

Nonadherence to Drug Therapy among Pregnant Women in Baghdad/Al-Karkh Directorate (2022)

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Abstract

Objectives: This aim of the study was to estimate the prevalence of noncompliance to medication in pregnant women in Al-Karkh directorate and to address its most common causes. **Methods:** A cross-sectional study was conducted at a number of primary health-care centers located in Baghdad/Al-Karkh directorate including pregnant women in their second and third trimesters through a self-filled questionnaire; data were later analyzed. **Results:** The results obtained from the present study revealed that 185 out of 306 participants (60%) of pregnant women were noncompliant or inadequately compliant with their medication, whereas the remaining 121 (40%) were properly compliant. The most common reasons for noncompliance included wrong use of drugs (38.4%), not understanding or knowing the benefits of drugs (30.3%), forgetting to take drugs (29.7%), or thinking that they were unsafe for the fetus (25.9%). **Conclusions:** Appropriate health education and enhancing doctor–patient relationship and communication during antenatal care visits are crucial to achieve better compliance.

Keywords: Baghdad, nonadherence to drug therapy, pregnant women

INTRODUCTION

The data available suggest that nonadherence to medicotherapy represents a similar problem in the pregnant population. Thirty-nine percent of pregnant women interviewed within 2 weeks after delivery with one or more drug prescriptions reported noncompliance during pregnancy. Causes included doubts about the safety or the need for medico therapy during pregnancy, fear of harmful side effects to the growing fetus, cessation of the symptom for which the drugs were taken, or the complaint is unrelieved despite adhering to medication. Moreover, another 40% of these women have had questions about drugs during their pregnancy mostly about their safety.^[1] Similarly, data from other studies one in Denmark and another in Australia showed that the compliance with prescription drugs in pregnant women was estimated to be 43% and 59.1%, respectively.^[2,3]

Forty-four percent of pregnant women in whom there was a high risk of developing preeclampsia and prophylactic aspirin was indicated, had non to inadequate adherence, and that resulted in a higher incidence of preeclampsia (17%).^[4] The issue of medication use during pregnancy represents a challenge because of the alteration in their pharmacokinetics,

and certain types can even reach the fetus and cause harm or teratogenic effects.^[5] Yet, they are necessary since a lot of pregnancy-related or nonrelated conditions require drug therapy and without it could lead to unfavorable outcomes of pregnancy such as gestational hypertension and preeclampsia which could end in fetal mortality without proper treatment.^[6]

And also regarding patient-related factors adherence to medication has been strongly linked to a person's belief about that medication.^[7] And even, if we ensured a sufficient level of education about high-risk conditions in pregnancy and the insisting need for drug therapy, there will still be an influencing belief of “general fear” from it.^[8] This reluctance to medication by pregnant women could result in profound outcomes which include termination of a desired pregnancy^[9] or result in

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Submitted: 26-Feb-2024 **Revised:** 20-Mar-2024

Accepted: 24-Mar-2024 **Published:** 27-Jun-2024

Access this article online

Quick Response Code:



Website:
www.journalijcm.org

DOI:
10.4103/IRJCM.IRJCM_5_24

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How to cite this article: Wasif MW, Abdul-Sahib HM. Nonadherence to drug therapy among pregnant women in Baghdad/Al-Karkh directorate (2022). IRAQI J COMMUNITY MED 2024;37:16-20.

suffering from nausea and vomiting in case of hyperemesis gravidarum and its negative impact on both the mother and the fetus from malnutrition to fetal growth restriction,^[10] it could also result in leaning toward herbal medications and other self-medication methods due to the belief that herbal medications are safer to the fetus than synthetic chemical ones despite there is no enough evidence on their safety and sustainability during pregnancy.^[11]

As it is the case with the general population, adherence to chronic medication in pregnancy has lower rates than that prescribed for acute conditions, 40% of pregnant females with chronic conditions (e.g., asthma, epilepsy, and inflammatory bowel diseases) do not adhere properly to their medication.^[12,13]

The aim of this study

Finding the prevalence of nonadherence to drug therapy during pregnancy among females in Al-Karhk directorate.

METHODS

This study was a cross-sectional study with an analytic element, conducted at a number of primary health care (PHC) centers located in the Baghdad/Al-Karkh directorate; all districts were included in our study and two PHC centers were chosen from each district by random sampling technique, to make a total of 20 PHC centers distributed between remote and central areas; self-administrated questionnaire was provided directly to the pregnant women and was collected by the researcher upon their completion; some of the questionnaires were explained and filled by the researcher for women whom were illiterate or had a poor understanding of the questions. The expected sample size for our study according to a single proportional formula was 200, but a total of 306 women participated in our study. The study took a period of 3 months from March 1, 2022, to May 30, 2022. During the study period, each center was visited one to two times.

Inclusion criteria

All women with confirmed pregnancy by blood or urine test, in their second or third trimester, who were attending the PHC centers included in this study during our visits to collect data. The participants were interviewed during pregnancy, thus reducing recall bias, and first-trimester pregnancies were excluded from our study to decrease the possibility of being interviewed in their first antenatal care visit when they still have not had any drugs prescribed.

