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The relationship between contraceptive usage and pregnancy and delivery related factors

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Abstract
The study aimed to examine the link between contraceptive usage and factors related to pregnancy and childbirth in Al-Karkh district, Baghdad.
Method: Employing a descriptive cross-sectional design, the research focused on contraceptive practices among married women visiting primary healthcare centers. Data was gathered from September 2022 to February 2023 using anonymous, self-administered questionnaires, capturing socio-demographic details and obstetric history. The results, based on a sample of 500 married women from Baghdad's Al-Karkh district, revealed that 60.6% were utilizing contraceptives for family planning. Key factors influencing contraceptive use were identified as the number of pregnancies, the gap between deliveries, and the number of living children. The study also highlighted a significant correlation between residency, duration of marriage, abortion history, and the reasons for selecting current family planning methods. Moreover, the source of information on family planning showed significant associations with the number of pregnancies, number of living children, and contraceptive use. In conclusion, understanding the determinants of contraceptive use among married women is crucial for enhancing family planning initiatives and advancing maternal and child health. Addressing challenges like knowledge gaps, accessibility, cultural norms, and male participation is key to boosting contraceptive adoption. Educational and supportive measures empower women and their partners to make informed decisions about reproductive health, fostering healthier families and communities.

Keywords: The relationship, contraceptive, usage, pregnancy, delivery, factors

Introduction
Due to increasing birth rates, emerging nations' populations are expanding quickly, posing serious social and economic problems. This fast population expansion is linked to several factors, including short life spans and un-favourable economic situations. Among medical therapies, contraception stands out for its wide variety of advantages [1-4], as it is a successful way of family planning (FP) and fertility control that also plays a key role in enhancing the health of women and children [5]. Because fewer unintended pregnancies have occurred as a result of increased contraceptive usage in developing countries, maternal mortality has decreased by 40% over the previous 20 years [6]. Around 4.7 million European women aged 15-49 are at risk of an unexpected pregnancy [7, 8], and more than half of the 6.3 million pregnancies in the United States are unintentional despite the availability of multiple highly effective contraceptive methods. Using contraception averts more than 230 million births yearly [8] and 272,040 maternal deaths worldwide [9]. Access to modern contraceptive techniques has expanded, which has contributed significantly to the steep drop in worldwide fertility rates from 4.7 births per woman in the early 1970s to 2.6 births per woman in the late 2000s [10]. As a consequence, more and more women are looking for methods to put off or prevent becoming pregnant, especially in developing nations. Up to 283 million unwanted conceptions and 1.8 million infant and mother deaths may be avoided each year if developing nations met this requirement [11–13]. In 2014, 44% of married women in the Arabian area used a contemporary method of contraception [14]. In 2016, Jordan (11.9%), Egypt (12.2%), and Saudi Arabia (24.1%) still had unmet family planning needs [15]. The unmet demand for family planning among married women in Iraq was 22.8% in 2011–2012, and it is expected to reach 28% for contemporary techniques in 2016 [15], according to the Iraqi Women Integrated Social and Health Survey (I-WISH). The usage of contraceptives is influenced by a number of socioeconomic and demographic characteristics, but women's job level is one that matters most.

According to studies, women's employment position has a significant impact on whether or not they take contraceptives [16, 17]. This is because women who hold economic roles have more autonomy and influence over important choices. Because of their fast population expansion, many emerging nations find it difficult to meet demand. In many countries, unchecked fertility affects political stability and impedes economic progress. Therefore, limiting population growth is a top priority for nations hoping to raise the level of living and general well-being of their populace. In an effort to help spread out children and lower family sizes, the World Health Organization (WHO) and UNICEF [18, 19] have pushed family planning as a basic health care service. The study's objective is to evaluate the association between parameters linked to pregnancy and delivery and the use of contraceptives.

