

The determinant of female infertility in Diyala city: Cross sectional study

Obada Ali Lteef^{1*}, Ali Husain Faleh², Raheem Saber Shwiehk³, Hussain Khaleefa Kadhem⁴

¹MSc Middle Technical University in Baghdad, College of Health and Medical Technique, Community Health Department, Iraq

²Assist.Prof. Middle Technical University in Baghdad, College of Health and Medical Techniques, Community Health Department, Iraq

³Assist.Prof. Middle Technical University in Baghdad, College of Health and Medical

⁴MBChB, DGS, M.ART, PhD I & MR. Techniques, Community Health Department, Ministry of Health, Diyala Health Director in Diyala, Chief of Infertility Clinic in Al Batoor Teaching Hospital Iraq

Abstract

Infertility is a worldwide problem that impacts one in six individuals. Numerous elements may be involved. Consequently, the current cross-sectional study. aim: to assess the determinant of female infertility in Diyala city, Iraq. Structured patient data were gathered from an OPD convenience sample with the use of a questionnaire that had translated and covered Socio-demographic, Reproductive, Menstruation, Contraceptive, past medical, Lifestyle, Physical activity, Infertility histories. In this study descriptive statistics was employed in a bid to examine and summarize the data. The study revealed that more than half of infertile women with primary type of infertility, it was higher in in age group of 25–34 years, with the Majority of patients were married at their early twenties and from urban area. Comorbidities such as hypertension, urinary tract infections, and hyperprolactinemia was observed Also Low levels of physical activity observed and High percentage of infertile causes were PCOS, DOR, tubal blockage, endometriosis and unexplained. There is a need to establish and promote proper means that can help infertile women sufferers in the region.

Keywords: Infertile women, Causes, Diyala, Iraq.

1.Introduction

The inability to conceive after a year or more of consistent, unprotected sexual activity is known as infertility, and it affects both the male and female reproductive systems. Infertility is categorized as primary or secondary based on whether or not a previous pregnancy was experienced [1].

According to the World Health Organization, many people will become infertile at some time in their life. The prevalence of postponed childbirth has increased globally. According to the World Health Organization, infertility is the fifth most serious disability among young people and is predicted to become the third most important disease of the twenty-first century, behind cancer and cardiovascular disease. One in six people worldwide, or 17.5% of adults, suffer from infertility, underscoring the critical need to provide those in need with access to high-quality, reasonably priced fertility care. The most recent data indicate that the frequency of infertility varies slightly by region. Similar prevalence's in high-, middle-, and low-income countries indicate that this is a serious global health issue. In high-income countries, the

lifetime prevalence was 17.8%, while in low- and middle-income countries, it was 16.5% [2-4].

The Public Survey of Family Growth estimates that 6% of married American women between the ages of 15 and 44 are infertile. Comparatively, infertility affects 25% of Chinese couples who are of reproductive age [5]. Infertility affects almost one in five couples in Ethiopia [6]. On the other hand, infertility is 20% to 30% in Nigeria and 9% in the Gambia [7]. Infertility affects 7.88% of couples in neighboring Iran each year [8].

For the ten-year period from 2011 to 2021, the population's dropping fertility in the Arab world was studied. Arab countries' fertility rates varied, with significant drops ranging from 24.3% to 3.8%. However, Algeria did not see any decrease. The nations with the largest fertility drops were Jordan (24.3%), Iraq (22.2%), and Yemen (19.1%), whereas the smallest declines were observed in Libya (3.8%), Tunisia (4.5%), Lebanon (4.5%), and Kuwait (4.5%). Furthermore, the United Arab Emirates had the lowest fertility rate, keeping between 1.7% and 1.5%, while Somalia had the highest, maintaining between

7.3% and 6.3% between 2011 and 2021 [9].

