitive and important	No	4	9	68	2.79	0.52	Agree
	%	4.9%	11.1%	84.0%			
General Perception for all statements of the domain (Speculation)					2.61	0.54	Agree

Table (8): Distribution of Sample Study According to (Systematic)

Systematic		Disagree	Undecided (Neutral)	Agree	Weighted mean	Std. Deviation	Perception
As a participant, I know that the CRH training program is scheduled in a planned period enabling me to arrange earlier attendance	No	10	12	59	2.60	0.70	Agree
	%	12.3%	14.8%	72.8%			
CME in the CRH program provides all that participants need to know about a particular topic in reproductive health	No	3	17	61	2.72	0.53	Agree
	%	3.7%	21.0%	75.3%			
I am motivated because the CME program in CRH kept me up to date in my field	No	2	12	67	2.80	0.46	Agree
	%	2.5%	14.8%	82.7%			
					2.71	0.49	Agree

General Perception for all statements of the domain
(Systematic)

Table (9): Distribution of Sample Study According to (CRISIS Criteria)

CRISIS Criteria	Mean	Std. Deviation	Attitude
Convenience	2.72	0.43	Agree
Relevance	2.49	0.39	Agree
Individualization	2.81	0.27	Agree
Self-assessment	2.58	0.52	Agree
Interest	2.78	0.28	Agree
Speculation	2.61	0.54	Agree
Systematic	2.71	0.49	Agree

Table (10): Descriptive Statistics about Barriers to (CPD) in the CRH Program

Barriers to (CPD) in the CRH Program	Mean $\pm$ SD
Lack of interest	1.64 $\pm$ 0.99
Job dissatisfaction	1.79 $\pm$ 1.03
Dissatisfaction with available CME methods	2.05 $\pm$ 1.05
Lack of Personal Development Plans	2.07 $\pm$ 1.12
Lack of internet services	2.15 $\pm$ 1.18
Lack of time	2.62 $\pm$ 1.09
Pressure of work	3.06 $\pm$ 1.02

Table (11): Comparing Means for Domains of CRISIS Criteria according to Gender

CRISIS Criteria	Gender		P-value
	Male	Female	
Convenience	2.83 $\pm$ 0.29	2.61 $\pm$ 0.51	0.019*
Relevance	2.64 $\pm$ 0.29	2.35 $\pm$ 0.42	0.000*
Individualization	2.84 $\pm$ 0.26	2.79 $\pm$ 0.28	0.461
Self-assessment	2.73 $\pm$ 0.41	2.43 $\pm$ 0.57	0.008*
Interest	2.83 $\pm$ 0.25	2.74 $\pm$ 0.31	0.168
Speculation	2.88 $\pm$ 0.33	2.35 $\pm$ 0.57	0.000*
Systematic	2.88 $\pm$ 0.35	2.54 $\pm$ 0.54	0.001*

Table (12): Comparing Means for Domains of CRISIS Criteria according to Age

CRISIS Criteria	Age				P-value
	Less than 35 Years	35- 45 years	46 -55 years	More than 56 Years	
Convenience	2.67 $\pm$ 0.48	2.77 $\pm$ 0.38	2.76 $\pm$ 0.39	2.41 $\pm$ 0.64	0.138
Relevance	2.28 $\pm$ 0.73	2.49 $\pm$ 0.34	2.63 $\pm$ 0.34	2.30 $\pm$ 0.35	0.072
Individualization	2.70 $\pm$ 0.35	2.79 $\pm$ 0.28	2.89 $\pm$ 0.23	2.82 $\pm$ 0.23	0.353
Self-assessment	2.56 $\pm$ 0.54	2.57 $\pm$ 0.55	2.58 $\pm$ 0.52	2.67 $\pm$ 0.44	0.964
Interest	2.71 $\pm$ 0.37	2.77 $\pm$ 0.28	2.86 $\pm$ 0.24	2.69 $\pm$ 0.33	0.365
Speculation	2.22 $\pm$ 0.78	2.68 $\pm$ 0.39	2.56 $\pm$ 0.71	2.67 $\pm$ 0.44	0.240
Systematic	2.50 $\pm$ 0.66	2.77 $\pm$ 0.42	2.70 $\pm$ 0.52	2.56 $\pm$ 0.58	0.431

Table (13): Comparing Means for Domains of CRISIS Criteria according to Years working in PHCC

