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Evaluation of Health Services Provided for Women During Pregnancy in Yasuj, Iran

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Abstract: One of the first level basic services of health system is health care during pregnancy and continuous improvement of these services requires continuous evaluation. The aim of this study was to determine the status of maternal health services for pregnant women, in Yasuj city in Iran. This study was a cross-sectional descriptive study conducted in 2011 in Yasuj. The study population consisted of pregnant women covered by urban health centers and urban units in Yasuj and the sample included 220 pregnant women in their 45 week of pregnancy selected by cluster sampling. The clusters include health centers and health units which had mothers in 40-first week of pregnancy. To complete the information through questionnaires, the mothers were asked complementary questions. The information was gathered using two researcher made questionnaires the content validity of which was evaluated using the comments of 4 midwifery and health education specialists and their reliability was evaluated using Cronbach's alpha test (30 people) and the alpha coefficient was obtained 0.83. The data were assessed using SPSS18 Software and to analyze the data, central tendency and dispersion were used. The average age of study participants was 27.2 (26.5-27.9) and the individuals with university education were 31.5%. About 13.5% of the participants were inhigh-risk groups (under 18 and over 35 year). The status of taking iron, multivitamins and folic acid supplementation during pregnancy among women participating in the study was 97.1, 69.3 and 96.2%, respectively. The results show that in the first trimester of pregnancy, 2% of women had moderate anemia and 6.6% had mild anemia. About 66% of mothers had good and very good knowledge of the danger signs during pregnancy and 84% of them evaluated their satisfaction of care as good care. Most of the correspondence in the finding of this study was between the perception of the mother on fetus hearing (95%) and the least correspondence was related to the examination of the eyes, organs, face and skin(35.6%). Regarding the general status of pregnant women care in Yasuj results showed that only 14.2% of mothers had 50% of anticipated visits (>5 times) to health units to receive their care but inthe meantime 60.8% of them visited the gynecologist >5 times during pregnancy. These findings suggest that mother's visits to the health units in this study was not only undesirable but was also not satisfactory. The clear offer based on the evidence is review of care system.

Key words: Health services, evaluation, pregnancy, maternal care, Yasuj

INTRODUCTION

Pregnancy creates various changes in all members and organs mother's body. In some women, the changes are abnormal that may cause serious complications and mother and fetus mortality if not addressed timely (Fekrat *et al.,* 2004). Each year 289,000 mothers die due to pregnancy and childbirth problems. In addition, pregnancy increases physical and mental problems and health needs of women and they will need to receive more health services (Pourheydari *et al.,* 2007; Ebrahimi *et al.,* 2016; Yarmohammadi *et al.,* 201 6a, b; Khandan *et al.,* 2016). In order to protect and promote the health of mother and baby arnng pregnancy and postpartum, some care measures are provided. This care is one of the most important health cares for women during pregnancy that takes place in accordance with the principles defined inall countries. Proper and exact implementation of such care during pregnancy is of mother's requirements in health care system (Cynthia *et al.,* 2002; Yarmohammadi *et al.,* 2016). Proper care during pregnancy and to take umely action to