Data collection tool

Data were collected by especially prepared questionnaire that was adopted from a similar study done in KSA,^[14] edited by the researcher and the supervisor, and revised by the Scientific Family and Community Medicine Department in Baghdad College of Medicine to collect the needed data.

Statistical analysis

Data tabulation, input, and coding were done by the use of IBM® SPSS® (Statistical Package for the Social Sciences) statistics version 23 (SPSS Inc., Chicago, IL, USA). The

Chi-square test was used to investigate the association between categorical variables. Multivariate binary logistic regression was used for investigating the odd's ratio for noncompliance among significantly associated variables. $P < 0.05$ was considered significant throughout data analysis.

Ethical Clearance Statement

Ethical approval for the study was provided by the ethical committee of iraqi board for medical specialization number 984 on 29 march 2022.

RESULTS

The results obtained revealed that 185 (60 %) of pregnant women were non-compliant or inadequately compliant with their medication while only 121 (40 %) were properly compliant. The Distribution of basic socio-demographic characteristics according to compliance is shown in table 1. There was a significant association between compliance and occupation of the husband. Among the 185 noncompliance women, there were 36 (19.5%) women attributed noncompliance due to taking too many drugs, 18 (9.7%) due to thinking that herbal drugs are better, 48 (25.9%) due to thinking that they were unsafe for the fetus, 55 (29.7%) due to forgetting to take drugs, 31 (16.8%) due to having difficulty in affording the medications, 34 (18.4%) due to developing side effects, 56 (30.3%) due to not understanding or knowing the benefits of drugs, and 71 (38.4%) due to the wrong use of drugs, as shown in Figure 1.

DISCUSSION

Nonadherence to medical therapy is a challenging problem in general population, yet it is even more complex issue in

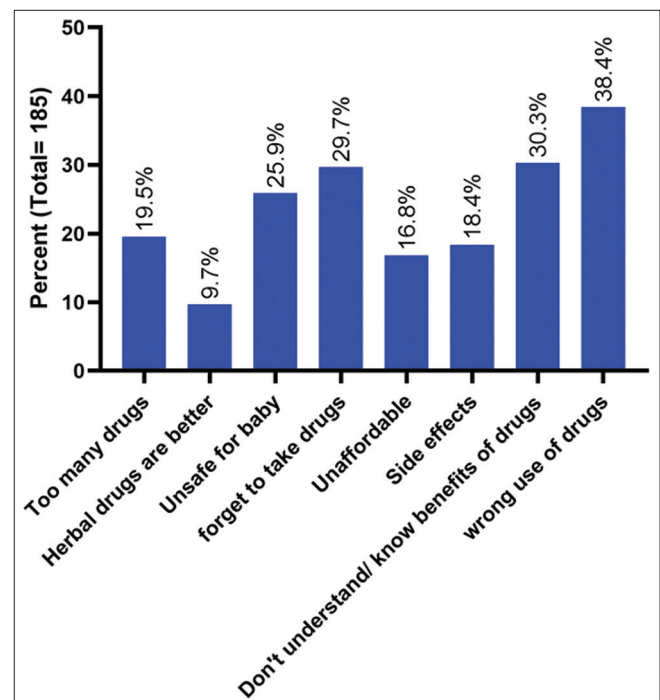


Figure 1: Causes for noncompliance as perceived by study participants

Table 1: Distribution of basic sociodemographic characteristics according to compliance

Variables	Compliant (n=121), n (%)	Noncompliant (n=185), n (%)	Total (n=306), n (%)	χ^2	P
Age groups (years)					
<25	17 (14)	32 (17.3)	49 (16)	4.86	0.302
25–29	56 (46.3)	69 (37.3)	125 (40.8)		
30–34	27 (22.3)	42 (22.7)	69 (22.5)		
35–39	9 (7.4)	26 (14.1)	35 (11.4)		
≥40	12 (9.9)	16 (8.6)	28 (9.2)		
Educational level					
Illiterate/read and write	16 (13.2)	16 (8.6)	32 (10.5)	3.17	0.367
Primary	13 (10.7)	29 (15.7)	42 (13.7)		
Intermediate/secondary	38 (31.4)	52 (28.1)	90 (29.4)		
Bachelor/higher	54 (44.6)	88 (47.6)	142 (46.4)		
Participant occupation					
Housewife	83 (68.6)	110 (59.5)	193 (63.1)	2.922	0.393*
Employed	35 (28.9)	70 (37.8)	105 (34.3)		
Student	2 (1.7)	3 (1.6)	5 (1.6)		
Health staff	1 (0.8)	2 (1.1)	3 (1)		
Husband occupation					
Not working	1 (0.8)	16 (8.6)	17 (5.6)	8.629	0.013
Freelancer	64 (52.9)	87 (47)	151 (49.3)		
Employed	56 (46.3)	82 (44.3)	138 (45.1)		
Residency					
Urban	68 (56.2)	116 (62.7)	184 (60.1)	4.567	0.102
Suburban	49 (40.5)	56 (30.3)	105 (34.3)		
Rural	4 (3.3)	13 (7)	17 (5.6)		
Parity					
0	32 (26.4)	35 (18.9)	67 (21.9)	4.722	0.193
1	33 (27.3)	53 (28.6)	86 (28.1)		
2	27 (22.3)	59 (31.9)	86 (28.1)		
≥3	29 (24)	38 (20.5)	67 (21.9)		

