

**KNOWLEDGE AND PRACTICE OF PRECONCEPTION CARE AMONG PHYSICIANS
WORKING IN PRIMARY HEALTH CARE CENTERS IN AL-KARKH DISTRICT,
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Article Received: 05 December 2025

Article Revised: 25 December 2025

Article Published: 05 January 2026

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DOI: <https://doi.org/10.5281/zenodo.18152036>**How to cite this Article:** Saja Ali Ghazi^{*1}, Tamara Abdul-Wahab Rasheed², Enass Basim Mohammed Ali³. (2026). Knowledge And Practice Of Preconception Care Among Physicians Working In Primary Health Care Centers In Al-Karkh District, Baghdad 2025. World Journal of Advance Healthcare Research, 10(1), 83–92.

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ABSTRACT

Background: Preconception care refers to a comprehensive set of health services provided before pregnancy, aimed at identifying and modifying risk factors that contribute to adverse maternal and neonatal outcomes and result in reduction of both morbidity and mortality, making it a highly effective preventive and cost-efficient approach. Unlike antenatal care, which begins after conception, preconception care addresses the critical period of embryonic development that often occurs before pregnancy is even recognized, thereby filling an important gap in the maternal and child health continuum. Providing quality preconception care is considered a core responsibility of primary care physicians, as they maintain continuous contact with families across different stages of life.

Participants and Methods: A cross-sectional study was conducted in 24 primary healthcare centers that belongs to seven districts under the Baghdad Al-Karkh Health directorate from the 1st of February to the 31st of July 2025, Data collected using applied 3 sections containing questionnaire by direct interview with 150 physicians who had been working in primary healthcare centers for more than six months. **Results:** In this study the result was 58(38.7%) had good knowledge, 71(47.3%) had average Knowledge, and 21(14%) had poor knowledge, good knowledge was significantly higher among physicians with diploma/board certifications in family medicine (48.1%) (p=0.002), married participants (41%) (p=0.004), physicians who managed less than 50 patients per day (42.5%) (p=0.009), physicians with 6-10 years of experience (56.7%) (p=0.035), and no significant association was found with gender or age. Regarding practice score, 59 (39.3%) had good practice, 69 (46%) had average practice and 22 (14.7%) had poor practice, good practice was significantly higher among female physicians (43.8%) (p=0.015), physicians who managed less than 50 patients per day (49.4%) (p=0.015), other variables (Age, marital status, years of experience and highest educational level) didn't show statistically significant associations with practice of preconception care. **Conclusion:** Physicians demonstrated average knowledge and practice in preconception care, with few achieving high levels and some showing poor levels. While understanding of laboratory investigations, safe medication use, and lifestyle modifications was satisfactory, there were gaps in timing and certain screening practices. The delivery of preconception care was inconsistent due to structural barriers like limited time and resources. The link between knowledge and practice highlights the necessity for targeted training, guideline dissemination, and the integration of preconception care into primary care to enhance maternal-neonatal outcomes.

INTRODUCTION

PCC is the provision of biomedical, behavioral, and social interventions to people of reproductive age (15–49 years) before conception may occur, with the aim of improving short- and longer-term parental and child

health outcome.^[1] It encompasses a wide range of health promotion, risk assessment, and medical and psychosocial interventions designed to identify and modify parental health and pregnancy outcomes through prevention and management.^[2]

The benefits of preconception interventions have been recognized since 1979, and subsequent systematic reviews conducted from 2002 have reinforced the evidence supporting their role in reducing adverse pregnancy outcomes even within low- and middle-income countries.^[3] In 2013 the World Health Organization (WHO) developed a global consensus on preconception care to reduce maternal and childhood mortality and morbidity, recognizing its contribution to improving maternal and fetal outcomes in both high- and low-income countries.^[4] Available evidence from WHO shows success in implementing PCC initiatives in high-income countries, such as Italy, the Netherlands, and the United States, and low- and middle-income countries, such as Bangladesh, the Philippines, and Sri Lanka. However, it is not well implemented in many countries worldwide.^[5]

This study aims to assess the level of knowledge and practice of preconception care among physicians working in primary health care centers and to examine its association with sociodemographic characteristics and to identify factors that limit the provision of preconception care in primary health care centers.

