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ORIGINAL ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICE OF PHYSICIANS AT TIKUR ANBESSA HOSPITAL ON PRECONCEPTIONAL CARE

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ABSTRACT

Background*: Preconception care is general care provided to those planning pregnancy with goal of making future pregnancy and delivery safe. The service is still lacking due attention by providers and clients in developing countries, including in Ethiopia.*

Objective: *The aim of the study was to assess knowledge, attitude and practice of physicians at a tertiary hospital about preconception care with the view of providing recommendations to optimize the uptake and delivery of the service.*

Method*: We conducted a descriptive cross sectional study from April 1 to April 15, 2018 on residents in internal medicine and obstetrics and gynecology at Tikur Anbessa Specialized Hospital in Addis Ababa, Ethiopia. A self-administered semi structured questionnaire was used to collect data from 156 residents who were available during the study period.*

Result*: Among the respondents, 69.2% had good, 26.9% moderate and 3.8% poor knowledge about preconception care. Residents in Obstetrics and gynecology had significantly better knowledge about preconception care than residents in internal medicine. Of the respondents, 48.5% had positive, 43.8% intermediate and 7.7% negative attitude towards preconception care. Only 19.2% of them had good practice scores, whereas 42.3% had moderate and 38.5% poor practice scores on preconception care.*

Conclusion*: Even though most residents had good knowledge and favorable attitude about preconception care, the practice was poor. Teaching facilities like the Tikur Anbessa Specialized Hospital need to strengthen the practice in preconception care by improving/standardizing the education program and providing specific guidelines. Further studies are required on how to tackle the barriers in the provision of preconception care and its integration in education programs.*

Key words*: Preconception care; knowledge, attitude. practice; Ethiopia.*

INTRODUCTION

Preconception care (PCC) includes a set of interventions provided before pregnancy. The goal of this care is to identify and if present, to change biomedical, behavioral and social risks to women's health or improve pregnancy outcome through prevention and timely intervention (1). Available evidence shows that even the earliest antenatal visit may not improve pregnancy outcomes associated with abnormal organogenesis secondary to drugs, alcohol, and poor diet (2). Identification of potential risk factors for poor pregnancy outcomes and institution of appropriate measures before pregnancy, improves both maternal and fetal outcomes.

Optimal PCC is an important tool to reduce antepartum, intrapartum and postpartum complications (3). This is especially important in limited resource settings where maternal morbidity and mortality is unacceptably high.

Even though the benefits of PCC are well established, the uptake and delivery of preconception care remain low especially in developing countries like Ethiopia.

A study done in Ethiopia showed that there is a relatively low level of awareness (27.5%) about PCC among women (4). One way of improving women's awareness and utilization of PCC services is by improving health care provider's awareness and practice (5).

KAP among physicians regarding PCC and what they perceive as barriers to successful implementation of PCC program are important in the development of national PCC guideline and training materials. Currently, there is no published report on KAP among health care providers on PCC in Ethiopia. The purpose of this study is to assess KAP related to PCC among physicians working in TASH.

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The findings of this study was thought to reveal the level of providers KAP on PCC and inform health workers, educators and policy makers in designing appropriate PCC programs and guidelines that would increase the delivery and uptake of PCC services, thereby contributing to the ongoing effort to decrease maternal and fetal morbidity and mortality in Ethiopia.

PARTICIPANTS AND METHODS

A descriptive cross sectional study was conducted among residents in internal medicine and obstetrics and gynecology practicing in TASH, which is the largest teaching and referral hospital in Ethiopia, and located in the capital, Addis Ababa. Residents from the two programs were selected for the study since most women at risk of poor pregnancy outcome mainly managed at these departments. Ethical clearance to conduct the study was obtained from the ethics review committee of the College of Health Sciences of Addis Ababa University.

There were a total of 180 residents (88 internal medicine and 92 obstetrics and gynecology) in the two departments during the study period. The data was collected over a two-week period from April 1 to April 15, 2018 from 156 residents who consented to participate in the study using a self-administered semi structured questionnaire. Validity of the questionnaire was assessed by five obstetrics and gynecology and two internal medicine consultants, who reviewed the relevance of each question to assess the respondent's KAP about PCC. Each item was rated on a four-point Likert scale (1=not relevant to 4=very relevant). The overall scale had CVI (content validity index) of 0.93, 0.89 and 0.86 for the knowledge, attitude and practice, respectively.