CRISIS Criteria	Years working in PHCC			P-value
	Less than 5 Years	5 - 10 years	More than 10 Years	
Convenience	2.95 ± 0.11	2.60 ± 0.51	2.80 ± 0.32	0.018*
Relevance	2.67 ± 0.28	2.42 ± 0.43	2.53 ± 0.33	0.130
Individualization	2.80 ± 0.24	2.76 ± 0.30	2.90 ± 0.21	0.094
Self-assessment	2.82 ± 0.27	2.52 ± 0.58	2.58 ± 0.49	0.233
Interest	2.82 ± 0.23	2.71 ± 0.31	2.87 ± 0.25	0.079
Speculation	2.76 ± 0.40	2.59 ± 0.50	2.60 ± 0.64	0.630
Systematic	2.94 ± 0.20	2.62 ± 0.54	2.75 ± 0.45	0.129

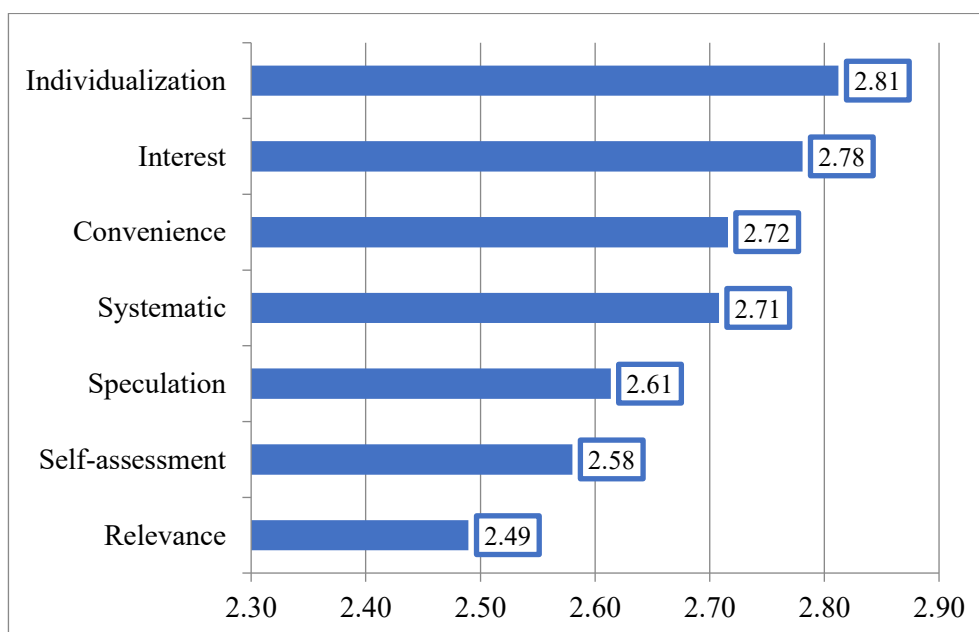


Figure (1): Distribution of Sample Study According to (CRISIS Criteria)