*Not significant

pregnancy due to changed pharmacokinetics of medicine and the well-recognized direct impact of medicotherapy on the mother and fetal well-being.^[12] So it is important to assess the attitude, awareness, and beliefs of pregnant women toward medications and that is the aim of our study. The Study interviewed a total of 306 pregnant women in their second and third trimester of pregnancy, and the results obtained revealed that 60% (185) of pregnant women were noncompliant or inadequately compliant with their medication, whereas only 40% (121) were properly compliant. This result goes with results from identical studies measuring the percentage of compliance among pregnant women where they found that noncompliance is a common problem in pregnancy and even more common than in general population due to pregnancy related factors such as fear from side effects of the drugs on the developing fetus,^[12] in Australia adherence was 48.8%,^[15] self-reported rate of nonadherence to medication was 64.92% in India,^[16] in another study in Denmark, an average of 43% of all drugs dispensed were reported to be used,^[2] and 59.9% of women in the KSA have chosen not to take medication during pregnancy.^[14] A literature review has described compliance ranging from 7% to 85%, the wide range of compliance can be attributed to the differences in the population studied,

their cultural thoughts and beliefs, and the exact definition of compliance and methodology.^[2]

Causes of noncompliance

Among the 40% noncompliant women, the highest rates of noncompliance were due to the wrong use of drugs (38.4%) which included taking the incorrect dose, taking a dose at the wrong time, and cutting off medicine too soon. While not understanding or knowing the benefits of drugs (30.3%), forgetting to take drugs (29.7%), or thinking that they were unsafe for the fetus (25.9%), which followed a similar trend in a cross-sectional study in India. The most common reasons for nonadherence among 79 women were unawareness about the usefulness of medicine (50%) and forgetfulness (50%).^[16] Forgetfulness was also reported as the most common type of nonadherence in another study.^[17] Moreover, fear of the harmful effects of drugs was one of the common causes in other studies in Indonesia (59.6%) out of 492 women.^[18]

Hence, it is important to ensure a good doctor–patient communication through focusing on consultation time cause at most instances. And due to over crowdedness at PHC

centers in rush hours, the physician cannot find enough time to explain the full aspects of the disease and the crucial role of medication at managing their condition and preventing its serious complications at some diseases and providing more knowledge about the safety of drugs for the pregnant mother to assure correct use of drugs and correct regimens. Communication is also important in increasing awareness about the necessity of certain medications during pregnancy because pregnant women tend to view the use of medicine in pregnancy differently compared to general population, and they often question the need for medication in pregnancy.^[11] A worthy to mention drug was the prophylactic aspirin that was indicated for certain cases at risk of developing preeclampsia but was noticed to have less compliance among other studied drugs mostly because the patients did not understand its benefit or they were not aware that consistently high blood pressure could be harmful for the baby that was also found in another study that proved better understanding and better compliance for aspirin after improving communication between the mother and the health-care provider.^[4] Another contributor to nonadherence was that pregnant women tend to overestimate the teratogenic effect of drugs during pregnancy,^[19] which was also found in our study (25.9%) and supported by another study in Indonesia where half of the participants (48.6%) were worried about a medication's teratogenic effect when they used it for long periods.^[17] Similarly, among 59 Canadian women, 60% of them (34% not using any medication and 26% using less than the recommended dose) had concerns about antiemetic medications and some preferred herbal remedies to manage their symptoms.^[20] Whereas our study revealed that only about 10% of noncompliant women preferred herbal medicine use over chemical drugs therapy, the rates were similar to the Saudi study where only (4%) reported using herbal medications but the rates were higher in other studies in Nigeria as 67.5% of pregnant women used herbal remedies during their pregnancy.^[21] Whereas the percentage was 70% in Bangladesh and only 23.5% admitted it to their physician.^[22] This was probably due to ineffectiveness of homemade remedies used by women in our study in managing symptoms compared to the Food and Drug Administration approved and effective herbal remedies consumed by pregnant women in the other studies.

Another important cause of nonadherence reported by 19.9% of noncompliant women in our study was the number of drugs prescribed by the physician; it was described by the patients as having too many drugs with some of them thought to be unnecessary by the pregnant women. This belief resulted from lack of trust in the doctor decision and poor communication. This result was also found in another study in Saudi Arabia where 57.9% of participants also thought that doctors prescribe a lot of unnecessary medications.^[14] Had a general belief that if their physicians spent more time listening to them in antenatal care visits, the number of drugs prescribed may decrease.^[17]

CONCLUSIONS

- More than half of women (60%) are not adequately compliant to their medications whether intentionally or unintentionally
- The most common reasons for noncompliance were wrong use of drugs, not understanding the benefits or importance of the drugs prescribed, forgetting to take them on time, and fear of their potential side effect on the growing fetus.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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