PARTICIPANTS AND METHODS

This cross-sectional study was conducted during 6 months extended from 1st of February to 31st of July. A non-probability convenience sampling method was used to select 24 primary health care centers from seven health districts under the Baghdad Al-Karkh Health Directorate. This method was chosen due to the ease of access, limited time and resources, and because the selected centers represent an acceptable variation in location within the district.

Sample size

The total number of physicians available during the study period who met the inclusion criteria was 150, and all were invited to participate in the study.

Inclusion criteria

Physicians who have been working in primary health care centers for more than 6 months duration and agreed to participate in the study.

Data collection tool

Data were collected using the validated "Andarg-Ethio PCC-KAP Questionnaire for Healthcare Providers,"

Table (1): Sociodemographic, professional, and work information among participants (N=150).

Sociodemographic data		No.	100%
Gender	Male	20	13.3
	Female	130	86.7
Age/years	26–35	63	42.0
	36–45	46	30.7
	46–55	20	13.3
	>55	21	14.0
Marital Status	Single	46	30.7
	Married	100	66.7

adapted from previous studies^{[6][7][8]}, and developed with input from the research supervisor and expert reviewers, including family medicine consultants (Dr. Lamyaa Ali Hassan, Dr. Batool Ali Hassan) and gynecologist Dr. Raya Khalid Saleh. Data collection occurred twice weekly, with physicians completing self-administered interviews lasting 15–20 minutes. A pilot study of 20 participants was conducted for validation but excluded from final analysis. The questionnaire comprised three sections: demographic and professional data (6 items); knowledge on preconception care (18 items) assessing understanding of its timing, components, and relevance to maternal and infant health; and practice-related questions (6 items) addressing frequency, scope, and barriers to delivering preconception care, as well as sources of information. Knowledge was scored as one point per correct answer (0–18 total), categorized as poor (<9), average (9–14), or good (>14). Practice was rated on a 3-point frequency scale ("always," "sometimes," "rarely") with total scores ranging 31–93, classified as poor (<46), average (46–69), or good (>69) according to Bloom's cutoff classifications.

Ethical considerations and official approvals

Physicians who met the inclusion criteria were individually interviewed for data collection. Prior to each interview, the objectives of the study were clearly explained, and verbal consent was obtained.

Administrative approval was granted from:

1. Scientific Council of Arabic Board of Health Specializations.
2. AL-Karkh Health Directorate.

Statistical analysis

The collected data was loaded into Microsoft Excel 365 and SPSS V.26. Data was represented as figures and tables. chi² test or fishers exact test were used to find out significance of association and in different category variables, If less than 20% of the expected cell counts are below 5, then Chi-square test was used; if more than 20% of the expected cell counts are below 5, Fisher's exact test was used. P value less than 0.05 was considered as discrimination point for significances.

RESULTS

A total of 150 participants were included in this study. Sociodemographic, professional, and work information among participants are illustrated in Table 1.

	Divorced	3	2.0
	Widowed	1	0.7
Years of Experience*	1–5 years	43	28.7
	6–10 years	30	20.0
	11–15 years	39	26.0
	Over 15 years	38	25.3
Highest Educational Level	M.B.CH.B	73	48.7
	Diploma/Board in Family Medicine	77	51.3
Average Number of Patients Managed Per Day	Less than 50	87	58.0
	50–100	54	36.0
	More than 100	9	6.0

*There were no participants with less than one year of experience.

Knowledge Response

Distribution of participants' responses regarding knowledge of preconception care is illustrated in Table 2.

Table (2): Distribution of participants' responses regarding knowledge of preconception care (N= 150).