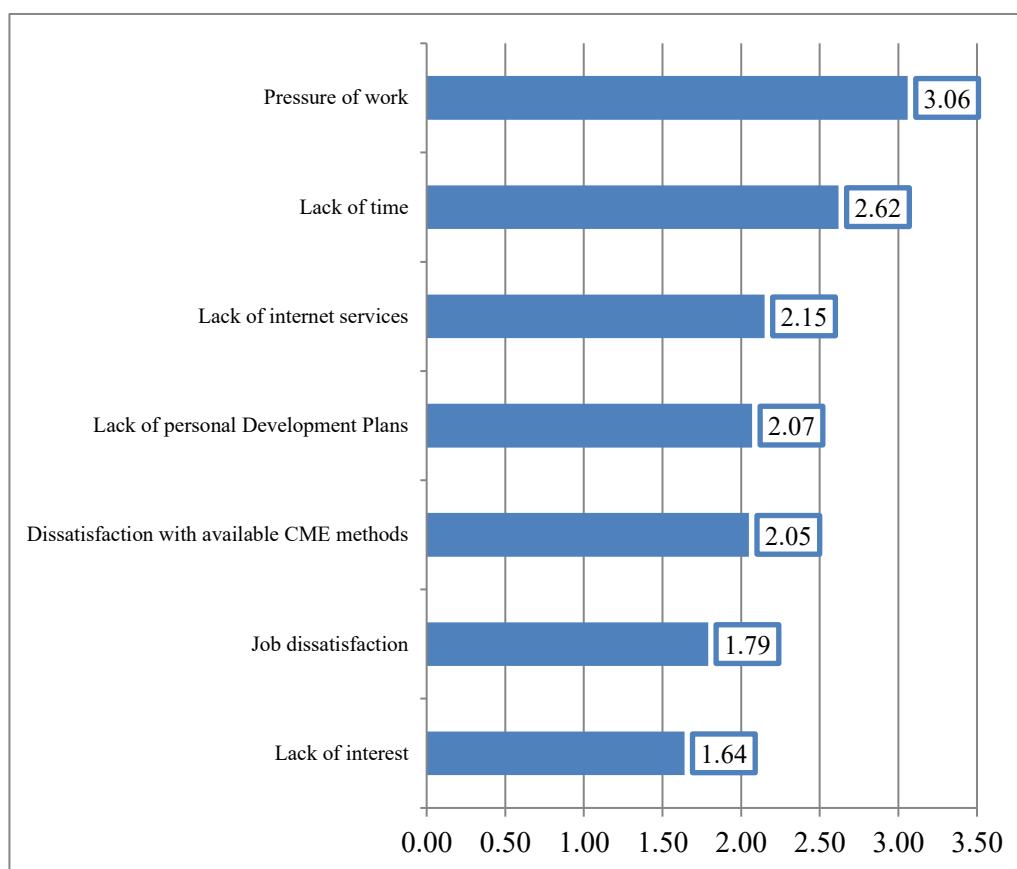


Figure (2): Average of barriers for (CPD) in the CRH Program

Discussion

This study evaluated primary health care providers' (PHCPs) perceptions of the Comprehensive Reproductive Health (CRH) program in Najran, Saudi Arabia, using the CRISIS framework. The findings reveal generally positive perceptions across all seven CRISIS domains, with individualization and interest receiving the highest scores. These results align with recent literature emphasizing the importance of learner-centered and context-sensitive continuing professional development (CPD) programs in primary care settings [16][17].

The high scores in individualization suggest that the CRH program successfully accommodates diverse learning needs and professional backgrounds. This is consistent with global trends in CPD design, which increasingly prioritize personalization, flexibility, and relevance to clinical practice [18]. Programs that offer interactive formats, case-based learning, and modular content have been shown to enhance engagement and retention among healthcare professionals [19].

Interest and engagement were also rated highly, indicating that the CRH program effectively motivates participants. This supports findings from recent studies that link CPD engagement to improved job satisfaction and reduced burnout among PHCPs [20][21]. In Saudi Arabia, where healthcare professionals often face high patient loads and administrative demands, engaging CPD programs can serve as a buffer against occupational stress and promote professional growth [22].

Convenience and systematic organization received moderately high scores, reflecting the program's accessibility and structural coherence. However, subgroup analysis revealed disparities based on geographic location and professional role. PHCPs in remote provinces reported greater difficulty accessing the training center, and early-career practitioners perceived higher barriers related to time and workload. These findings echo broader concerns about equity in CPD access, particularly in decentralized health systems [23][24].

The relevance domain scored slightly lower than other CRISIS components, suggesting room for improvement in aligning program content with day-to-day clinical practice. This gap may stem from the standardized nature of CRH curricula, which may not fully reflect the evolving needs of PHCPs in diverse settings. Recent research advocates for dynamic CPD models that incorporate real-time feedback, local epidemiological data, and practitioner input to ensure relevance and adaptability [25][26].

Self-assessment and speculation domains also showed moderate scores. While participants appreciated opportunities for reflection and critical thinking, some noted the absence of formal self-evaluation tools and limited coverage of emerging reproductive health issues. Incorporating structured self-assessment instruments and expanding content to include adolescent health, STDs, and reproductive ethics could enhance these domains. Studies have shown that CPD programs integrating reflective practice and speculative inquiry foster deeper learning and clinical innovation [27][28].

Barriers to CPD participation were prominently reported, with workload and time constraints emerging as the most significant challenges. These findings are consistent with national and international literature, which identifies time pressure, staffing shortages, and lack of institutional support as persistent obstacles to CPD engagement [29][30]. In Saudi Arabia, the rapid expansion of healthcare services and high turnover among PHCPs exacerbate these challenges, necessitating systemic solutions.

Subgroup analysis provided further insights into barrier perception. Arab PHCPs reported fewer logistical and institutional barriers than non-Arab colleagues, possibly due to greater familiarity with local systems or stronger professional networks. General practitioners and residents perceived lack of time as a more significant barrier than specialists, reflecting their heavier clinical workloads and limited scheduling autonomy. Early-career PHCPs reported higher scores for workload-related barriers, underscoring the need for targeted support during the initial years of practice.

These disparities highlight the importance of tailoring CPD strategies to specific provider groups. Flexible scheduling, decentralized training options, and blended learning models can help mitigate access barriers. For example, e-learning platforms and mobile-based modules have shown promise in expanding CPD reach without compromising quality [31][32]. In the Saudi context, integrating CPD into routine clinical workflows and leveraging digital infrastructure could enhance participation and impact.

