

The Viewpoints of Managers and Healthcare Providers on Individual Barriers to Perform Preconception Care for Diabetic Women

Abstract

Background: Individual barriers can affect the provision of preconception care (PCC). The aim of the present study was to determine the rank of importance of individual barriers (care recipients) in the provision of PCC among diabetic women from the viewpoints of care providers. **Materials and Methods:** The present cross-sectional study was conducted on 212 health managers, physicians, and midwives from December 2015 to March 2016. The data collection tool was a two-part researcher-made questionnaire consisting of a demographic characteristics and viewpoints scored on a five-point Likert scale (range: 0–4). Data were analyzed in Statistical Package for the Social Sciences software. **Results:** The mean (SD) individual barriers score of physicians, midwives, and health managers were 57.33 (15.63), 61.53 (17.81), and 54.57 (16.95), respectively (range: 0–100). A significant difference was observed between the three groups in terms of the mean score of importance of individual barriers ($F = 2.54$, $df = 2$, $p = 0.040$). Insufficient understanding of the importance of PCC by diabetic women and their families obtained the highest mean rank of importance in all groups. **Conclusions:** Although individual barriers had more importance in access to PCC by diabetic women in the view of midwives compared to the other groups, the viewpoints of the three groups were similar in most cases regarding the rank of importance of items. In order to improve the quality of PCC, the necessary measures must be taken by authorities and care providers to eliminate important barriers.

Keywords: *Diabetes mellitus, health services accessibility, Iran, preconception care, quality of health care*

Introduction

The prevalence of diabetes is rising worldwide, and due to the complications of uncontrolled diabetes on mothers and fetuses, the importance of this disease is more pronounced at the reproductive age.^[1] One of the important measures to promote maternal and fetal health is preconception care (PCC), which is a collection of preventive services including screening, counseling, and managing risk factors in the preconception period,^[2] and improves the outcomes of pregnancy and childbirth.^[3,4] In relation to PCC, various statistics have been reported, including a prevalence rate of 47.70% in one study,^[5] but no accurate statistics was found on this care in diabetic women. Despite the apparent effect of this process on the outcome of pregnancy of diabetic women, presenting and receiving this care still faces challenges.^[6-8] Given that specific situation of diabetic women, PCC for

diabetic women is more complicated than nondiabetic and requires more time, cost, and professional consultation on cardiovascular, renal, retinal and drug use, family planning, etc.^[1] Therefore, diabetic women face more and more challenges than nondiabetics in receiving PCC. Most pregnancies of diabetic women are unwanted,^[2] and a small number of them take advantage of preconception counseling.^[9] Identifying important barriers and planning to eliminate them can be effective on the quality of the implementation of this process and reduction of the complications of diabetes during pregnancy. Various studies have pointed to some of the barriers to PCC, some of which are related to the recipients of the services and result in their absence from the centers providing the services or the reluctance to receive them.^[7,10,11] The lack of involvement of spouses in this process, the inadequacy of services

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Access this article online

Website: www.ijnmrjournal.net

DOI: 10.4103/ijnmr.IJNMR_166_17

Quick Response Code:



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How to cite this article: Abedini L, Nekuei N, Kianpour M, Jabbari A. The viewpoints of managers and healthcare providers on individual barriers to perform preconception care for diabetic women. *Iranian J Nursing Midwifery Res* 2018;23:338-43.

Received: October, 2017. **Accepted:** May, 2018.

provided in health centers, the lack of awareness of these women about the PCC process, and problems related to caring for the other child are among the individual barriers mentioned in various studies.^[8,10] Most of these studies are qualitative researches and have noted some of the obstacles in general, while the rank of barriers in terms of importance has not been determined. On the contrary, generalizability is not possible in qualitative studies. Considering that the removal of all barriers is hard, time-consuming and costly, identifying more important barriers means saving time and costs. Several studies have examined the views of service recipients.^[5,6,8] Therefore, in this study, to reduce the bias and increase credibility and reliability of findings, the viewpoints of three groups of service providers (physicians, midwives, and health managers), who directly interacted with recipients, were examined so that the same view increases the credibility of the findings. Therefore, the present study was designed and implemented with the aim to evaluate the rank of individual barriers to PCC in terms of importance among diabetic women from the viewpoints of service providers.

Materials and Methods

The present cross-sectional study was conducted in three groups of physicians ($n = 94$), midwives ($n = 84$), and health managers, including authorities and policymakers in the area of health in the city and province of Isfahan ($n = 34$) from December 2015 to March 2016. The sample size was calculated as 189 individuals (63 in each group) and increased to 200 individuals with the calculation of a 5% sample loss. Finally, the samples were 212. In the present study, the confidence factor is 95% (1.96) and test power factor is 80% (0.84), and 0.5S points was considered as the minimum difference in mean score of viewpoint regarding each of the barriers.