Knowledge of preconception care	True		False		Don't know	
	No.	%	No.	%	No.	%
Eligible clients for PCC include all adolescents and individuals of reproductive age.	106	70.7	24	16.0	20	13.3
PCC should begin at least four weeks before conception to be effective.*	100	66.7	36	24.0	14	9.3
Periodontal disease is a risk factor for adverse pregnancy outcomes.	95	63.3	37	24.7	18	12.0
Women with a BMI \leq 18.4 who plan to become pregnant are at risk of adverse pregnancy outcomes.	109	72.7	33	22.0	8	5.3
All women who are planning to become pregnant should take 0.4 mg (400 mcg) of folic acid daily.	122	81.3	22	14.7	6	4.0
The recommended preconception laboratory tests should include CBC, urinalysis, blood type and screen and when indicated screening for rubella, HIV, HBV, and syphilis tests (RPR or VDRL).	135	90.0	15	10.0	0	0.0
Clinicians should recommend genetic screening for clients with diabetes mellitus and chronic hypertension.*	70	46.7	63	42.0	17	11.3
Medications like isotretinoin, valproic acid, and warfarin have teratogenic effects and require changes before conception.	131	87.3	6	4.0	13	8.7
Women with asthma planning pregnancy should avoid taking salbutamol one month before and after conception.*	34	22.7	85	56.7	31	20.7
Early detection and management of chronic conditions during the preconception period can reduce adverse pregnancy outcomes.	123	82.0	10	6.7	17	11.3
The random blood sugar (RBS) test is the recommended test to ensure good periconceptional blood sugar control in women with diabetes.*	94	62.7	53	35.3	3	2.0
With the exception of the influenza vaccine, Tdap, vaccines like HPV, rubella, and varicella are contraindicated during pregnancy.	119	79.3	18	12.0	13	8.7
Regular exercise is an important PCC counseling point. Women planning pregnancy should aim for 30 minutes of moderate exercise, 5 days a week.	103	68.7	25	16.7	22	14.7
Women planning pregnancy should delay conception until they reduce or stop using some drugs, alcohol, and tobacco.	134	89.3	7	4.7	9	6.0
Avoiding exposure to environmental hazards (e.g., ionizing radiation, pesticides, lead, mercury, pets) is only a concern during the first trimester, not during the preconception period.*	38	25.3	107	71.3	5	3.3
For clients with a previous cesarean section, clinicians should advise delaying the next pregnancy for at least 18 months.	108	72.0	32	21.3	10	6.7
Infertility screening and management are not part of preconception care.*	38	25.3	94	62.7	18	12.0
Pregnancy should be postponed for at least one month after receiving the rubella vaccine	80	53.3	26	17.3	44	29.3

*Items marked with * are negatively worded: therefore, the correct response is 'false'

Practice Response

Regarding participants' practice of PCC, participants have provided PCC (in the past sixth months) was less

than 50 times 95 (63.3%), 50–100 times 42 (28.0%), and more than 100 times 13 (8.7%); as shown in **Table 3**.

Table (3): Frequency of PCC provision by participants in the past six months (N=150)

Frequency of PCC provision by participants in the past six months					
Less than 50		50–100		More than 100	
No.	%	No.	%	No.	%
95	63.3	42	28.0	13	8.7

Participants provided PCC mostly for: Client who asked for PCC 102 (68.0%), and Client who has risk factors 76 (50.7%), as shown in **Table 4**.

Table (4): Recipients of PCC provided by participants (N=150).

For whom do you provide PCC?	No.	%
Client who asked for PCC	102	68.0
Client who has risk factors	76	50.7
Adult female	43	28.7
Other	16	10.7

* The total doesn't have to equal 100%, as participants may have provided PCC to multiple groups.

Response of participants about providing counseling of preconception care was shown in **Table 5**. Mostly; participants were always providing counseling on the following issues: family planning methods 81(54.0%), preventive vaccines 71 (47.3%) and pregnancy spacing 70(46.7%).

Also; participants were sometimes providing counseling on the following issues: Dangers of using prescribed and non-prescribed medications 72(48.0%), Environmental hazards and toxins 66(44.0%), and physical exercise 63(42.0%).

Table (5): Distribution of participants according to the provision of preconception care counseling (N=150)

Providing counseling on the following issues during preconception:	Rarely		Sometimes		Always	
	No.	%	No.	%	No.	%
Family planning methods	28	18.7	41	27.3	81	54.0
Pregnancy spacing	31	20.7	49	32.7	70	46.7
Physical exercise	57	38.0	63	42.0	30	20.0
Nutrition and Body weight management	38	25.3	58	38.7	54	36.0
Alcohol, tobacco, and substance use	56	37.3	53	35.3	41	27.3
Control of preexisting medical conditions	31	20.7	57	38.0	62	41.3
Screening for STIs/HIV	52	34.7	52	34.7	46	30.7
Dangers of using prescribed and non-prescribed medications	15	10.0	72	48.0	63	42.0
Environmental hazards and toxins	55	36.7	66	44.0	29	19.3
Preventive vaccines	15	10.0	64	42.7	71	47.3
Involving the partner in counseling and risk assessment	57	38.0	62	41.3	31	20.7

Response of participants about conducting health assessments to identify risk factors of preconception care was shown in **Table 6**.