The CRISIS framework proved effective in evaluating the CRH program, offering a multidimensional lens that captures both structural and experiential aspects of CPD. Its application in this study aligns with recent calls for comprehensive evaluation models that go beyond attendance metrics and satisfaction surveys [33]. By assessing domains such as relevance, individualization, and speculation, CRISIS facilitates a deeper understanding of program effectiveness and areas for improvement.

Importantly, the study contributes to the growing body of evidence supporting CPD as a driver of healthcare quality. While direct links between CPD and patient outcomes remain methodologically complex, recent reviews suggest that well-designed CPD programs can improve clinical performance, reduce errors, and enhance patient satisfaction [34][35]. In reproductive health, where clinical decisions often involve sensitive and multifaceted considerations, CPD plays a critical role in ensuring ethical, evidence-based care.

From a policy perspective, the findings underscore the need for strategic investment in CPD infrastructure. The Saudi Commission for Health Specialties (SCFHS) has made commendable progress in expanding CPD accreditation and standardizing program quality [16]. However, regional disparities and evolving clinical demands call for continuous refinement. Supporting educators, incentivizing participation, and embedding CPD into career progression frameworks can strengthen the system's responsiveness and sustainability.

In conclusion, the CRH program in Najran demonstrates strong performance across key CPD domains, with notable strengths in individualization and engagement. Addressing barriers related to time, workload, and geographic access will be essential for optimizing participation and impact. The CRISIS framework offers a valuable tool for ongoing evaluation and improvement, and its use should be encouraged across other CME programs in Saudi Arabia. Future research should explore longitudinal outcomes, including changes in clinical practice and patient health indicators, to further validate CPD effectiveness and guide policy development.

Strengths and Limitations

This study offers a robust evaluation of a regionally implemented CPD program using the CRISIS framework, a validated multidimensional tool. Its strengths lie in the representative sample of PHCPs across diverse roles and geographic settings, reflecting the inclusivity and workforce diversity emphasized in Saudi Arabia's Vision 2030. The use of a reliable, context-sensitive questionnaire ensures methodological rigor, while the integration of subgroup analysis supports data-driven decision-making—an essential component of the Kingdom's commitment to evidence-based health policy. By focusing on reproductive health, the study aligns with Vision 2030's goals to enhance preventive care, improve maternal and child health outcomes, and elevate the quality of primary care services. Moreover, the evaluation of CPD effectiveness contributes to the national objective of cultivating a highly skilled and continuously trained health workforce. These strengths position

the study as a strategic contribution to ongoing reforms in medical education and health system performance, offering insights that can inform scalable, regionally adapted CPD models across the Kingdom.

However, limitations include the cross-sectional design, which restricts causal inference, and reliance on self-reported data, which may introduce response bias. Additionally, the study was confined to Najran Region, limiting generalizability to other contexts.

Conclusion

The CRH program was positively perceived across all CRISIS domains, particularly in individualization and interest. Barriers such as workload and time constraints were prominent, especially among early-career and remote PHCPs. These findings affirm the program's educational value while highlighting areas for strategic improvement. The CRISIS framework proved effective in capturing nuanced feedback and should be considered for broader CPD evaluations.

Recommendations

To enhance CPD accessibility and impact, future programs should adopt flexible delivery formats, including blended and mobile learning. Tailoring content to specific professional roles and local health priorities will improve relevance. Institutional support mechanisms—such as protected time for training and decentralized scheduling—can mitigate barriers. Expanding CRISIS-based evaluations to other regions and specialties will strengthen national CPD strategies. Longitudinal studies linking CPD participation to clinical outcomes are recommended to validate educational effectiveness and guide policy. These steps will ensure CPD programs remain responsive, equitable, and aligned with the evolving needs of Saudi Arabia's primary health care workforce.

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Author Contribution

Abdelrazig Elsanosi Abdelbari Mohamed conceptualized the study, designed the methodology, collected and analyzed the data, interpreted the findings, and drafted the manuscript. All aspects of the research and writing were solely undertaken by the author.

Ethical Consideration

This study was approved by the Research Ethics Committee of the University of Gezira and Ministry of Health, Najran Region. Informed consent was obtained from all participants, and confidentiality was maintained throughout the research process in accordance with ethical standards.

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Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Conflict of Interest

The author declares no conflict of interest.

List of Abbreviations

- CPD: Continuous Professional Development
- CME: Continuing Medical Education

- CRH: Comprehensive Reproductive Health
- CRISIS: Convenience, Relevance, Individualization, Self-assessment, Interest, Speculation, Systematic
- PHCP: Primary Health Care Provider
- PHCC: Primary Health Care Center
- SCFHS: Saudi Commission for Health Specialties
- REC: Research Ethics Committee
- KSA: Kingdom of Saudi Arabia
- GPs: General Practitioners
- FM: Family Medicine

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