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Association between sociodemographic characteristics and contraception use in Al-Karkh district of Baghdad city

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Abstract

High fertility rates in underdeveloped nations are connected to poverty and shorter lifespans, which creates economic and social problems. Contraception improves women's and children's health via family planning and fertility control. The aim of the study is to assess the Association between sociodemographic characteristics and contraception use in Al-Karkh district of Baghdad city. This study in Al-Karkh district of Baghdad, Iraq, used a descriptive cross-sectional design to examine contraceptive use among married women of childbearing age attending primary health care centers. Conducted between September 2022 and February 2023, the study employed a multistage cluster sampling technique and a questionnaire adapted from a 2012 study. Data were collected through self-administered questionnaires, maintaining participant anonymity. The study included 500 married women in the Baghdad Al-Karkh district, analyzing their age, husband's age, education, and contraceptive use. The majority (60.6%) used contraceptive methods for family planning. A significant association was found between contraceptive use and participants' education level, marriage duration, and employment status. The number of pregnancies, the interval between deliveries, and the number of children also significantly correlated with contraceptive use. In conclusion, The study highlights the impact of socio-demographic factors on family planning and contraceptive use. Context-specific interventions addressing age, residency, education, and employment status disparities are necessary to improve contraceptive access, and reproductive health outcomes, and support informed family planning decisions, ultimately enhancing maternal and child health.

Keywords: Association, Sociodemographic, Characteristics, Contraception, Al-Karkh district, Baghdad city

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Introduction

The rapid population growth in developing countries presents significant economic and social challenges, as high fertility rates are linked to poor economic conditions and shorter life spans. Contraception offers numerous benefits and serves as an effective method for family planning and fertility management, contributing to improved women's and children's health [1]. Increased contraceptive use in poorer countries has led to a 40% reduction in maternal mortality over the past two decades [2].

However, millions of women worldwide are still at risk of unplanned pregnancies [3-5]. The global decline in fertility rates from the early 1970s to the late 2000s is primarily due to increased access to modern contraception methods [6]. Meeting the demand for contraception in developing countries could prevent millions of unwanted pregnancies and save lives [7-9]. In 2014, 44% of married women in the Arabian region used a modern form of contraception [10], but unmet demand for family planning remains high in many countries [11]. Socioeconomic and demographic factors influence contraceptive use, with women's employment status playing a particularly significant role [12, 13].

As employment provides women with greater independence and decision-making power, studies have found a strong correlation between women's employment and contraceptive use. High population growth strains resources in developing countries, hindering economic growth and threatening political stability. As a result, many nations are focusing on curbing population growth to improve living standards and quality of life. Organizations like the World Health Organization (WHO) and UNICEF [14, 15] promote family planning as a core healthcare service to help manage fertility rates and reduce family sizes. The aim of the study is to assess the Association between sociodemographic characteristics and contraception use in Al-Karkh district of Baghdad city.

Methods and Patients

This study was conducted in Al-Karkh district of Baghdad city, the capital of Iraq. Baghdad has a high population density, covering an area of 204.2 km², and its population in 2023 was estimated at 7,711,305, making it the country's largest city. Primary health care services in Iraq are provided through primary health care centers (PHCCs), which offer preventive, curative, and basic diagnostic services, covering the essential needs of the community and promoting health awareness. In Al-Karkh district, there are ten health sectors, with eight PHCCs included in this study. The target population included all married women of childbearing age (15-49 years) attending the PHCCs for vaccination, child health, and medical services in Al-Karkh district during the study period. Women who were