Iraq's overall fertility rate dropped from 7.07 births per woman to 3.22 births per woman between 1970 and 2024 [10]. Additionally, another study that examined demographic changes in Iraq from 2015 to 2020 found that the fertility rate and birth rate per woman have been continuously falling during that period [11]. Men and women share equally in the reasons [12]. However, being a mother is still viewed as the cornerstone of women's status and a significant factor in determining their place in the family and society. Regardless of which partner is to blame, infertility is usually attributed to the woman in society [13]. Female infertility is a complex and multifaceted issue that affects millions of women globally. Among the reasons of infertility are structural defects caused by genetics and lifestyle choices, as well as hormonal imbalance [14]. Ovulatory diseases and polycystic ovarian syndrome (PCOS) are among the most researched endocrine contributors [15,16]. The fallopian tube may develop structural abnormalities as a result of endometriosis, pelvic inflammatory disease (PID), or prior surgeries that hinder the migration of the egg or embryo, hence preventing fertilization or implantation. Cervical disorders such as cervical stenosis, mucus issues, or infections that affect sperm motility and survival might hinder fertilization. Last but not least, vaginal factors including infections or anatomical abnormalities might make conception more difficult

by preventing sperm motility or creating an unfavorable pH balance [17].

Although success rates vary by diagnosis and age, many infertile women undergoing treatment can accomplish their fertility goals with the help of a clear diagnosis, genuine therapy, and shared decision-making [18,49].

2. Methodology

Prior to data collection, the researcher obtained official administrative authorizations for the research. Data collection lasted approximately 4 months, from October 16, 2023, and May 16, 2024. This study was conducted in the infertility clinic at Al-Batoul Teaching Hospital. This hospital is located in Diyala Governorate, Baaquba City, Iraq. Inclusion Criteria was all females with age 18 years or more diagnosed with infertility from the residents of Baaquba governorate who were able to offer verbal consent and were willing to participate in this study. Exclusion Criteria was females attending the Infertility Unit who are under 18 years of age and who provide incomplete information during filling out a questionnaire. The study targeted 350 infertile females using a convenient sampling technique. The researcher developed and refined the self-structured questionnaire after conducting a comprehensive review of relevant literature and publications.

3. Results

Table (1): Demographic characteristics of the infertile women at Al-Batoul Teaching Hospital

Demographic characteristics		No.	%
Age (years)	<20	20	5.7
	20---24	76	21.7
	25---29	81	23.1
	30---34	83	23.7
	35---39	51	14.6
	≥40	39	11.2
	Mean ± SD (Range)	29.7±7.2 (18-49)	
Age of marriage (years)	<20	128	36.6
	20---24	113	32.3
	25---29	66	18.8
	30---34	23	6.6
	35---39	11	3.1
	≥40	9	2.6

	Mean $\pm$ SD (Range)	22.5 $\pm$ 6.1 (13-47)	
BMI (Kg/m ²)	Underweight (<18.5)	36	10.3
	Normal weight (18.5-24.9)	202	57.7
	Overweight (25-29.9)	100	28.6
	Obese ($\geq$ 30)	12	3.4
	Mean $\pm$ SD (Range)	23.8 $\pm$ 3.9 (18.1-35.2)	
Type of marriage	Consanguineous	131	37.4
	Non-Consanguineous	219	62.6
Family history of infertility	Yes	4	1.1
	No	346	98.9

Table (1): Demographic characteristics of 350 infertile women attending Al-Batoul Teaching Hospital infertility unit in Diyala city. The table (4:1) shows the mean age was 29.7 ± 7.2 years. The majority of participants were in the 30-34 in 23.7% and 25-29 in 23.1% age groups, making up nearly half (46.8%) of the sample. The mean age at marriage was 22.5 ± 6.1 years, a significant proportion of participants married between the ages of 20 and 29

years, with the largest group marrying at ages <20 years (36.6%) and only 2.6% marrying after 40 years of age, suggesting that most individuals married in their early twenties or late teens, who were most non-consanguineous marriages (62.6%), with overwhelming majority of (98.9%) did not have family history of infertility and most of them with normal BMI (57.7%).

Table (2): Socio-economic characteristics of the infertile women at Al-Batoul Teaching Hospital

Socio - Economic Characteristics		No.	%
Level of education	Illiterate	29	8.3
	Primary/ Read & Write	134	38.3
	Intermediate	56	16
	High school/ Vocational	32	9.1
	Institute (two years)	25	7.1
	College (Bachelor degree)	71	20.3
	Master degree	3	0.9
Husband education level	Illiterate	34	9.7
	Primary/ Read & Write	120	34.3
	Intermediate	58	16.6
	High school/ Vocational	31	8.9
	Institute (two years)	32	9.1
	College (Bachelor degree)	64	18.3
	Master degree	11	3.1
Occupation	Governmental employee	32	9.1
	Private employee	5	1.4
	Self-employed	8	2.3
	Housewife	295	84.3
	Student	10	2.9
	Retired	-	-
Husband occupation	Governmental employee	103	29.4