Methods

The research was carried out in the Iraqi capital city of Baghdad's Al-Karkh area. With a population anticipated at 7,711,305 in 2023, Baghdad has the highest population density in the nation and occupies an area of 204.2 km². major health care centres (PHCCs) in Iraq are the major providers of primary healthcare services. They serve the fundamental medical requirements of the population and raise awareness of health issues by providing preventative, curative, and basic diagnostic services. There are 10 health sectors in the Al-Karkh area, and this research includes eight PHCCs. The target population included all married women in the Al-Karkh area (15–49 years old) who visited the PHCCs for medical, child health, and immunization services throughout the research period. Unmarried or disobedient women were not allowed. Descriptive cross-sectional design was used in the research, which took place between September 1, 2022, and February 28, 2023. A sample was chosen using a multistage cluster sampling approach from each of the 10 PHC sectors and their corresponding PHCCs. To find out how many women were using the centre and to get permission to conduct the research, administrators at each PHCC were contacted. Interviews were conducted in peaceful settings using a methodical random sample procedure based on each PHCC's daily attendance. Data on sociodemographic traits, including participants' age, spouses' age, marital status, length of marriage, usage of contraception, place of residence, degree of education, and employment, were gathered by the questionnaire. Inquiries concerning obstetrical history, including the number of pregnancies, the time between them, the number of abortions, and the number of surviving and deceased children, are covered in the second section of the questionnaire. A 2012 research on the dynamics of contraceptive usage among married women visiting primary health care centres in Mosul, Iraq, provided the basis for the questionnaire [20]. A self-administered questionnaire that the researcher filled out was used to gather data, and participant confidentiality was preserved. Over the course of six months, the researcher spoke with participants in Arabic four hours a day, five days a week. In a quiet setting, participants had 30 minutes to complete the questionnaire. With the assistance of an academic supervisor and a consulting statistician, data were coded, given a serial number, and put into SPSS version 26. Frequency, percentage, mean, standard deviation, and range were used to analyse the data. To determine the statistical significance of differences in qualitative data, the Pearson Chi-square test, Yate's correction, or Fisher Exact test were used. A P value of 0.05 or below was considered statistically significant.

Results

500 married, childbearing women from the Baghdad Al-Karkh area were included in this research. Figure 1 illustrates that 237 (47.0%) of the participants were between the ages of 30-39, 140 (28.0%) were between the ages of 25 and 29, 77 (16.0%) were between the ages of 40 and 49, and 46 (9.0%) were younger than 25.

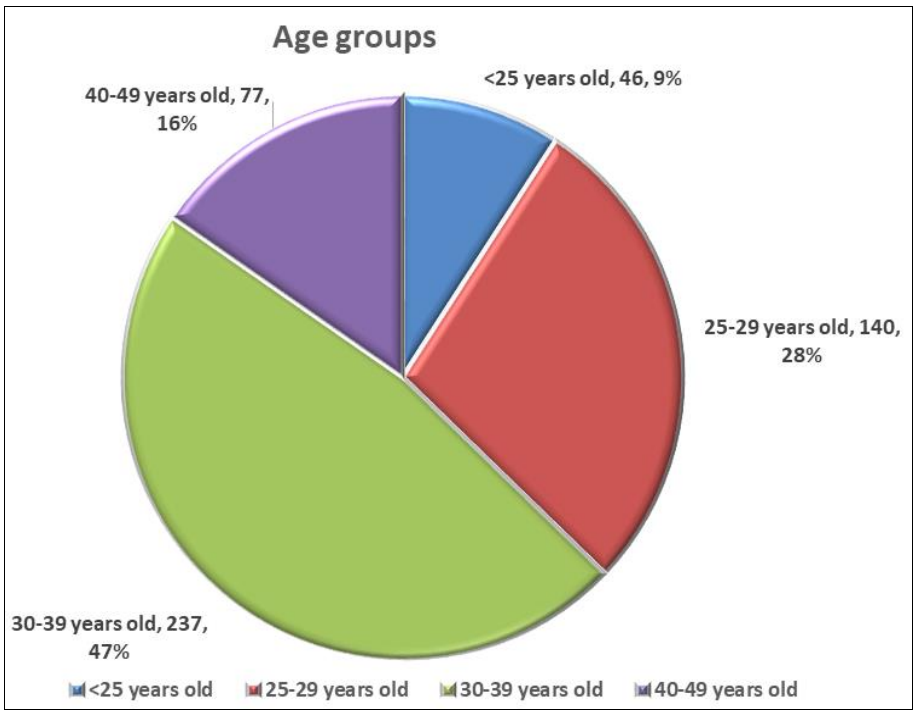

Fig 1: The distribution of the participant according to age groups

Similarly, table 1 demonstrates that the majority of women's husbands (242, 48.4%) were between the ages of 30 and 39; these were followed by 120 (24.0%) who were between the ages of 40 and 49; 89 (17.8%) who were between the ages of 25 and