Reliability was determined through test-retest on five residents from each department over a 10-day interval (r=0.86). For the knowledge part, each correct answer was scored 1 and each incorrect answer was scored 0. The attitude score was obtained based on the five-point answers (strongly disagree=0, disagree=1, neutral=2, agree=3 and strongly agree=4). Negative statements about PCC were then reversely coded. Similarly, the practice score was obtained based on the five-point answers (never=0, rarely=1, sometimes=2, often=3 and always=4), assessing how often the respondents had at least discussed with the women before pregnancy about the benefits and/or the effects of the 16 major components of PCC on future fetal and maternal health as a proxy to measure their practice.

The total score of the respondents was calculated for each of the three components by adding up the individual item scores and converting it to percentage of the maximum possible score. The original Bloom's cut off point (greater than 80%, 60 to 80% and less than 60%) was used to classify the scores in to three parts as good, moderate and poor for the knowledge and practice and as positive, intermediate and negative for the attitude. We analyzed the data using descriptive statistics, t-test, $\chi 2$ test and logistic regression in Statistical Software for Social Science (SPSS) -version 20 software. P-value of less than 0.05 was considered significant.

RESULTS

The questionnaire was distributed to the 156 residents and 130 completed questionnaires were returned, making a response rate of 83.3%. Eighty one (62.3%) were obstetrics and gynecology residents and 49 (37.7%) were internal medicine residents. As shown in Table 1, most of them were male (71.5%), less than 30 years of age (75.4%), single (67.7%), junior residents (first and second year) (62.3%) and served for less than 5 years (62.3%).

The mean (SD) knowledge score of all respondents was 84.7% (±12.5%). The mean score was significantly higher for obstetrics and gynecology residents than internal medicine residents (90.2% versus 76.0%, p=0.000) and for senior residents than junior residents (89.8% versus 81.9%, p =0.000) (Table 2).

As shown in Table 3, of all respondents 90 (69.2%) had good, 35 (26.9%) had moderate and five (3.8%) had poor knowledge about PCC. Level of knowledge had a significant association with total year of service, residency level and specialty (P< 0.05). But after controlling for confounders only specialty was found to be significantly associated with knowledge score, obstetrics and gynecology residents were 13.9 times more likely to have good knowledge about PCC than internal medicine residents (AOR=13.9, 95% CI 4.5-43.0). The knowledge score had a significant positive correlation with the number of reproductive age women (RAW) seen per week (P=0.000).

Table 1: Socio demographic characteristics, Addis Ababa, Ethiopia, 2018.

Parameters	Number (%)
Sex	
Male	93 (71.5)
Female	37 (28.5)
Age	
< 30 years	98 (75.4)
≥ 30 years	32 (24.6)
Marital status	
Single	88 (67.7)
Married	42 (32.3)
Nationality	
Ethiopians	124 (95.4)
Non Ethiopians	6 (4.6)
Religion	
Orthodox	70 (53.8)
Muslim	32 (24.6)
Protestant	20 (15.4)
Others	8 (6.2)
Level of residency	
First year	47 (36.2)
Second year	34 (26.1)
Third year	29 (22.3)
Fourth year	20 (15.4)
total years of service	
Less than 5 years	81 (62.3)
≥ 5 years	49 (37.7)

Table 2: Variable means by specialty and level of residency, Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2018.

Variable	Specialty			Residency		
	Ob-Gyn	IM	P	Senior	Junior	P
Age	29.0	27.7	0.001*	29.6	27.8	0.000*
Years of service as GP	2.1	1.8	0.335	2.1	1.9	0.458
Total years of service	4.5	3.6	0.014*	5.5	3.4	0.000*
RAW seen per week	57.8	11.4	0.000*	54.8	31.5	0.006*
Knowledge score	90.2	76.0	0.000*	89.8	81.9	0.000*
Attitude score	79.3	74.8	0.028*	80.6	75.9	0.020*
Practice score	65.7	63.6	0.419	64.5	65.3	0.752

Table 3: Knowledge by demographic characteristics, Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2018.

	Knowledge score			
	Poor N (%)	**Moderate N (%)**	**Good N (%)**	**P- value**
Sex				
Male	2(2.2)	22(23.7)	69(74.2)	0.086
Female	3(8.1)	13(35.1)	21(56.8)	
Age				
< 30	4(4.1)	28(28.8)	66(67.3)	0.718
≥ 30	1(3.1)	7(21.9)	24(75)	
Marital status				
Single	2(2.3)	25(28.4)	61(69.3)	0.372
Married	3(7.1)	10(23.8)	29(69.0)	
Total years of service				
< 5 years	2(2.5)	28(34.6)	51(63.0)	0.031*
≥ 5years	3(6.1)	7(14.3)	39(79.6)	
Residency				
Junior	4(4.9)	28(34.6)	49(60.5)	0.021*
Senior	1(2.1)	7(14.3)	41(83.7)	
Specialty				
Internal medicine	4(8.2)	25(51)	20(40.8)	0.000*
Ob-gyn	1(1.2)	10(12.3)	70(86.4)	
Total	5(3.8)	35(26.9)	90(69.2)	0.000*

*significant association

Table 4: Attitude by demographic characteristics, Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2018.