uncooperative or unmarried were excluded. The study employed a descriptive cross-sectional design conducted between September 1st, 2022, and February 28th, 2023. A multistage cluster sampling technique was used to select a sample from the ten PHC sectors and their respective PHCCs. Administrators at each PHCC were contacted for information about the number of women attending the center and to obtain permission to conduct the study. Interviews took place in quiet locations, with a systematic random sampling technique based on the daily attendance of each PHCC. The questionnaire collected data on socio-demographic characteristics, such as participants' age, husband's age, marital status, duration of marriage, contraception use, residence, education level, and occupation. The questionnaire was adapted from a 2012 study on contraceptive use dynamics among married women attending primary health care centers in Mosul city, Iraq [16]. Data were collected using a self-administered questionnaire filled out by the researcher, with participant anonymity maintained. The researcher communicated with participants in Arabic, working five days a week for four hours a day over six months. Participants were given 30 minutes to complete the questionnaire in a calm environment. Data were coded, assigned a serial number, and entered into SPSS version 26 with the help of an academic supervisor and a consultant statistician. Data were analyzed using frequency, percentage, mean, standard deviation, and range. Pearson Chi-square test, Yate's correction, or Fisher Exact test was applied to assess the significance of differences in qualitative data, considering a P value of 0.05 or less as statistically significant.

Results

This study enrolled 500 married women at bearing age in the Baghdad Al-Karkh district. The majority of them 237 (47.0%) age were between 30-39 years old, followed by 140 (28.0%) of participants age were between 25-29 years old, 77 (16.0%) aged between 40-49 years old, and 46 (9.0%) were younger than 25 years old as shown in figure 1.

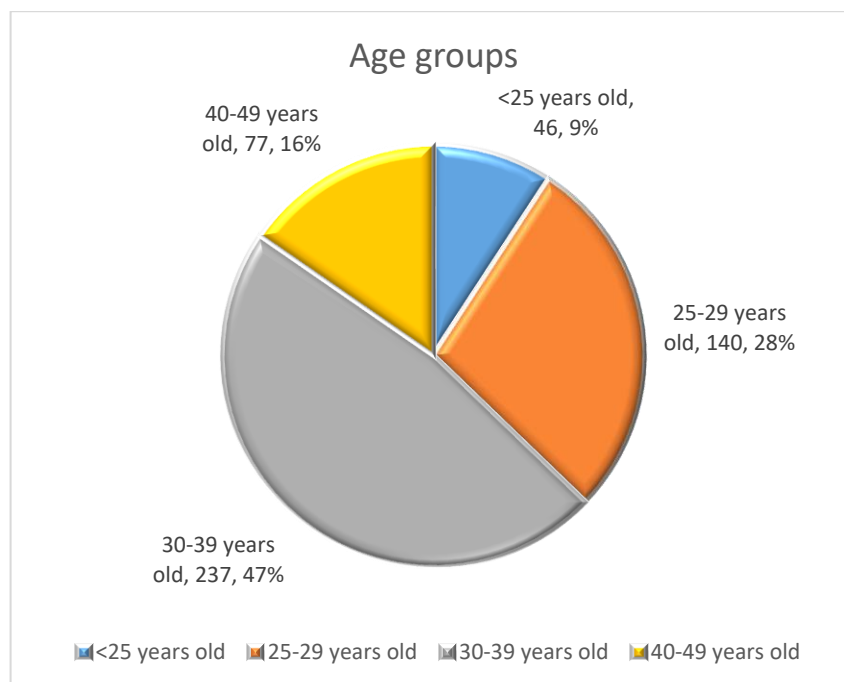


Figure 1.

The distribution of the participant according to age groups.

In the same manner, table 1 show that the majority of the women husbands were between 30-39 years old (242, 48.4%) followed by 120 (24.0%) were aged between 40 to 49 years old, 89 (17.8%) between 25-29 years old, 36 (7.2%) age more than 50 years old and only 13 (2.6%) of the participant's husbands age were below 25 years old as shown in table 1. About half of the participants (49.6%) were married 5-14 years ago, 152 (30.4%) were married less than 5 years, and 100 (20.0%) of the participants were married for more than 15 years. The vast majority of them 412 (82.4%) were not working and 350 (70.0%) of them were live in urban areas (Table 1). Regarding participant's education level, 221 (44.2%) of them had college e and higher education level, 203 (40.6%) had a secondary educational level, 60 (12.0%) had d primary school education level and 16 (3.2%) were illiterate also most of them from area (70%) as shown in table 1.