29; 36 (7.2%) who were over the age of 50; and only 13 (2.6%) of the participant's husbands who were under the age of 25. Of the participants, 152 (30.4%) had been married for less than five years, 100 (20.0%) had been married for more than fifteen years, and 49.6% had been married between five to fourteen years. Of them, 412 (82.4%) were unemployed, and 350 (70.0%) were living in urban areas (Table 1). Table 1 indicates that of the participants, the majority (70%) were from the region. Of them, 221 (44.2%) had completed college and higher education, 203 (40.6%) had completed secondary education, 60 (12.0%) had completed elementary education, and 16 (3.2%) were illiterate.

Table 1: Demographic characteristics of participants (N=500)

		No	%
Husband age	<25	13	2.6
	25-29	89	17.8
	30-39	242	48.4
	40-49	120	24.0
	>50	36	7.2
Years since married	<5	152	30.4
	5-≤14	248	49.6
	≥15	100	20.0
Employment	working	88	17.6
	not working	412	82.4
Education	illiterate	16	3.2
	primary	60	12.0
	secondary	203	40.6
	Collage and higher education	221	44.2
Residence	urban	350	70.0
	rural	150	30.0

Of the individuals, 151 had two pregnancies, over one-third (19.4%) had three, 94 (18.8%) had four, 84 (16.8%) had five or more, 49 (9.8%) had one pregnancy, and 25 (5.0%) had no pregnancies at all (Table 2). Table 2 displays the percentage of participants who stated that the time between their last delivery was 2 years or more, 1 to 2 years, and less than 1 year. Of these, 261 (52.2%) mentioned that it had been 2 years or more, 114 (22.8%) mentioned that it had been 1 to 2 years, and 52 (10.4%) mentioned that it had been less than 1 year. Over half of the participants-258 (51.6%) had one or two children, 170 (34.0%) had three or four children, 43 (8.6%) had five or more children, and as was already indicated, 29 (5.8%) were childless. A third, or 158 people, (31.6%) had previously had an abortion, and 47 people (9.4%) had lost a child (Table 2).

Table 2: Pregnancy and delivery various variables of the participants (N=500).

		No	%
Number pregnancy	Not pregnant at all	25	5.0
	1	49	9.8
	2	151	30.2
	3	97	19.4
	4	94	18.8
	≥5	84	16.8
Interval between last 2 deliveries	<1	52	10.4
	1≤2	114	22.8
	>2	261	52.2
	Have one baby only	46	9.2
	Have no child	27	5.4
Number living children	No children	29	5.8
	1-2	258	51.6
	3-4	170	34.0
	≥5	43	8.6
History abortion	Yes	158	31.6
	No	342	68.4
Died child	Yes	47	9.4
	No	453	90.6
Total		500	100

303 women, or around two thirds, of the participants reported using contraceptive methods for family planning. As shown in figure 2, 81 (16.2%) of them said that they were using family planning methods in the past but were not using them at the moment, while 116 (23.2%) of them stated that they are not utilizing any sort of approach at all.