	Attitude score			
	Negative N (%)	**Intermediate N (%)**	**Positive N (%)**	**P-value**
Sex				
Male	6(6.5)	39(41.9)	48(51.6) 15(40.5)	0.450
Female	4(10.8)	18(48.6)		
Age				
< 30	9(9.2)	41(41.8)	48(49.0)	0.463
≥ 30	1(3.1)	16(50.0)	15(46.9)	
Marital status				
Single	6(6.8)	35(39.8)	47(53.4)	0.262
Married	4(9.5)	22(52.4)	16(38.1)	
Total years of service				
< 5 years	4(4.9)	38(46.9)	39(48.1)	0.275
≥ 5years	6(12.2)	19(38.8)	24(49.0)	
Residency				
Junior	8(9.9)	40(49.4)	33(40.7)	0.065
Senior	2(4.1)	17(34.7)	30(61.2)	
Specialty				
Internal medicine	6(12.2)	25(51.0)	18(36.7)	0.072
Ob-gyn	4(4.9)	32(39.5)	45(55.6)	
Total	10(7.7)	57(43.8)	63(48.5)	

The mean (SD) attitude score was 77.6% (±11.2). It was significantly higher for obstetrics and gynecology residents than internal medicine residents (79.3% versus 74.8%, P=0.028), and senior residents than junior residents (80.6% versus 75.9%, P=0.02). Table 4 shows attitude score by demographic and occupational characteristics. Of all respondents 68 (48.5%) had positive, 57 (43.8%) had intermediate and only 10 (7.7%) had negative attitude towards PCC. obstetrics and gynecology residents were 3.2 times more likely to have positive attitude towards PCC than internal medicine residents (AOR=3.2, 95% CI 1.2-8.8). Senior residents (third and fourth year) were four times more likely to have positive attitude towards PCC than junior residents (first and second year) (AOR=4.0, 95% CI 1.4 to 11.6).

Even though the majority of them 129 (99.2%) agreed that PCC is an important issue and that it improves future maternal health 126 (96.9%) and fetal outcomes 128 (98.3%), only 69 (53%) of them believed PCC was a priority in their setting and only 70 (53.8%) believed that they were the right person to provide PCC. Ob-Gyn residents were 8.7 times more likely to consider themselves as the right person to provide PCC than internal medicine residents (AOR=8.7, 95% CI 3.1=24.4).

The mean (SD) practice score of the respondents was 65% (± 15.46). As shown in table 5, of all respondents, 50 (38.5%) had poor, 55 (42.3%) had moderate and only 25 (19.2%) had good PCC practice scores. The overall practice score of respondents had no significant association with residency level, specialty, total year of service, average number of women seen, knowledge score and attitude score.

Table 5: Practice by demographic variables, Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2018.

Independent variables	attitude score			
	Negative N (%)	Intermediate N (%)	Positive N (%)	P- value
Sex				
Male	37(39.8)	41(44.1)	15(16.1)	0.363
Female	13(35.1)	14(37.8)	10(27.0)	
Age				
< 30	40(40.8)	42(42.9)	16(16.3)	0.309
≥ 30	10(31.2)	13(40.6)	9(28.1)	
Marital status				
Single	34(38.6)	38(43.2)	16(18.2)	0.902
Married	16(38.1)	17(40.5)	9(21.4)	
Total years of service				
< 5 years	31(38.3)	31(38.3)	19(23.5)	0.244
≥ 5years	19(38.8)	24(49.0)	6(12.2)	
Residency				
Junior	31(38.3)	30(37.0)	20(24.7)	0.093
Senior	19(38.8)	25(51.0)	5(10.2)	
Specialty				
Internal medicine	22(44.9)	20(40.8)	7(14.3)	0.389
Ob-gyn	28(34.6)	35(43.2)	18(22.2)	
Total	50(38.5)	55(42.3)	25(19.2)	

Most residents had frequently discussed about the future maternal and fetal effects and/or benefits of chronic medical disease (86.2%), past obstetric history (82.3%), contraception (80.8%), immunization (78.5%), medication use (72.3%) and folic acid supplementation (71.5%) with women of reproductive age. A significant proportion of residents had never or only rarely discussed the future maternal and fetal effects of genetic diseases (46.9%), illegal drug use (50.8%), environmental and occupational hazards (31.5%), cigarette smoking (30.8%), alcohol use (23.1%) and obesity (20.0%).