Mostly; participants were always conducting the following health assessments: past medical and surgical history 96 (64.0%), medication history 96 (64.0%), vaccination status 93 (62.0%), past obstetric & gynecologic history 84 (56.0%), and Nutritional assessment 81 (54.0%).

Also; participants were sometimes conducting the following health assessments: Exposure to environmental toxins/contaminants 70(46.7%), Social history and lifestyle behaviors 63(42.0%), and Physical examination 62(41.3%).

Table (6): Distribution of participants according to health assessments conducted to identify preconception care risk factors (N=150)

Conducting the following health assessments during preconception	Rarely		Sometimes		Always	
	No.	%	No.	%	No.	%
Demographic information	40	26.7	51	34.0	59	39.3
Past obstetric & gynecologic history	25	16.7	41	27.3	84	56.0
Past medical and surgical history	24	16.0	30	20.0	96	64.0
Genetic history/family pedigree	38	25.3	53	35.3	59	39.3
Dental history/checkup	81	54.0	46	30.7	23	15.3
Social history and lifestyle behaviors	55	36.7	63	42.0	32	21.3
Exposure to environmental toxins/contaminants	58	38.7	70	46.7	22	14.7
Medication history	20	13.3	34	22.7	96	64.0
Nutritional assessment (e.g., BMI)	11	7.3	58	38.7	81	54.0
Psychosocial assessment	57	38.0	59	39.3	34	22.7
Physical examination	13	8.7	62	41.3	75	50.0
Vaccination status	13	8.7	44	29.3	93	62.0

Response of participants about performing (or referring for) interventions of preconception care was shown in **Table 7**.

Mostly; participants were always performing (or referring for) the following interventions: Folic acid

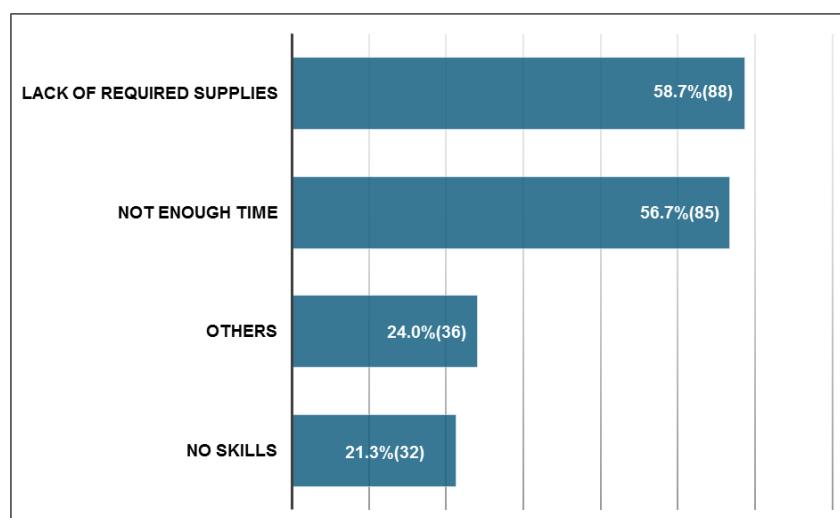
supplementation/prescription 108 (72.0%), Vaccinating as per national protocol 90 (60.0%), Controlling preexisting chronic diseases 88 (58.7%), confirming pregnancy 85 (56.7%), and Diagnosing & managing acute or chronic risk conditions 81 (54.0%).

Table (7): Distribution of participants according to performing (or referring for) interventions of preconception care (N=150).

Performing (or referring for) the following interventions during preconception	Rarely		Sometimes		Always	
	No.	%	No.	%	No.	%
Folic acid supplementation/prescription	14	9.3	28	18.7	108	72.0
Substance use cessation (alcohol, cigarettes, drugs)	40	26.7	55	36.7	55	36.7
Selecting or switching to safe medications	15	10.0	66	44.0	69	46.0
Ordering/checking preconception lab tests	26	17.3	56	37.3	68	45.3
Diagnosing & managing acute or chronic risk conditions	10	6.7	59	39.3	81	54.0
Controlling preexisting chronic diseases	10	6.7	52	34.7	88	58.7
Vaccinating as per national protocol	18	12.0	42	28.0	90	60.0
Confirming pregnancy	17	11.3	48	32.0	85	56.7

Most common obstacles that reduce the chances of providing preconception care in participants' work were lack of required supplies 88 (58.7%), not enough time 85

(56.7%), other obstacles 36 (24.0%), and no skills 32 (21.3%) **Figure 1**.