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

About one-third 151 of the participants had 2 pregnancies, 97 (19.4%) had 3 pregnancies, 94 (18.8%) had 4 pregnancies, 84 (16.8%) had 5 or more pregnancies, 49 (9.8%) had 1 pregnancy and 25 (5.0%) didn't get pregnant at all (Table 2). The interval between the last deliveries was 2 years and above as mentioned by 261 (52.2%) of the participants, 1 to 2 years was mentioned by 114 (22.8%) of the participants, and less than 1 year mentioned by 52 (10.4%) of them respectively, while 46 (9.2%) of the participants mentioned that they had only one child and 29 (5.8%) didn't have children as shown in table 2. More than half of the participants 258 (51.6%) had 1-2 children, 170 (34.0%) had 3-4 children, 43 (8.6%) had more than 5 children and as mentioned above 29 (5.8%) didn't had children. About one-third 158 (31.6%) had a history of abortion and 47 (9.4%) had died 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

About two third of the participants women 303 (60.6%) mentioned that they are using contraceptive methods for family planning. While 116 (23.2%) of them reported that they are not using any kind of family planning method at all and the rest 81 (16.2%) reveals that they were using family planning method previously but not in the time being as shown in figure 2.

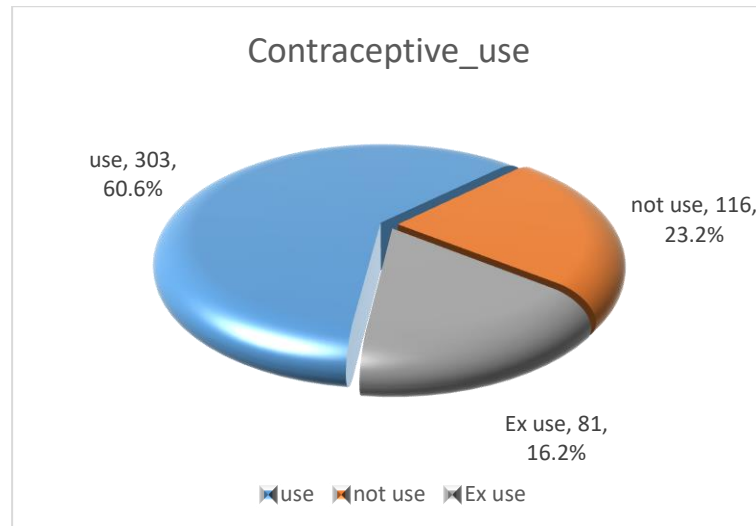


Figure 2.

The distribution of family planning contraception use among participants.

Table 3 shows that there was a significant association between using of family planning contraception methods with the level of participant's education, as we can see that highly educated participants had a high percentage of using family planning methods in comparison with the secondary and primary school education level whom mostly ex-users or not use family planning at all and this association was significant with a p-value of less than 0.05 (Table 3). In the same manner, married duration was found to be related to the use of family planning, those married duration less than 5 years found to be not used contraceptive methods mostly compared to those married 5-14 years who mostly use contraceptive methods while old married women mostly found to be ex-users and this relation was statistically significant ($P=0.044$), also, working women found to use contraception methods significantly in comparison not working women who mostly ex-users or not used contraception at all ($P=0.0001$) as shown in table 6. While the age of the women, and their husband age and residency were found to be insignificantly associated with the use of the family planning method as the p-value was found to be more than 0.05 (Table 3).

Table 3.

The association of socio-demographic characteristics according to contraception use.