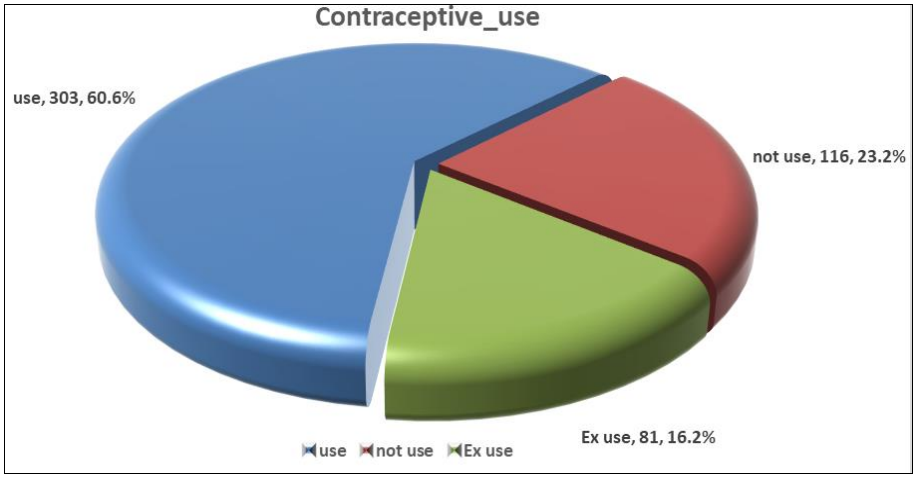

Fig 2: The distribution of the family planning contraception using among participants

Table 7 indicates that the use of family planning method as the method of not getting pregnant at all was significantly associated with not using contraception, compared to pregnancies that were two years or older and were associated with using and not using contraceptive methods. This association was found to be statistically significant, with a p value of 0.0001. Similarly, the time interval between the previous two deliveries was found to be statistically associated with the use of contraception; individuals who had only one child or no children were linked to not using contraception, whereas individuals who had more than one delivery been typically linked to using contraception; table 7 illustrates this relationship (P=0.0001). Additionally, table 7 indicates that participants' knowledge of the additional benefit of using contraception-namely, protection against sexually transmitted diseases—was associated with the use of contraception (P=0.032). The number of children associated

with the use of contraception also revealed that those without children were associated with not using contraception, compared to those with more than one child who were associated with using contraception and not using it at all. Since the p value was greater than 0.05, it was determined that a history of abortion and a deceased child were not linked to the use of contraception (Table 3).

Table 3: The association of the contraception use with the pregnancy and delivery related variables.

		Contraceptive use						*P value
		Use		Not use		Ex use		
		No=303	%	No=116	%	No=81	%	
Number pregnancy	Not pregnant at all	3	1.0	22	19.0	-	-	0.0001
	1	28	9.2	14	12.1	7	8.6	
	2	105	34.7	30	25.9	16	19.8	
	3	66	21.8	13	11.2	18	22.2	
	4	54	17.8	19	16.4	21	25.9	
	≥5	47	15.5	18	15.5	19	23.5	
Interval between last 2 deliveries	<1	46	15.2	3	2.6	3	3.7	0.0001
	1-2	88	29.0	16	13.8	10	12.3	
	>2	139	45.9	61	52.6	61	75.3	
	have one baby only	27	8.9	12	10.3	7	8.6	
	have no child	3	1.0	24	20.7	-	-	
Number living children	no children	5	1.7	24	20.7	-	-	0.0001
	1-2	162	53.5	59	50.9	37	45.7	
	3-4	114	37.6	23	19.8	33	40.7	
	≥5	22	7.3	10	8.6	11	13.6	
History abortion	yes	93	30.7	42	36.2	23	28.4	0.441
	no	210	69.3	74	63.8	58	71.6	
Died child	yes	30	9.9	8	6.9	9	11.1	0.543
	no	273	90.1	108	93.1	72	88.9	
Knowledge other benefit of family planning	Improvement of health	93	30.7	26	22.4	23	28.4	0.032
	Protection against cancer	7	2.3	3	2.6	1	1.2	
	Prevention of sexually transmitted disease	30	9.9	3	2.6	3	3.7	
	No idea	173	57.1	84	72.4	54	66.7	
*Chi square								

Table 4 show that there was significant statistically association between the reason for using current method of family planning with each of (number of pregnancies, interval between the last 2 deliveries, number of living children, history of abortion and died child) as p value was (0.0001, 0.0001, 0.0001, 0.001, 0.040) respectively as shown in table 9.

Table 4: The association of the reason for using current family planning method with the pregnancy and delivery various variables.