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identify, control and treat health problems and complications during pregnancy helps mother and fetus enormously. In case of improper care or lack of care during pregnancy, pregnant women will not get the benefits of such health care and complications and fetus and maternal mortality rates will increase and the consequence of this would lead to economic and social problems in the family and community. This kind of care is more cost-effective than any other health care interventions to reduce the mortality and complications before and after childbirth. Studies show that in developing countries 18% of the disease burden of women during childbearing age are due to pregnancy-related conditions (Yarnohammadi *et al.,* 2016; WHO, 2014). Studies in Iran have shown that after car accidents, heart attacks and strokes, disorders during pregnancy and fetal development are the fourth cause of death. According to the latest statistics of World Health Organization in 2013, maternal mortality index in Iran was 23 deaths per 100 thousand live births in 2013 and this rate is expected to decrease to 15 cases per 100 thousand live births by the end of 2014 (WHO, 2013). Among the influencing factors is receiving poor prenatal care. The major causes of poor and inadequate services are due to poor performance of health staff such as poor performance on physical examination, poor management of the common complaints of pregnant women and lack of proper application of the principles of consultation (Poorheidary *et al.,* 2011; WHO, 2014). This vicious cycle leads to a rise in cases such as preterm labor, low infant weight at birth and infant and maternal mortality (Farokhi, 2008). In addition, attention to danger signs during pregnancy and more precise control of pregnant women considering danger signs and increased obstetric care will have an important role in maternal and neonatal health (Koohdani *et al.,* 2011). Poor services related to family planning increase unwanted pregnancy which increases problems such as delayed care, high-risk pregnancies and non-healthy delivery compared to planned pregnancy (Poorheidary *et al.,* 2011; Buschur and Kim, 2012). In Iran's health system, prenatal care services are among the main services offered in health centers and health networks of all cities (Koohdani *et al.,* 2011). The constitution of the Islamic Republic of Iran regards the advantage of this service the right of all members of the community and its supply is a component of government tasks which can be achieved by public participation (Sarani *et al.,* 2014). Research that examines the quantity and quality of prenatal care services in the public and private sector health system greatly helps to identify the strengths and weaknesses of the services provided. The present study was also designed and implemented in an attempt to determine the status of prenatal care in women attending health centers in Yasuj city in Iran.

MATERIALS AND METHODS

This study is a descriptive cross-sectional study conducted in 2011, in Yasuj, capital city of Kohkilouye and Boyer-Ahmad province in Iran. The study population were the pregnant women covered by urban health centers and urban bases in Yasuj. The sample included 220 pregnant women in their 40-first week of pregnancy and they were selected by cluster sampling. The clusters include health centers and health bases with eligible pregnant women. Four urban health centers and three health centers were selected as cluster head and the samples were selected and entered in the study based on the needed criteria. Then to complete the questionnaire, the mothers were asked complementary questions. To collect data, two questionnaires were prepared by the researcher with their content validity determined using the comments of 4 midwifery and health education experts and their reliability was calculated using Cronbach's alpha test (n = 30) using alpha and the obtained coefficient was 0.83. First, from the family files and registry files of maternal care in health centers and urban health centers, pregnant mothers in the 4th week of the 9th month (week 40-first) were identified and the questionnaire related to prenatal care which determined maternal demographic characteristics how to record data and the hemoglobin status was completed and then mothers were visited in their homes to complete the second questionnaire by interview that included questions about the quality of the care, mother performance and knowledge.

To determine the accuracy of the information recorded in the files of pregnant women, services indicated in the files such as the determination of fetal movement, prescription of supplementation and weight and blood pressure measurements were recorded in the questionnaire and then, the mothers were asked if they had received them? Last, two questions including blood pressure and mother's weight in the last visit were questioned and the mother should have stated the answer in number. The inclusion criteria were Iranian nationality of pregnant women having active file and willingness to participate in the research and the exclusion criteria were mother's unwillingness to participate in the study and lack of access. Questioning was performed by experienced public health staff also trained for the research. In this stage, the staff referred to the house of pregnant women and the interview was performed. In cases where access to mother and her cooperation was not possible, the

questioner referred back to the health center and checked the file numbers of pregnant women. Then, the closest file was chosen as a replacement. After complete log of the data to a computer, the data were assessed using SPSS18 Software and to analyze the data, central tendency and dispersion were used.

RESULTS AND DISCUSSION

The average age of study participants were 27.2 (26.5-27.9) years. About 13.5% of them were in high-risk groups (under 18 and over 35 year). The findings of the research on women's job suggest that 83.6% did not work outside and 16.4% were employed. Female literacy showed that 1% were illiterate and 31.5% had a college degree. On pregnancy condition, the study showed that 40% (93 mothers) were nulliparous and 25% were in their third pregnancy or above. The unwanted pregnancy was 26%. The results on the overall condition of pregnant women care in Yasuj showed that only 14.2% of mothers had 50% (>5 visits) of anticipated visits to health units to receive their care. In the meantime, 60.8% of them visited the gynecologist >5 times during pregnancy.