The study setting consisted of the Deputy of Health of Isfahan, central and environmental health centers, two diabetes clinics, and five private practices. The Deputy of Health of Isfahan, central health centers, and the two diabetes clinics were selected through purposive sampling, the five private practices through random sampling, and the 75 environmental health centers through quota-cluster random sampling. In this way, the city of Isfahan is divided into two parts that are similar in socioeconomic terms and each part is covered by the Central Health Center No. 1 with 60% of health centers and No. 2 with 40% of health centers, based on the number of samples required. So 45 centers were assigned to No. 1 and 30 centers to No. 2. Then these centers were randomly selected through lottery. Due to the low number of individuals in the study environment, the subjects were selected through census method from among those who had the inclusion criteria. The inclusion criteria consisted of a minimum of 6 months of work experience and participation in the implementation or management of PCC in diabetic women. Individuals

who left 10% of questions unanswered were excluded from the study.

The data collection tool was a two-part researcher-made questionnaire consisting of a demographic characteristics form (7 questions) and a questionnaire on viewpoints regarding individual barriers to provision of PCC for diabetic women (9 questions). Based on previous studies and the views of specialists, the questions were scored based on a five-point Likert scale ranging from unimportant (score = 0) to very important (score = 4). The mean rank of importance of each barrier was calculated separately in each group through the calculation of mean total score of each item (range: 0–4). In the next stage, mean rank of importance of individual barriers was calculated in each group through the calculation of total mean score of the nine items (range: 0–36) and was reported on a 100-point scale for ease in interpreting results and gaining a better understanding. In the next step, the score of the three groups was compared and the higher mean score showed more importance.

Qualitative formal and content validity of the questionnaire were approved through the adaptation of the items with the goals of the study, and that of the references were approved first by the researchers, and then, 19 specialists in this field. Subsequently, the questionnaire was distributed among 20 individuals similar to the study population who were excluded from the study and the completion time, sensitivity of respondents, and the possibility of its performance were evaluated and the necessary modifications were made. The pilot study was conducted on 15 individuals from the research population who were excluded from the study. The internal validity of the questionnaire was approved with a Cronbach's alpha of 0.96. The pilot study was repeated after 3 weeks, and thus, the external validity of the questionnaire was approved ($r = 0.75$). Content validity of items was quantitatively approved after review by 10 experts and 10 individuals similar to the study population who were excluded from the study (content validity ratio = 0.72) and (content validity index = 0.86). The final version of the questionnaire was distributed among the participants and completed through self-report in the presence of the researcher. Data were analyzed using descriptive statistics (mean and SD), one-way analysis of variance (ANOVA), least significant difference (LSD), and the Kruskal–Wallis test in Statistical Package for the Social Sciences software (version 16, SPSS Inc., Chicago, IL, USA).

Ethical considerations

The research process was approved by the Ethics Committee and the Deputy of Research and Technology of Isfahan University of Medical Sciences, Iran (No. 394472). After permission, written informed consent forms were obtained from all participants, before completing the questionnaire.

Results

Table 1 presents some of the demographic characteristics of the participants. Regarding other demographic characteristics of the participants, results showed that all of the midwives and 86.17% of physicians worked in health centers, 8.51% worked at diabetes specialized clinics, and 5.31% worked at private practices. 52.94% of managers worked at central health centers (No. 1 and 2), 41.17% at Deputy of Health, and 5.88% at diabetes specialized clinics.

Among the subjects, 67.92% (144 out of 212 individuals) had received in-service training on PCC and 39.58% (57 individuals) of which had received in-service training on PCC in diabetic women. In addition, 76.38% (110 individuals) who had received training were satisfied with the training. Other demographic characteristics are provided in Table 1.

The mean rank of importance of individual barriers is presented in Table 2. One-way ANOVA results showed a significant difference between the three groups in terms of mean individual barriers score ($F = 2.54$; $df = 2$, $p = 0.040$). LSD *post hoc* analysis showed a significant difference between the views of midwives and health managers ($p = 0.021$), and midwives and physicians ($p = 0.048$). However, there was no significant difference between the views of physicians and health managers ($p = 0.205$).

The comparison of the views of the three groups regarding the mean rank importance of the individual barrier items showed that the barrier of insufficient understanding of the importance of PCC by diabetic women and their families had the highest mean rank of importance (3.12).