	Private employee	13	3.7
	Self-employed	230	65.7
	Student	2	0.6
	Retired	2	0.6
Residence	Urban	230	65.7
	Rural	120	34.3
The family own the house	Yes	163	46.6
	No	187	53.4
The family have a private car	Yes	128	36.6
	No	222	63.4
Socio-economic status	Low	108	30.9
	Middle	120	34.2
	High	122	34.9

Table (2): showed the majority of respondents (84.3%) are housewives who completed primary education or literate (38.3%), (29%) illiterate, (16%) intermediate education and (9.1%) high school that most of them (65.7%) live in urban areas. A large proportion of husbands (65.7%) are self-employed and (29.4%) governmental and private sector (3.7%) employees, who completed primary education or literate (34.3%), a significant number (9.7%) being illiterate, (18.3%) (3.1%) have a bachelor's and master's degree, majority of families (53.4%) do not own a house, conversely (46.6%) of families own a house and (63.4%) do not have a private car, (36.6%) of families have a private car. The socio-economic status, is evenly distributed (34.9%) having a high SES, (34.2%) as middle and (30.9%) as low.

Table (3): Medical history of the infertile women at Al-Batoul Teaching Hospital, 2025.

Medical history		No.	%
Co – morbidities	None	156	44.6
	1-Urinary tract infections	146	41.7
	2-hyperprolactinemia	106	30.3
	3-Hypertention	58	16.6
	4-Hypothyroidism	12	3.4
	5-Hyperthyroidisim	9	2.6
	6-Rheumatoid arthritis	9	2.6
	7-Sickle cell anemia	8	2.3
	8-Diabetes mellitus	5	1.4

*some infertile women had more than one disease

Table (3): patients who attending AL-Batoul teaching hospital infertility unit in Diyala city with past history of disease. Urinary tract infections (UTI) was the most frequent found in (41.7%) of the population, followed by hyperprolactinemia (30.3%), high blood pressure

(16.6%). Hypothyroidism (3.4%) and hyperthyroidism (2.6%) were observed in moderate proportions. Condition like sickle cell anemia (2.3%) and rheumatoid arthritis (2.6%) appeared in smaller percentages. Diabetes mellitus (DM) was reported by (1.4%) of participants.

Table (4): Lifestyle factors of the infertile women at Al-Batoul Teaching Hospital.

Lifestyle Factors		No.	%
Smoke cigarettes	Yes	12	3.4
	No	338	96.6
Passive smoking	Yes	157	44.9
	No	193	55.1
Exposed to radiation or chemotherapy	Yes	7	2
	No	343	98
The type of food accustom consumed	An all-round diet	332	94.8
	Vegetarian food (vegetables and other animal protein egg, milk)	3	0.9
	Vegan food (only vegetables)	-	-
	Avoid certain foodstuffs because of food hypersensitivity	13	3.7
	Keto-diet (Low carbohydrate, high fat diet)	1	0.3
	GI-food (You eat food with a low GI i.e. glycemic index)	1	0.3
	Drink caffeinated beverages (coffee, tea, soda)	43	12.3

Table (4): the vast majority (96.6%) do not smoke cigarettes but almost half of them (44.9%) reported being passive smoker, while (3.4%) reported smoking. The significant majority to the type of food eaten was (94.8%) to all-round diet, a small

percentage (0.9%) was vegetarian, (3.7%) of the respondents avoid certain foods due to hypersensitivity, only (0.3%) was on Keto and GI diet. Caffeine consumption is widespread throughout the world, yet it is still not the majority only (12.3%) consume it and (87.7%) dose not and (98.0%) were not exposed to radiation or chemotherapy.