		Contraceptive use						*P value
		Use		Not use		Ex use		
		No=303	%	No=116	%	No=81	%	
Age group	<25	22	7.3	17	14.7	7	8.6	0.141
	25-29	91	30.0	27	23.3	22	27.2	
	30-39	150	49.5	51	44.0	36	44.4	
	40-49	40	13.2	21	18.1	16	19.8	
Husband age	<25	7	2.3	6	5.2	-	-	0.470
	25-29	55	18.2	21	18.1	13	16.0	
	30-39	152	50.2	53	45.7	37	45.7	
	40-49	69	22.8	28	24.1	23	28.4	
	>50	20	6.6	8	6.9	8	9.9	
Residency	Urban	219	72.3	79	68.1	52	64.2	0.325
	Rural	84	27.7	37	31.9	29	35.8	
Education	Illiterate	8	2.6	4	3.4	4	4.9	0.0001
	Primary	29	9.6	17	14.7	14	17.3	
	Secondary	78	25.7	75	64.7	50	61.7	
	Collage and higher education	188	62.0	20	17.2	13	16.0	
Years of married	<5	86	28.4	46	39.7	20	24.7	0.044
	5-14	160	52.8	50	43.1	38	46.9	
	>=15	57	18.8	20	17.2	23	28.4	
Employment	working	76	25.1	5	4.3	7	8.6	0.0001
	not working	227	74.9	111	95.7	74	91.4	

*Chi-square test

Table 4 shows there was a significant association between number of pregnancy and the use of family planning method as that not pregnant at all was significantly associated with the not used of contraception compare to 2 and above pregnancies that associated with the use and ex uses of contraceptive methods and this association was found to be statistically significant as p-value was 0.0001 as shown in table 4. In the same manner, the interval between the last 2 deliveries was found to be statistically associated with contraceptive use, that participants with one baby only and those with no child associated with not using contraception compared to participants with more than 1 delivery usually associated with the use of contraception while those with more than 2 deliveries associated with ex use of contraception (P=0.0001) as shown in table 4. Also, the number of children associated with the use of contraception, showed that participants with no children were associated with the not use of contraception compared with those with more than 1 child associated with the use of contraception, and ex uses of contraception as p-value was less than 0.05, also the knowledge of the participants about the other benefit of contraception use that protection against sexually transmitted disease associated with the use of contraception (P=0.032) as shown in table 7. History of abortion and dead child was found to be not associated with the use of contraception as the p-value was more than 0.05 (Table 4).

Table 4.

The association of 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 5.

The association of the socio-demographic features with the reason for family planning use.

		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 (%)	
Age	<25	6 (17.6%)	4 (14.3%)	2 (1.4%)	10 (10.5%)	0.0001
	25-29	12 (35.5%)	2 (7.1%)	20 (13.7%)	57 (60.0%)	
	30-39	15 (44.1%)	18 (64.3%)	89 (61.0%)	28 (29.5%)	
	40-49	1 (2.9%)	4 (14.3%)	35 (24.0%)	-	
Husband age	<25	1 (2.9%)	2 (7.1%)	1 (0.7%)	3 (3.2%)	0.0001
	25-29	12 (35.3%)	2 (7.1%)	6 (4.1%)	35 (36.8%)	
	30-39	16 (47.1%)	14 (50.0%)	68 (46.6%)	54 (56.8%)	
	40-49	4 (11.8%)	9 (32.1%)	53 (36.3%)	3 (3.2%)	
	>50	1 (2.9%)	1 (3.6%)	18 (12.3%)	-	
Residency	urban	20 (58.8%)	11 (39.3%)	113 (77.4%)	75 (78.9%)	0.0001
	rural	14 (41.2%)	17 (60.7%)	33 (22.6%)	20 (21.1%)	
education	illiterate	1 (2.9%)	2 (7.1%)	3 (2.1%)	2 (2.1%)	0.0001
	primary	2 (5.9%)	6 (21.4%)	15 (10.3%)	6 (6.3%)	
	secondary	15 (44.1%)	13 (46.4%)	34 (23.3%)	16 (16.8%)	
	collage and higher	16 (47.1%)	7 (25.0%)	94 (64.4%)	71 (74.7%)	
Years of married	<5	16 (47.1%)	3 (10.7%)	12 (8.2%)	55 (57.9%)	0.0001
	5-14	17 (50.0%)	11 (39.3%)	93 (63.7%)	39 (41.1%)	
	>=15	1 (2.9%)	14 (50.0%)	41 (28.1%)	1 (1.1%)	
Employment	working	2 (5.9%)	3 (10.7%)	47 (32.2%)	24 (25.3%)	0.003
	not working	32 (94.1%)	25 (89.3%)	99 (67.8%)	71 (74.7%)	