The most correspondence were related to hearing the heartbeat of the fetus, measuring weight, blood pressure, fetal movement, prescription of iron tablets and the lowest compliance were related to eyes, organs, skin and abdominal examinations (Table 1-3).

Multivitamin supplement consumption has been moderate. In total, 8.8% of women suffered mild and moderate anemia. The highest percentage of knowledge ranked good and very good.

According to the study results, prenatal care was 14.2% (>5 visits) which is evaluated poor. The results show that 50.7% of women were visited 6 or more times that indicate better care compared to the general study population (Pourheydari, 2007). Due to the free care in Iran, different reasons can be cited for the low percentage of prenatal care including beliefs and satisfaction with the staff and the services provided in urban health centers. Fekrat showed that about 50% of women received regular health care services during pregnancy and with increased pregnancy, further referral for prenatal care decreased (Fekrat *et al.,* 2004). The study by Khanjari on receiving health care during pregnancy indicated that 83% of women received average and inadequate prenatal care and there had been significant relationship between receiving enough care and the perspective of women regarding prenatal care as essential. Seyed-Aqha Amiri mentioned that the causes of intendancy of pregnant women in referring to health care centers in Sari for health care was in most cases (32%) the desire to receive care by a gynecologist (Danesh *et al.,* 2005). This study shows 60.8% of the women referred to a specialist >5 times during pregnancy which was both due to the desire of mothers and their access to services at higher levels. So, to align receiving basic health services (health centers)

Table 1: Frequency distribution of compliance status of information recorded in the files and the statements of pregnant women referred to health centers in Yasuj in 2011

	Positive		Negative		Unknown	
Evaluated case	Number	Percent	Number	Percent	Number	Percent
Pregnancy age	188	85.8	31	24.2	1	0.4
Fetal movement	201	91.8	18	8.2	1	0.4
Prescription of multivitamins	136	62.1	83	37.9	1	0.4
Prescription of folic acid	198	90.4	21	9.6	1	0.4
Prescription of Iron	201	91.8	17	7.2	2	0.9
Weighing	206	94.1	13	5.9	1	0.4
Measurement of the height of the uterus	159	72.6	59	27.4	2	0.9
Eye, face and skin examination	78	35.6	141	64.4	1	0.4
Weight curve drawing	193	88.1	26	11.9	1	0.4
Hearing the sound of the fetal heart	208	95.0	11	5.0	1	0.4
Examination of mother's abdomen	128	58.5	91	41.5	1	0.4
Taking the pulse of Mother	182	83.1	37	16.9	1	0.4
Measuring blood pressure	204	93.2	15	6.8	1	0.4
Matching blood pressure	141	8/68.0	64	2/31.0	15	6.8
Matching the weight	125	61.0	78	39.0	17	7.7

Table 2: Frequency distribution of the use of supplements in pregnant women referred to health centers in Yasuj

Supplement	Consumed	Total	Percent	Unknown	Percent
Iron tablets	199	205	97.1	15	6.8
Multivitamin tabs	147	212	69.3	8	3.6
Folic acid	203	211	96.2	9	4.1

Table 3: Frequency distribution of anemia in the study sample

Hemoglobin status in the first trimester	Anemia (grams per deciliter)	Number	Percent
Severe anemia	0.7	0	0.00
Moderate anemia	7-10	4	2.00
Mild anemia	10-11	14	6.60
Normal	11-14	156	74.00
Abnormal	<14	27	17.50
Total	201		100.00
Unknown	19		8.60
Total	220		

Table 4: Frequency distribution of mother's knowledge on danger signs during pregnancy