Table 1: Frequency distribution of demographic characteristics of three groups

Variable	Physician	Midwife	Manager
Age (year), Mean (Standard deviation)	43.51(10.10)	39.80(8.30)	46.17(6.90)
Work experience (year), Mean (Standard deviation)	15.01(8.10)	15.31(8.60)	20.01(6.10)
Degree, <i>n</i> (%)			
Bachelor	0	79(94.04)	18(52.94)
Master	0	5(5.95)	8(23.52)
General practitioner	91(96.80)	0	7(20.58)
Specialist	3(3.19)	0	1(2.94)

Table 2: Comparing the mean rank of importance of individual barriers between the three groups

Groups	The score of individual barriers out of 100			
	Mean (SD)	<i>F</i>	<i>df</i>	<i>p</i>
Physicians	57.33(15.63)	2.54	2	0.040
Midwives	61.53(17.81)			
Managers	58.55(16.86)			

Unintended pregnancy (2.94) and sense of lack of necessity of PCC (2.82) were reported as the second and third major barriers, respectively. The mean rank of importance of other barriers is presented in Table 3. Kruskal–Wallis test results showed no significant difference was found between the groups in terms of the importance of items.

Discussion

The results of the present study showed a significant difference between the three groups in terms of the importance of individual barriers; they were more important in the viewpoint of midwives and similar in the viewpoint of physicians and health managers. This difference in the viewpoint of midwives and the other groups may be due to the difference in occupational status, job description, and the rate of interaction with women. Other studies have also reported the importance of individual barriers in the provision and receiving of preconception care.^[7-9] Nevertheless, no studies were found for the comparison of the rank of importance of individual barriers with the present study.

The results of Kruskal–Wallis test showed no significant difference between the viewpoints of the three groups in terms of the mean rank of importance divided by each item of individual barriers. Therefore, the three groups were considered as one group and the mean total importance score was calculated in order to determine the rank of importance of items.

In the present study, the most important individual barrier reported was inadequate understanding of the importance of PCC. The lack of positive attitude toward the importance of these services has affected their health behavior and caused unwillingness to receive this care.^[12] Although, the results of some studies have shown that the lack of awareness among couples on the importance and advantages of PCC is the main problem in receiving this care^[6,11,13,14], the results of another study has shown that although women had a positive attitude toward PCC, they were not willing to receive PCC and this was due to women's belief that they have sufficient knowledge on diabetes and pregnancy or they are not at risk and lack of understanding of the purpose of PCC.^[15] The most important factor in resolving this barrier is educating couples whether in the form of individual education or public education.

In the present study, all groups reported unintended pregnancy as the second most important individual barrier. Two-thirds of pregnancies among diabetic women are unintended; thus, extensive studies are required to evaluate the cause of this issue and plan to resolve it. One of the causes of unintended pregnancies among diabetic women is the difficulty of selecting a suitable contraception method in terms of their condition and disease.^[1] In addition to educating, resolving this issue requires the sensitivity and consideration of healthcare services providers and the

Table 3: The mean rank of importance of individual barriers by three groups and test results

Individual barriers	Mean (SD) by three groups			Total Mean (SD)	Kruskal–Wallis	
	Physician	Midwife	Manager		χ^2	<i>p</i>
1 Insufficient understanding of the importance of PCC ¹ by diabetic women	3.20(0.86)	3.14(0.85)	2.91(0.93)	3.12(0.86)	2.69	0.261
2 Unintended pregnancy	2.93(1.02)	3.05(0.90)	2.70(1.11)	2.94(1.02)	2.63	0.268
3 Sense of lack of necessity of PCC	2.83(1.03)	2.92(1.07)	2.60(1.20)	2.82(1.03)	2.94	0.230
4 Lack of confidence in the quality of PCC in governmental health centers	2.43(1.10)	2.64(1.04)	2.60(1.23)	2.54(1.10)	1.83	0.400
5 Residency type	2.11(1.16)	2.36(1.16)	1.82(1.11)	2.16(1.16)	5.99	0.051
6 High number of family members	2.10(1.14)	2.18(1.21)	1.76(1.25)	2.07(1.14)	3.12	0.210
7 Employment of women	1.83(1.13)	2.10(1.12)	1.76(1.12)	1.92(1.13)	2.79	0.248
8 Fear of lack of permission for pregnancy	1.82(1.19)	2.03(1.29)	1.85(1.10)	1.91(1.19)	2.07	0.354
9 Negative previous experience of interaction with care providers	1.45(1.23)	1.72(1.26)	1.64(1.34)	1.59(1.23)	2.03	0.363

¹Preconception care

use of any chance to evaluate contraception methods use and PCC provision among reproductive age women with diabetes, even those who have no intention of becoming pregnant.^[2]

In the present study, women’s sense of lack of necessity of PCC was the third most important barrier. Diabetic women may believe that glycemic control alone is sufficient for a safe pregnancy.^[15] Therefore, couples must be taught that, in addition to preconception glycemic control, the adjustment of medication, folic acid use, and the evaluation of women in terms of cardiovascular health, retinopathy, nephropathy, and in particular, mental health, and support for women are essential.^[1,2] A study showed that women feel that they do not know what information they require in this respect.^[14] This lack of knowledge results in the sense of lack of necessity of receiving PCC.