*Significant difference between different percentages using Pearson Chi-square test (χ^2 -test) at 0.05 level

Discussion

The current study highlights the influence of age, education, marriage duration, and urban residence on contraceptive use. Women aged 30-39 were the largest group using contraceptives, possibly due to factors like completed childbearing, higher education, or income [17]. Women under 25 had lower contraceptive use rates, potentially due to lack of knowledge, access, or cultural barriers [18]. These findings align with studies by Akinloye et al, 2022 in Nigeria and Kundu et al, 2022 in Bangladesh [17, 19]. Education level played a significant role, with the majority of participants (84.8%) having at least secondary education, suggesting increased awareness of family planning methods. This is consistent with a study by Ontiri et al, 2019 in Kenya that found higher LARC uptake with increasing education levels [20].

Marriage duration also impacted contraceptive use, with women married for longer durations more likely to use contraceptives, possibly due to factors like smaller desired family size, increased contraceptive knowledge over time, or health concerns [21]. This finding aligns

with a study by Sait et al, 2021 in Oman. Lastly, the majority of participants (70%) were from urban areas, which may contribute to better access to health services, including contraception. This is consistent with a study by Seran et al, 2020 in Indonesia, which found higher contraceptive use among urban women, particularly those aged 40-44 [22]. The current study found that women with college and higher education had the highest proportion of contraceptive use (62.0%), while illiterate women had the lowest (2.6%). This aligns with a study by Sámano et al., 2019 in Mexico, which showed that lower education levels were associated with increased unintended pregnancy rates [18].

Additionally, women married for over 15 years had higher contraceptive use (28.4%) than those married for less than 5 years (24.7%). Employment status also played a role, with working women showing higher contraceptive use (25.1%) compared to non-working women (74.9%). This may be due to increased access to information and resources for family planning among working women. However, a study by aldabbagh et al, 2020 in Iraq found no relationship between socio-demographic factors and contraceptive use [23]. In contrast, a study by handady et al, 2015 in Sudan found significant associations between education, gender, number of children, availability and accessibility of contraceptives, distance from the center, spouse support for family planning, and contraceptive practice [24]. The current study found significant associations ($P < 0.05$) between various factors and reasons for family planning use, including age, husband's age, residency, education level, years of marriage, and employment status.

Participants aged 25-29 and 30-39 primarily used family planning for child spacing, while those below 25 used it for economic reasons. Similarly, those with husbands aged 30-39 and above used family planning for child spacing, while those with younger husbands used it for economic reasons [25]. Urban participants primarily used family planning for child spacing, while rural participants used it for economic reasons. This aligns with a study by Pliskin et al, 2022, which found that rural communities have poorer access to reproductive health services compared to urban areas [26, 27]. A study by Ouma et al, 2015 in Uganda supported this finding, revealing low contraceptive use in rural areas and a high unmet need for family planning [28]. Participants married for less than five years primarily used family planning for child spacing (57.9%), while those married for 5-14 years and more than 15 years used it for economic reasons (50.0%). This is in line with a study by Götmark et al, 2020, which suggested that reduced family size may result from trade-offs between the number and quality of children as economies and nations grow and develop [29].

Conclusion

In conclusion, this study underscores the importance of socio-demographic factors such as age, husband's age, residency, education level, years of marriage, and employment status in influencing family planning decisions and contraceptive use. The complex relationships between these factors highlight the need for context-specific interventions to improve contraceptive access and knowledge, ultimately enhancing family planning and reproductive health outcomes. Targeted interventions should consider the unique challenges faced by different age groups, urban and rural populations, and individuals with varying levels of education and employment status. By addressing these disparities and promoting access to comprehensive reproductive health services, policymakers, and healthcare providers can better support individuals and families in making informed decisions about family planning and contribute to improved maternal and child health outcomes.

Ethical Approval

Not required.

Conflicts of Interest

The authors declare that he has no competing interests.

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None

Study registration

Not required.

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