**Figure (1): Obstacles that reduce the chances of providing preconception care in participants' work.**

*Others include low community awareness and women consulting private clinics for PCC rather than primary health centers (PHCs).

Source of participants' information was mostly college study 90 (60.0%), postgraduate studies 79 (52.7%), online sources/ internet sources 46 (30.7%), and training courses 36 (24.0%), as shown in **Figure 2**.

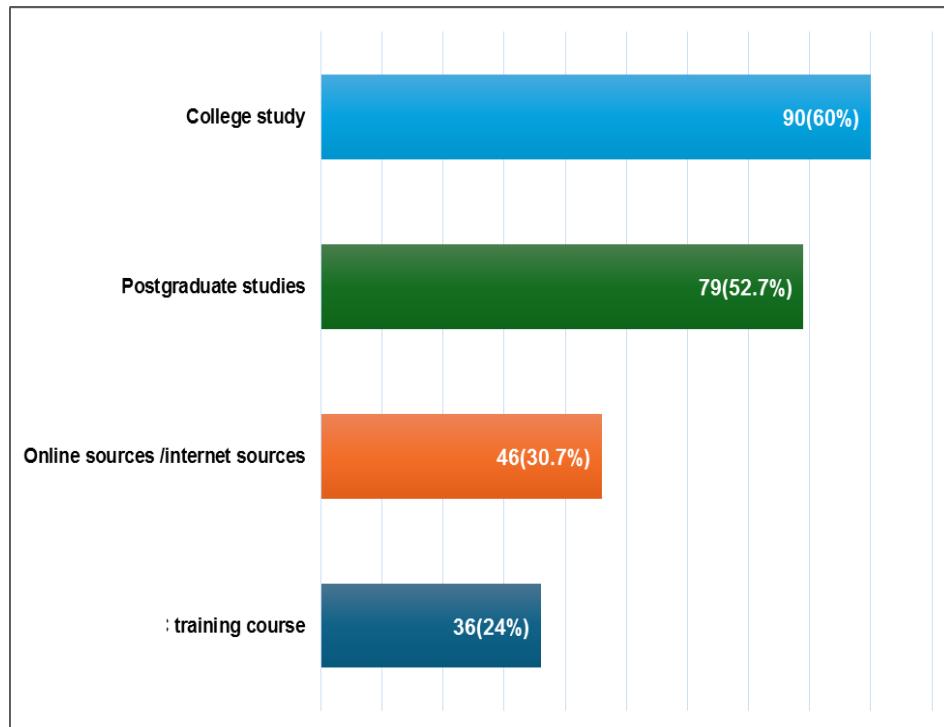


Figure (2): Source of participants' information.

Knowledge of preconception care was poor among 21 (14.0%) participants, average among 71 (47.3%), and

good among 58 (38.7%) participants, as shown in **Figure 3**.