The item of women’s lack of confidence in the quality of prenatal care in governmental health centers was reported as the fourth most important barrier. The results of previous studies have shown that the quality of prenatal care for women with diabetes is not satisfactory.^[5,6] As preconception diabetes management requires teamwork and team treatment was not observed by the researcher in most studied governmental health centers, these women did not obtain the results they expected, and thus, they no longer wanted to receive care in governmental health centers. Therefore, necessary measures must be taken by authorities and care providers to improve prenatal care in governmental health centers.

In the present study, residency, household, and occupation obtained the 5th–7th ranks of importance. Although these factors have been reported as important barriers in some studies,^[6,16,17] they were considered as less important compared to other barriers in this study. In some studies, women did not refer to these factors as barriers to PCC.^[5,14,15] The extent of the impact of these barriers on access to healthcare services may be impacted by individual, socioeconomic, and cultural factors.

The two barriers of negative experience and fear, respectively, had the least importance. It should be noted that these factors are related to the behavior of service providers and they may be biased in this respect. However, in other studies, these factors are considered as important barriers to PCC.^[6,18] Other studies also showed that poor interaction between service recipients and providers results in a negative experience for them, and thus, is considered as a barrier to receiving health services.^[18,19]

Women with diabetes, due to fear and concern regarding the outcome of pregnancy, require greater psychological support. PCC providers must take these factors into consideration and not focus on negative outcomes alone. Greeting clients, flexibility in service provision, close communication with clients, and self-esteem motivate clients to receive care.

None of the previous studies conducted on barriers to PCC in women with diabetes have determined the importance of barriers. One study assessed the viewpoints of diabetic women regarding the causes of lack of referral for PCC, which include time limitation, reluctance to receive PCC, being not useful, being not interested, already having information, and others. The issue in this study was that most participants had not answered this question and most respondents had selected the other barriers item.^[20]

In another study, women with diabetes referred to their lack of awareness of the availability of PCC and outcomes of not receiving PCC and fear as the two main reasons for their reluctance to receive PCC.^[6] This qualitative study was conducted on a limited number of participants, some individual barriers were reported by a limited number of individuals, and barriers were not ranked in terms of importance. Another study evaluated the viewpoints of pregnant women, midwives, and members of the health committee of mothers regarding barriers to access to PCC. The individual barriers reported consisted of reduction of sensitivity and awareness of women regarding PCC, attitudes regarding age and number of previous

pregnancies, socioeconomic barriers of the women, familial barriers such as lack of support by the spouse, and mental conflicts due to daily activities and caring for children.^[10]

Previous studies have reported conflicting results which may be due to differences in the studied communities and the qualitative nature of the studies and their low sample volume. Therefore, the necessity of evaluating the importance of these barriers is felt in our society and from the viewpoint of experts in this field. It is hoped that the quality of PCC can be improved through planning and policymaking to eliminate the most important individual barriers recognized in this study. The findings of this study are valid and reliable, because the questionnaires were completed in the presence of the researcher and the participants could not impact one another since their place of work was different. Moreover, answering the questionnaire did not require the use of resources. These factors increase the reliability of the findings and the degree of honesty in responding to the questions.

The strengths of the present study were that it focused on individual barriers to PCC in diabetic women, who require a specific care, and the views of all groups participating in the provision of this care was assessed. The distribution of subjects prevented the impact of individuals' views on each other. The limitation of the study is the lack of participation of diabetic women in the study. Because of the aim of ranking the barriers, it was tried to have samples of the same type and level. There was no possibility of participation of diabetic women.

Conclusion

From the viewpoint of all groups, insufficient understanding of the importance of PCC by diabetic women and their families, unintended pregnancy, and women's sense of lack of necessity of PCC were the most important barriers. In order to improve the quality, the necessary measures must be taken by authorities and care providers to eliminate important barriers.

Acknowledgments

The authors would like to thank Deputy of Research and Technology of Isfahan University of Medical Sciences for their financial support. We would also sincerely appreciate the cooperation of all the managers, physicians, and midwives who helped us through this study. It should be noted that this article was adopted from author's thesis under no. 394472.

Financial support and sponsorship

Deputy of Research and Technology of Isfahan University of Medical Sciences.

Conflicts of interest

Nothing to declare.

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