Knowledge status	Number	Percent
Very good (Statement of 5 and more warning signs)	17	8.50
Good (Statement of 4 warning signs)	116	57.40
Average (Statement of 3 warning signs)	24	11.90
Weak (Statement of 2 warning signs)	42	20.90
Very weak (Statement of 1 sign and below warning signs)	2	1.00
The total number of respondents	201	100
Unknown	19	8.60
All mothers	220	100

and more specialized services (gynecologists), to make them complementary and to make the feedback appropriate and to be recorded in the maternal health file, it is recommended that the connection between these service-delivery units be established as an organization. This study shows that women's satisfaction with the health care was good or very good in 84% of cases. This result is better than the results of the study by Kojouri (74%) and the study by Charles (78%) (Danesh *et al.*, 2005; Khanjari *et al.*, 2006). Such health care have fundamental role in fetal and maternal health and the majority of women in this study are satisfied with it but despite being free and the high satisfaction with the services, the they did not have enough visits. Perhaps one problem is that people do not express their mind easily and hide their real feelings. The results of this research on mother's knowledge of danger signs during pregnancy show that 66% of them had good information. In other words, they could name at least 3 danger signs. The status of taking iron and multivitamin supplementation during pregnancy among women participating in this study shows better results compared to the study performed by Farahani Nia (Seyed *et al.*, 2007). The results also show that in the first trimester of the pregnancy 2% of women had moderate anemia and mild anemia. Table 4 was 6.6% which indicate lower levels than the results in the study by Ali-zadeh, Davari-Tanha, Sharifi and Farydana that may be due to the high intake of iron tablets during pregnancy in women in the present study (Charless and Denk, 2008; Farahaninia *et al.*, 2013; Namazi, 2012; D av aritanha *et al.*, 2005).

Other findings of the study indicate the accuracy of the information recorded in the file of the mothers. This study showed that the highest compliance of information recorded in the files of the mothers and their report on receiving the service was related to hearing the fetal heartbeat (95%) and the lowest compliance was related to eye, organs, face and skin examination (35.6%) which could be due to the belief of service providers regarding their importance. In this regard, the study by Goshtasebi shows that history taking, abdominal and edema examination are the components of pregnancy care which are provided undesirably. This is consistent with the results of the present study (Sharifi, 2012).

Given the importance of prenatal care on maternal and newborn health and considering the government facilities in villages and cities for this purpose and the economic nature of these services in the health system (Nikpour *et al.*, 2007; Toughyani *et al.*, 2008), more fundamental measures are required to increase the quantity and quality of these services. In this regard, Toghyani showed that using group discussion model, the awareness and practice of women in receiving prenatal care increased (Toughyani, 2008; Shtasbi *et al.*, 2008).

CONCLUSION

Although, one of the essential cares in the health care system is prenatal care, the findings of this study indicate problems such as irregular refer to health centers, failure to receive and record feedback from physicians, poor quality services and inappropriate attention to all components of the care for pregnant women. This study clearly offers the review of the system in urban centers, regular monitoring and evaluation of these centers and rural centers, cooperation of multi occupation forces (including social workers), checking the area and the equipment for providing the services and retraining courses for the technical personnel. Organizational relationship is recommended for specialized and scientific support between health centers and gynecologists for referral and appropriate feedback. Besides, it is suggested that on certain days at least one of the urban centers provide complementary services and expertise by a gynecologist.

LIMITATIONS

One of the problems in the data collection was that in many cases, the addresses had not been written precisely or there was change of address due to movement because of leased houses, sale of homes or moving to other cities which made finding the addresses of the women difficult. In this regard, shops and taxis in the neighborhoods were

questioned. Especially, neighborhood shops had detailed information on the status of the region's population and their properties and even their new address. Other notable aspect in this study was the family cooperation which was different in different areas of the city. Compared to other areas of the city, uncertainty in the Southern part of the city in answering the phone for a visit to the houses and taking the exact address was more and even in some cases the families did not respond.

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