		Reason for using current method				P value
		Economic N=34 (%)	Physician advice N=28	Do not want to have children N=146 (%)	For child spacing N=95 (%)	
Number of pregnancies	Not pregnant at all	3 (8.8%)	-	-	-	0.0001
	1	6 (17.6%)	1 (3.6%)	-	21 (22.1%)	
	2	11 (32.4%)	4 (14.3%)	34 (23.3%)	56 (58.9%)	
	3	7 (20.6%)	3 (10.7%)	47 (32.2%)	9 (9.5%)	
	4	5 (14.7%)	6 (21.4%)	36 (24.7%)	7 (7.4%)	
	>=5	2 (5.9%)	14 (50.0%)	29 (19.9%)	2 (2.1%)	
Interval between last 2 deliveries	<1	4 (11.8%)	5 (17.9%)	18 (12.3%)	19 (2.0%)	0.0001
	1<=2	13 (38.2%)	4 (14.3%)	36 (24.7%)	35 (36.8%)	
	>=2	8 (23.5%)	19 (67.9%)	92 (63.0%)	20 (21.1%)	
	Have one baby only	6 (17.6%)	-	-	21 (22.1%)	
	Have no child	3 (8.8%)	-	-	-	
Number of living children	No children	4 (11.8%)	1 (3.6%)	-	-	0.0001
	1-2	20 (58.8%)	8 (28.6%)	51 (34.9%)	83 (87.4%)	
	3-4	8 (23.5%)	13 (46.4%)	81 (55.5%)	12 (12.6%)	
	>=5	2 (5.9%)	6 (21.4%)	14 (9.6%)	-	
History abortion	yes	7 (20.6%)	14 (50.0%)	54 (37.0%)	18 (18.9%)	0.001
	no	27 (79.4%)	14 (50.0%)	92 (63.0%)	77 (81.1%)	
Died child	yes	-	6 (21.4%)	16 (11.0%)	8 (8.4%)	0.040
	no	34 (100%)	22 (78.6%)	130 (89.0%)	87 (91.6%)	
*Significant difference between different percentages using Pearson Chi-square test (χ^2-test) at 0.05 level						

The reason for using the current family planning method was found to be significantly correlated with residency, years since marriage, number of pregnancies, interval between the last two deliveries, number of living children, and history of abortion, according to a logistic regression analysis as presented in Table 5. The p values for these variables were (0.001, 0.0001, 0.0001,

0.0001, 0.026, and 0.037), respectively.

Table 5 indicates that the reasons for using the present family planning technique were not significantly correlated with the age of the participants, husband's age, educational attainment, employment, death of a child, or family planning method, as the p value was more than 0.05.

Table 6 indicates that there was a significant correlation (P=0.0001) between the number of pregnancies and the source of information about family planning methods. Additionally, the number of living children was found to be significantly correlated with the source of information that participants with 1-2 children were primarily associated with, as opposed to those with 3-4 children, who were primarily associated with friends and relatives, the internet, and the media. This correlation was statistically significant, as indicated by Table 13, where the p value was less than 0.05. Additionally, there was a strong correlation (p = 0.004) between the usage of contraceptives and the source of information regarding family planning methods. While the p value was higher than 0.05, it was discovered that the history of abortion, the gap between the past two births, and the deceased child were not significantly correlated with the information source (Table 6).

Table 6: The association of the source of information about family planning with pregnancy and delivery multiple variables.