Table (5): Physical activity of the infertile women at Al-Batoul Teaching Hospital.

physical activity		No.	%
Vigorous physical activity (days/week)	No	336	96
	1	-	-
	2	-	-
	3	1	0.3
	4	-	-
	5	9	2.6
Vigorous physical activity (hours/day) (n=14)	6	4	1.1
	3	4	28.6
	4	2	14.3
	5	1	7.1
Moderate physical activity (days/week)	6	7	50
	No	14	4
	1	-	-
	2	-	-
	3	3	0.9
	4	34	9.7
Moderate physical activity (hours/day) (n=336)	5	240	68.5
	6	59	16.9
	2	1	0.3
	3	40	11.9
Walking (days/week)	4	179	53.3
	5	45	13.4
	6	71	21.1
	No	217	60.4
	1	33	9.8
	2	22	6.5
Walking (hours/day) (n=133)	3	26	7.7
	4	9	2.7
	5	39	11.7
	6+	4	1.2
	10 minutes	2	1.5
	15 minutes	19	14.2
Sitting (hours/day)	30 minutes	82	61.7
	1 hour	21	15.8
	1.5 hour	5	3.8
	2 hours	4	3
	2	9	2.6
	4	39	11.1
Sitting (hours/day)	5	3	0.9
	6	67	19.1
	7	8	2.3
	8	158	45.1
	9	66	18.9

Table (5): The majority of infertile women (96.0%)

reported not engaging in vigorous physical activity, (2.6%) engaged for five days a week, and (1.1%) engage for six days a week, among those who do the majority (50.0%) engaged for 1 hour per day. The portion (68.6%) engaged in moderate physical activity for five days a week, while (16.9%) do so for six days. Among those who do moderate physical activity, most (53.3%) spend approximately 4 hours per day, other reported 3 hours (11.9%), 5 hours (13.4%), and 6 hours (21.1%) per day, while just (0.3%) engage for 2 hours a day. About walking more than half of respondents (60.4%) do not engage in walking, most common walking frequency is 5 days a week (11.6%), followed by walking 3 days (7.7%) and 1 day (9.8%) per week. The majority of walkers (61.7%) walk for approximately 30 minutes per day. A significant number walk for 15 minutes (14.2%) or 1 hour (15.8%) daily, while smaller groups walk for longer durations, such as 1.5 hours (3.8%) and 2 hours (3.0%). Only a small percentage (1.5%) walk for 10 minutes per day. About sitting the majority of participants (45.1%) reported sitting for 8 hours a day, with (19.1%) sitting for 6 hours and (18.9%) sitting for 9 hours, smaller groups sit for 4 hours (11.1%) or 2 hours (2.6%) each day, with a small number reporting sitting for 7 hours (2.3%).

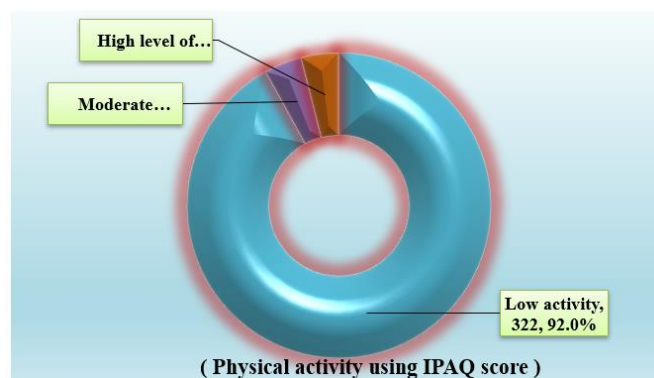


Figure (1): Distribution of the infertile women according to physical activity (IPAQ)

Note: High (Vig >1500 METs & Mod >3000 METs), Moderate (Vig <1500 METs & Mod <3000 METs) -- 600, Low (<600 METs).

Figure (1): Showed patients engaging in high (vigorous > 1500 METs and moderate > 3000 METs) and moderate (vigorous < 1500 METs and moderate < 3000 METs, but > 600 METs) levels of physical activity were (4%) while the highest percentage goes to low (< 600 METs) level physical activity with

(92%).

Table (6): Type and duration of infertility of the studied infertile women at Al-Batoul Teaching Hospital, 2025

Type And Duration Of Infertility		No.	%
Type of infertility	Primary	212	60.6
	Secondary	138	39.4
Number of years have been actively trying to conceive	<1	26	7.4
	1---4	190	54.3
	5---9	89	25.4
	10---14	23	6.6
	15-19	22	6.3
	Mean $\pm$ SD	4.7 $\pm$ 4.3	
	(Range)	(6m-19y)	

Table (6): Showed more than half (60.6%) of the infertile women had primary infertility and) 39.4%) had secondary infertility. The majority of the number of year's patient actively trying to conceive was (54.3%) 1- 4 years with mean 4.7 ± 4.3 , followed by (25.4%) 5- 9 years, (7.4%) less than one year, (6.6%) 10-14 years, (6.3%) 15-19 years.