Eighty four (64.6%) of the residents had appointed a woman in the past for PCC at least once. Of those who appointed, most of them were for an indication of medical disorder (43.3%), followed by neural tube defect (34%), preeclampsia (9.4%), congenital anomaly (7.5%) and bad obstetric history (5.7%). Majority of the respondents felt that PCC should be provided by obstetricians (79.2%) followed by family medicine (56.2%), midwives (54.6%), GPs (53.8%), internists (46.2%). Most of them 114 (87.7%) believed that lack of standardized PCC program was the major barrier for provision of PCC followed by lack of guidelines and unplanned pregnancies in105 (80.8%). Lack of resource 76 (58.5%) and lack of knowledge by physicians 69 (53.1%) was reported as a reason for low PCC service provision. Awareness creation through mass media 118 (90.8%), developing guidelines 117 (90.0%), providing training 110 (84.6%) were the major solutions recommended by the residents for improving PCC. Three quarter 98 (75.4%) of them also recommended opening separate PCC clinics.

DISCUSSION

Even though most of the residents have good knowledge and favorable attitude towards PCC, the practice of PCC to RAW was poor. The PCC practice of those with good knowledge and positive attitude was not better than those not having good knowledge and positive attitude towards PCC. The reason for poor practice, therefore, may not be related to lack of knowledge or negative attitude, rather as believed by the respondents it could be related to lack of standardized program and guidelines from providers' side and low level of awareness from the clients' side. This study, like other similar studies conducted in different setting, found that many providers fail to address family planning services, domestic violence, nutrition and medical risk factors, medication use, appropriate counseling and use of referral services during gynecologic visits (6).

Similar to other studies, residents in TASH have good knowledge on PCC (7). We also found that knowledge scores of Ob-Gyn residents were significantly better than that of internal medicine residents. This is in contrast to the finding of Conway showing no significant difference in knowledge scores of internal medicine and family practice residents (median knowledge score is five out of 18 for internal medicine and 8.5 out of 18 for family practice residents) even though family practice residents had standard obstetric training (8). This difference could be explained by the less emphasis given by internal medicine residents to pregnancy related issues in this study set up owing to their limited exposure to pregnant women as shown by the low average number of RAW seen by internal medicine residents per week compared to obstetrics and gynecology.

Our study shows that the majority of residents had a moderate to positive attitude towards PCC. This finding is consistent with other similar studies (9-11). Bayrami found that the majority of physicians in Iran had a positive attitude towards PCC (9). Ob-Gyn residents had a better attitude about PCC than internal medicine residents, a finding similar to Conway showing median attitude score of 22 out of 28 for internal medicine residents and 25 out of 28 for family practice residents who had a standard obstetric training (8). Even though the majority of residents had a favorable attitude about PCC in this study, only half of them believed that it is a priority in Ethiopian setting and that they are the right person to provide PCC, a finding similar to Morgan and Heyes. Morgan found that only 20.7% of American gynecologists agreed that PCC is a high priority in their workload (10). Heyes found that most of primary care workers in United Kingdom (UK) do not believe that PCC is a priority in their workload (71.2%) and that they are the right person to provide PCC (62.4%) (11).

Our study showed that the practice score of the residents was low similar to Moser and Conway(12). We found that the overall practice score of internal medicine residents was not significantly different from that of Ob-gyn residents, a finding consistent with that of Conway in which the median management score of family practice physicians who had standard obstetric training was not significantly different from that of internal medicine residents (8). In this study no significant difference was seen in the practice score of senior and junior residents, a finding consistent with that of Conway showing no trend of improvement of management score of residents with increasing level of residency (8).

This could be a reflection of the poor attention given to the practice of PCC in our residency training programs, as effective residency training programs are expected to bring an improvement in the level of practice of residents as they are advancing from one level to the other.

Conclusion: The study revealed good knowledge and attitude score but poor practice of PCC among residents of TASH.

Recommendation: Teaching and practice guidelines need to be put in place to ensure proper transfer of the good knowledge and positive attitude in to practice. We recommend further studies on how to tackle the barriers that hinder the provision of PCC and how to integrate PCC services to our health system.

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