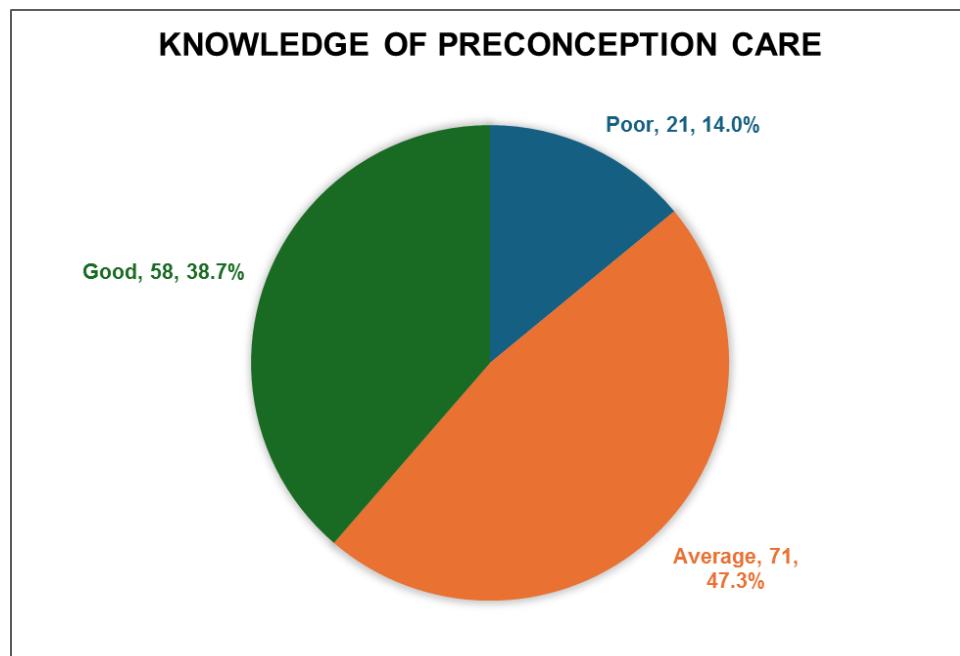


Figure (3): Knowledge of Preconception Care.

Practice of preconception care was poor among 22 (14.7%) participants, average among 69 (46.0%), and

good among 59 (39.3%) participants, as shown in **Figure 4**.

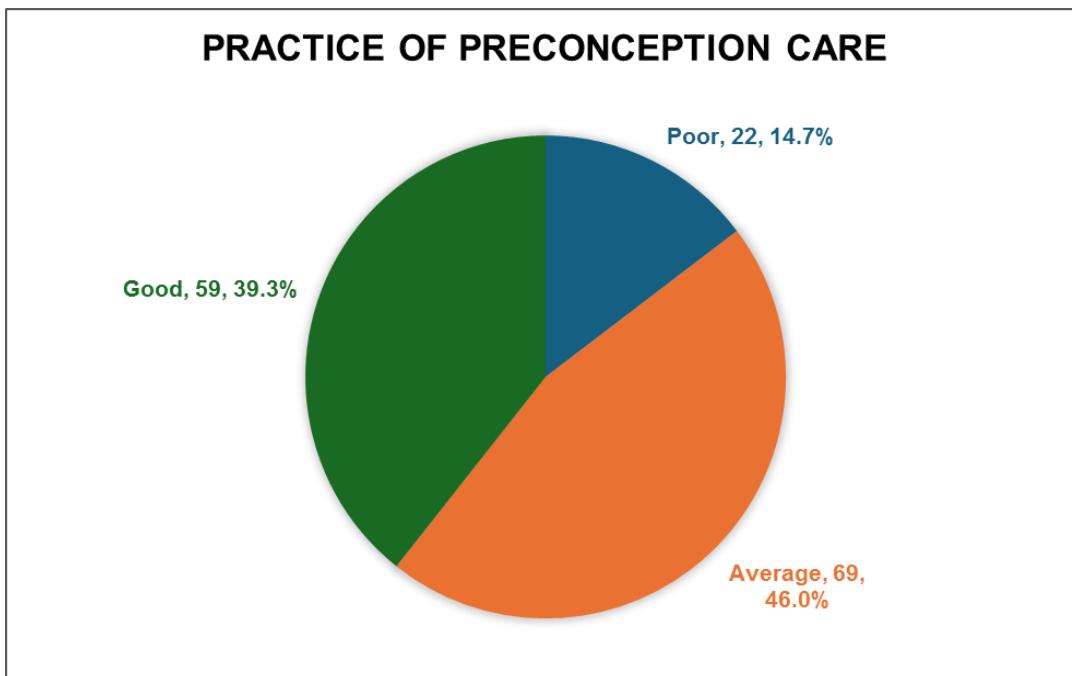


Figure (4): Overall Practice of Preconception Care.

Good knowledge of preconception care was significantly observed with highest educational level ($p=0.002$), followed by marital status ($p=0.004$), and the number of patients managed per day ($p=0.009$), years of experience

also showed a significant association, though at a relatively lower level ($p=0.035$). In contrast no significant association was found with gender or age: as shown in **Table 8**.

Table (8): The association of participants sociodemographic, professional, and work information with their knowledge of preconception care(N=150)