Table (7): Infertility causes of the studied infertile women at Al-Batoul Teaching Hospital

Infertility causes		No.	%
Number of causes of infertility	Single	163	46.6
	Double	126	36
	≥ 3	61	17.4
Cause of infertility	1-Tubal Blockage	31	8.9
	2-Hydrosalpinx	1	0.3
	3-Salpingitis	1	0.3
	4-Ectopic pregnancy	2	0.6
	5-Polycystic ovarian syndrome (PCOS)	162	46.3
	6-Dimension ovarian reserved	61	17.4
	7-Endometriosis	35	10
	8-Uterine fibroid	5	1.4
	9-Uterine polyps	1	0.3
	10-Cervical stenosis or scarring	1	0.3
	11-Cervical and vaginal infection	16	4.6
	12-Male factors	133	38
	13-Unexplained	149	42.3

Table (7): Showed the number of infertile women who had a single (46.6%), double (36.0%), triple (17.4%) cause. The most frequent cause was polycystic ovarian syndrome (PCOS) with (46.3%),

followed by unexplained (42.3%) and male factors (38%), dimension ovarian reserved (17.4%), endometriosis (10%), tubal blockage (8.9%), cervical and vaginal infection (4.6%), uterine fibroid (1.4%), the smallest percentage goes to ectopic pregnancy (0.6%) and (0.3%) for hydrosalpinx, salpingitis, uterine polyps, cervical stenosis or scarring and to others.

4. Discussion

The World Health Organization estimates that many people will experience infertility at some point in their lives, one in six people globally suffer from infertility (4). The infertility in Iraq cannot be considered health problem associated with the deforming of uterus or infections of fallopian tube but have many scopes like environmental bases, social grounds economical origins and others [19,50].

This descriptive cross-sectional study included 350 infertile women attended Al-Batoul teaching hospital in Diyala governorate, Iraq, showed that more than half (60.7%) of the infertile women had primary infertility and (39.3%) had secondary infertility, these results agreed with [20,21] in Nineveh and Diyala governorate, Iraq and disagree with [22] in Nigeria. The Mean $\pm$ SD of infertility period 4.7 ± 4.3 years, the largest percentage of infertility duration (54.3%) falls between (1-4) years, in Bangladesh reported highest prevalence of infertility durations less than 3 years [23]. Whilst in Zimbabwe showed 5.6 ± 4.7 of average and SD to infertility period. Infertility is often detected and treated within a few years of attempting to conceive in many populations but this differentiation in infertility duration possibly due to social and cultural pressure to become pregnant soon after marriage, potentially underestimating or overestimating it [24].

According to the study sample's demographic data, the largest proportion of infertile women were between (30-34) years (23.7%) followed by 25-29 years (23.1%), with a Mean $\pm$ SD 29.7 ± 7.2 these results aligns with [22] in Nigeria that showed a mean $\pm$ SD 29.2 ± 2.5 years and not aligns with a study in Saudi [25], that revealed the mean age of women was 34.03 ± 1.37 years old. Because of a diminished ovarian reserve, age presents complex obstacles to female conception, hormonal changes, repeated miscarriages, chromosome abnormalities in

embryos, and problems during pregnancy, the American College of Obstetricians and Gynecologists (ACOG) states that a woman's fertility peaks at age 30 years, after which it gradually falls and then continues to decline after age 35 years [26]. A significant proportion of participants married between the ages of 20 and 29 years, with the largest group marrying at ages <20 years (36.6%) consistent with a studies done in Nigeria and Bangladesh [23]. Given that Iraq where the study was conducted, has a high rate of early marriage, this is not surprising, which were non-consanguineous marriages (62.6%) which agreed with [27], in Sri Lanka that most were non-consanguineous marriages. That explain the hereditary of infertility in the sample was low (1.1%) that aligns with Nigerian (14.4) and Iranian (15.5) studies [28,48].

The study further demonstrated that most infertile women were from normal weight women (57.7%) followed by overweight women (28.6%), probable infertile women have already chosen a balance healthy diet for conception as awareness of the diet effect on conception. this finding not aligns with the results reported by [29].