		Source of knowledge source of information					*P value
		Media N=29 (%)	Internet N=94 (%)	Friends \ relatives N=102 (%)	Health professionals N=155 (%)	Others N=4 (%)	
Number of pregnancy	Not pregnant at all	-	3 (3.2%)	-	-	-	0.0001
	1	5 (17.2%)	13 (13.8%)	5 (4.9%)	11 (7.1%)	1 (25.0%)	
	2	11 (37.9%)	37 (39.4%)	24 (23.5%)	47 (30.0%)	2 (50.0%)	
	3	8 (27.6%)	19 (20.2%)	19 (18.6%)	38 (24.5%)	-	
	4	4 (13.8%)	18 (19.1%)	26 (25.5%)	27 (17.4%)	-	
	>=5	1 (3.4%)	4 (4.3%)	28 (27.5%)	32 (20.6%)	1 (25.0%)	
interval_between_last2deliveries	<1	5 (17.2%)	13 (13.8%)	10 (9.8%)	21 (13.5%)	-	0.053
	1<=2	6 (20.7%)	28 (29.8%)	31 (30.4%)	32 (20.6%)	1 (25.0%)	
	>=2	13 (44.8%)	38 (40.4%)	56 (54.9%)	91 (58.7%)	2 (50.0%)	
	have one baby only	5 (17.2%)	12 (12.8%)	5 (4.9%)	11 (7.1%)	1 (25.0%)	
	have no child	-	3 (3.2%)	-	-	-	
Number living children	no children	-	5 (5.3%)	-	-	-	0.0001
	1-2	17 (58.6%)	55 (58.5%)	43 (42.2%)	81 (52.3%)	3 (75.0%)	
	3-4	11 (37.9%)	34 (36.2%)	45 (44.1%)	57 (36.8%)	-	
	>=5	1 (3.4%)	-	14 (13.7%)	17 (11.0%)	1 (25.0%)	
History abortion	yes	5 (17.2%)	23 (24.5%)	40 (39.2%)	48 (31.0%)	-	0.050
	no	24 (82.8%)	71 (75.5%)	62 (60.8%)	107 (69.0%)	4 (100%)	
Died child	yes	2 (6.9%)	10 (10.6%)	15 (14.7%)	12 (7.7%)	-	0.390
	no	27 (93.1%)	84 (89.4%)	87 (85.3%)	143 (92.3%)	4 (100%)	
Contraceptive use	use	25 (86.2%)	74 (78.7%)	69 (67.6%)	133 (85.8%)	2 (50.0%)	0.004
	Ex use	4 (13.8%)	20 (21.3%)	33 (32.4%)	22 (14.2%)	2 (50.0%)	
*Significant difference between different percentages using Pearson Chi-square test (χ^2-test) at 0.05 level							

Discussions

The present research emphasises how crucial it is to consider variables like age, education level, length of marriage, and place of residence when analysing married women's usage of contraception. The majority of women taking contraceptives are between the ages of 30-39. This might be because they have finished having children, have more incomes than younger women, or have completed their education [21]. Due to things like ignorance, lack of access to contraception, or cultural obstacles, younger women under 25 may utilize contraceptives at a lesser rate [22]. Education level matters; the use of contraceptives is correlated with greater levels of education [23]. Contraceptive usage is also influenced by the length of marriage; women who have been married for more than 15 years are more likely to favour it than those who have only been married for 5 to 15 years [24]. Compared to women in rural regions, urban women often use contraception more frequently and have greater access to health services [25]. The number of children still alive and the time between the last two births might affect the usage of contraception. Some women may not feel as strongly that they need contraception because of cultural or religious beliefs, while other women may feel less of a need for it [26]. Two years between pregnancies shows that many women spread out their pregnancies using contraception [27]. The fact that 31.6% of participants had previously had an abortion emphasises how crucial access to reliable contraception is to avoiding unwanted births. Two-thirds of married women in the sample said they now use contraceptives for family planning, making up the majority of the population. But over one-third said they didn't use any family planning techniques, which may indicate ignorance or access issues [28]. Furthermore, 16.2% of respondents said they had previously used contraceptives but do not now [29]. This might be because of things like side effects, difficulties getting access to contraception, or unhappiness with a specific technique. The desire to get pregnant (54.8%), pressure from spouses (12.7%), being pregnant already (9.1%), and lack of understanding about family planning techniques (2%) are some of the many and complicated reasons why people choose not to use family planning methods [30–33]. Although nursing mothers have safe and efficient choices, lactation may still be a barrier [34]. By removing these obstacles and include men in family planning conversations, we can encourage the use of contraceptives and enhance the health of mothers and their children.

Conclusion

In summary, it is critical to comprehend the many variables impacting married women's use of contraceptives in order to support family planning and enhance the health of mothers and children. Important considerations to consider include age, education level, length of marriage, place of residence, number of living children, and time between previous two deliveries.

Increasing the use of contraceptive techniques requires addressing factors that hinder their use, such as cultural views, lack of understanding, access, and male engagement in family planning. Policymakers and healthcare professionals may empower women and their partners to make educated decisions about their reproductive health, which will eventually result in healthier families and communities, by offering them support, knowledge, and education.

Conflict of Interest
Not available

Financial Support
Not available

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