Variables		Knowledge of Preconception Care						P value	
		Poor		Average		Good			
		No.	%	No.	%	No.	%		
Gender	Male	5	25.0	7	35.0	8	40.0	0.25*	
	Female	16	12.3	64	49.2	50	38.5		
Age/years	26-35	12	19.0	27	42.9	24	38.1	0.34*	
	36-45	5	10.9	25	54.3	16	34.8		
	46-55	2	10.0	12	60.0	6	30.0		
	>55	2	9.5	7	33.3	12	57.1		
Marital Status	Single	14	30.4	17	37.0	15	32.6	0.004**	
	Married	7	7.0	52	52.0	41	41.0		
	Divorced/widowed	0	0.0	2	50.0	2	50.0		
Years of Experience	1-5 years	11	25.6	21	48.8	11	25.6	0.035*	
	6-10 years	2	6.7	11	36.7	17	56.7		
	11-15 years	3	7.7	23	59.0	13	33.3		
	Over 15 years	5	13.2	16	42.1	17	44.7		
Highest Educational Level	M.B.CH.B	17	23.3	35	47.9	21	28.8	0.002*	
	Diploma/Board in Family Medicine	4	5.2	36	46.8	37	48.1		
Average Number of Patients Managed Per Day	Less than 50	5	5.7	45	51.7	37	42.5	0.009**	
	50-100	13	24.1	22	40.7	19	35.2		
	More than 100	3	33.3	4	44.4	2	22.2		

* χ^2 test, **Fisher's Exact Test

Good practice of preconception care was significantly observed among female participants ($p=0.015$), and those

who managed less than 50 patients per day ($p=0.015$); as shown in **Table 9**.

Table (9): The association of participants sociodemographic, professional, and work information with their practice of preconception care(N=150).

Variables		Practice of Preconception Care						P value	
		Poor		Average		Good			
		No.	%	No.	%	No.	%		
Gender	Male	4	20.0	14	70.0	2	10.0	0.015*	
	Female	18	13.8	55	42.3	57	43.8		
Age/years	26-35	10	15.9	27	42.9	26	41.3	0.96*	
	36-45	6	13.0	22	47.8	18	39.1		
	46-55	4	20.0	9	45.0	7	35.0		
	>55	2	9.5	11	52.4	8	38.1		
Marital Status	Single	11	23.9	20	43.5	15	32.6	0.23**	
	Married	11	11.0	46	46.0	43	43.0		
	Divorced/widowed	0	0.0	3	75.0	1	25.0		
Years of Experience	1-5 years	10	23.3	17	39.5	16	37.2	0.11*	
	6-10 years	2	6.7	12	40.0	16	53.3		
	11-15 years	7	17.9	22	56.4	10	25.6		
	Over 15 years	3	7.9	18	47.4	17	44.7		
Highest Educational Level	M.B.CH.B	12	16.4	38	52.1	23	31.5	0.16*	
	Diploma/Board in Family Medicine	10	13.0	31	40.3	36	46.8		
Average Number of Patients Managed Per Day	Less than 50	13	14.9	31	35.6	43	49.4	0.015**	
	50-100	9	16.7	31	57.4	14	25.9		
	More than 100	0	0.0	7	77.8	2	22.2		

*Chi² test, **Fisher's Exact Test

DISCUSSION

Regarding the optimal time to initiate preconception care, only 24% answered correctly, possibly due to limited awareness of national guidelines and the lack of applying preconception care as a routine program. This finding aligns with results from Western Ethiopia (2022)^[6], where 27.6% responded correctly, and higher than a study from Iran (2013)^[9], that showed only 12.0% of participants know the optimal time of PCC.

Knowledge of periodontal disease as a risk factor for adverse pregnancy outcomes was higher in the current study (63.3%) compared to Eastern Ethiopia (2021) (37.6%).^[10] Awareness of the effect of nutrition and low BMI on adverse pregnancy outcomes was 72.7%, exceeding the rate reported in Nigeria (2021) (21.8%)^[11] and consistent with Eastern Ethiopia (2021) and Western Ethiopia (2022), (72.4% and 67.3%, respectively).^[10]^[6]

Most participants (81.3%) knew that all women planning pregnancy should take 400 micrograms of folic acid daily, a rate nearly consistent with that reported in Western Ethiopia (2022) (72%)^[6] and Eastern Ethiopia (2021) (89.3%).^[10] Knowledge of genetic screening was limited (42%), although it was higher than in Western Ethiopia (2022) (12.3%)^[6] and similar to Eastern Ethiopia (2021) (47.6%).^[10]

The overall level of knowledge in this study was satisfactory, 38.7% of physicians had good knowledge, 47.3% had average knowledge, and 14% had poor knowledge. This result is lower than a study conducted in Delaware, USA (2012) (32.3% good and 62.4%

average)^[12], which may be attributed to differences in the specialties of the sampled physicians.

Marital status, years of experience, highest educational level, and daily patient management are significantly linked to increased knowledge of preconception care. Married individuals exhibited better knowledge (41%) compared to singles (32.6%), indicating that personal experiences may enhance awareness of reproductive health. Additionally, physicians with extensive experience showed superior knowledge levels, likely due to increased clinical exposure and familiarity with guidelines. These findings are consistent with results from Western Ethiopia (2022)^[6] but contrast with those from Iran (2013)^[9], where less experienced physicians showed higher knowledge. Moreover, physicians with a Diploma or Board certification in Family Medicine were more likely to have good knowledge (48.1%) compared to those with only an M.B.Ch.B degree (28.8%), indicating that advanced training may enhance competence in preconception care.

The Addis Ababa, Ethiopia (2020) study^[8], when compared with this study, showed lower findings in family planning (38.9%), vaccination (41.1%), and pregnancy spacing (37.4%), in contrast higher findings were observed in partner involvement in counseling (40.6%), exposure to environmental hazards (34%), and physical exercise (32.9%). Differences in training priorities and public health focus areas in the separate settings could be the cause of this discrepancy in counselling priorities between the two studies.

Despite good implementation of core clinical assessments of preconception care in this study, there is a lack in the provision of other topics of assessments like dental history/checkup (15.3%), environmental hazard exposure (14.7%) and psychosocial assessment (22.7%).

In the current study, interventions such as folic acid supplementation (72%), vaccination (60%), and control of pre-existing chronic diseases (58.7%) were more frequently implemented compared to other interventions. These rates were notably higher than those reported in the Addis Ababa, Ethiopia(2020) study^[8], where folic acid supplementation (46.2%) and vaccination (44.9%) and control of chronic diseases before pregnancy (49%) was less frequently practiced. Nevertheless, the relatively lower attention to lifestyle interventions and psychosocial aspects of PCC highlights the need for comprehensive training programs and updated national guidelines.

Overall level of practice on preconception care in this study, most physicians demonstrated an average level of practice in preconception care (46%), followed by good (39.3%) and poor (14.7%) practice. The proportion of good practice was lower than that reported in Delaware, USA (2012) (58.6%)^[12] and Nigeria (2021) (78.2%)^[11], but comparable to findings from Ethiopia West Shoa Zone(2022),western Ethiopia (2022), where good practice ranged from 34.5% to 42%.^{[13][6]} It was, however, higher than results from Egypt (2012)^[14], where 75% of providers demonstrated poor practice, and from Iran (2013)^[9], where poor practice reached 53.3%.

In this study, good knowledge was strongly associated with good practice ($P < 0.001$), highlighting that bridging knowledge gaps is likely to improve implementation, in contrast to findings from the Ethiopia, West Shoa Zone (2022)^[13], which reported no significant association between knowledge and practice.

There is a significant association between good practice and the number of patients managed per day, as it was observed that physicians who managed less than 50 patients per day provided good practice of preconception care 42.5% of the time compared to only 22.2% good practice for physicians who managed more than 100 patients per day, and this can be explained by the fact that as preconception care is considered a preventive service and contains wide parts to be provided well, this makes workload one of the obstacles that reduce the amount of time to be provided to patients. That is why it was provided mainly to clients who requested it (68%) and to patients with risk factors (50.7%) in this study, rather than being considered a routine component of each primary care visit. Screening of reproductive life plans is an essential part of every visit for patients of reproductive age, as it helps reduce future complications for both mother and fetus and provides a cost-effective service.^[4]

Physicians reported providing preconception care (PCC) at a relatively low frequency over the past six months. Several barriers contributed to this low frequency. The most commonly reported obstacles were the lack of required supplies (58.7%) and insufficient time during consultations (56.7%). Additionally, 24% of physicians mention other factors, such as low community awareness, as many women typically seek healthcare only after becoming pregnant rather than planning ahead, or a decrease in the number of women asking for preconception care in primary health care centers rather than private clinics. A lack of clinical skills among physicians was also noted by 21.3% of participants.

CONCLUSIONS

Physicians demonstrated average knowledge and practice in preconception care, with few achieving high levels and some showing poor levels. While understanding of laboratory investigations, safe medication use, and lifestyle modifications was satisfactory, there were gaps in timing and certain screening practices. The delivery of preconception care was inconsistent due to structural barriers like limited time and resources. The link between knowledge and practice highlights the necessity for targeted training, guideline dissemination, and the integration of preconception care into primary care to enhance maternal-neonatal outcomes.

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