The study findings about Education (38.3%), (34.3%) and occupation of the infertile women and spouse respectively agreed with a study done in Iran by [30]. Education level can influence knowledge about reproductive health, timing of seeking treatment, and attitudes toward infertility, this lower level of education reflect that (84.3%) were housewives and their husband (65.7%) were self - employ that aligns with study done by [28]. Self-employment, may also be linked to higher levels of stress at work and less time spent seeking medical advice, that reflect that occupation influencing both access to and utilization of infertility services, but the good thing is that mostly (65.7%) live in urban areas compatible with another studies done in Iraq and two done in Iran with (60%), (77.8%), (93.7%) respectively by [30,31]. The high-to-moderate socio-economic state of the women's that disagree with study in Hungary by [32], that revealed (53.49%) were low level of SES. Both seen relatively beneficial in this sense, so residents in urban and the slights high-to-moderate socio-economic are more inclined to look for alternative infertility treatment options and get past the unpleasant consequences of the condition for those who are impacted.

The study revealed that over half (51.7%) of the women have never been previously pregnant, the remaining (48.3%) have experienced at least one pregnancy, with most having 1–3 pregnancies, very few have had 4 or more pregnancies, indicating low overall Gravidit in this study group which disagree with a study in 2025 in Ethiopia by [33]. More than half (61.1%) have never given birth to alive chilled, which aligns closely with the gravidity data, those who have given birth mostly had only one or two children, and very few had more than three, this suggests trends like delayed childbearing, smaller family size or conforms fertility issues. Around (7%) of women have experienced a stillbirth, that could be influenced by maternal age or chronic conditions (33) agreed with this result, and about one-third (21.7%) of women have had at least one abortion, with (11.2%) having multiple aligns with in Iran and in Iraq [34,35].

The study showed, menarche ages were (35.7%), (33.4%) at 13 and 12 years respectively, while only a few percentages of infertile girls reached menarche at ages older than 13 years. Comparable outcomes have been seen in china and Iran [36,37]. Early menstruation raises the risk of conditions like pelvic inflammatory disease, which can lead to infertility and spontaneous abortion later in life. Pointing out geographical variations in menstruation health, which may be caused by a number of variables, including socioeconomic circumstances, lifestyle and diet. Because most of participants had regular or naturally occurring menstrual cycles, the Needing for medication to bring on a period only (14.0%) agreed with the Indian study by [38], that revealed majority did not need medication to start their period. Although dysmenorrhea, is prevalent most people in this category do not experience it and that compatible with studies done in Ethiopia [39]. The reason women without regular ovulation, menstrual cycles be less intense, reducing uterine contractions and the pain typically felt during menstruation.

The current study showed only (5.7%), (2.9%), (0.6%) used birth control pills, IUCD and injectable contraception respectively that disagree with the Nigerian study (22) which revealed higher injectable contraception with (36.2%) and (31.9%), (8.5%) for birth control pills and IUCD respectively and only (12.8%) for barriers. This disparity could be attributed to several factors, wanting children,

cultural acceptance, awareness levels, also the Ethiopian study done by [40], demonstrated that injectable contraception was high with (42.8%) and its effect on delayed fertility return, (22.6%) for birth control pills and (6.5%) for IUCD, its clarified that injectable contraception can stay in the body system longer than the other birth control methods, on the other hand their side effect like weight gain which affect ovulation.

The current study revealed that urinary tract infections (UTI) was the most frequent (41.7%), this is significantly higher compared to the result by [41] in United Arab Emirates which was not that frequent as in our study, followed by hyperprolactinemia (30.3%) which also disagree with study that was very low (7.35%), (11.11%) respectively, hypertension (16.6%) aligns with the Indian [29] study that revealed only (7.33%) have it [41]. Hypothyroidism (3.4%) and hyperthyroidism (2.6%) were observed in moderate proportions. Saudi Arabia study revealed that hypothyroidism stands out in both studies, hyperthyroidism was lower (0.66%) in the Indian study [22,29].

The study showed (94.9%) eat an all-round diet which aligns with a study in Iraq (19) that demonstrate (100%) of the sample was an all-round diet and only (12.3%) of participants reported consuming caffeinated beverages, which contrasts sharply with findings from a South Korean study, where (74%) of respondents reported caffeine intake [42]. In South Korea, coffee and other caffeinated drinks are culturally popular and widely consumed across various age groups, in contrast, the population in the current study may have different beverage preferences and for health.

The current study, smoke cigarettes (3.4%) in my study aligns with Iran, Saudi Arabia, United Arab Emirates with (0.5%), (3.3%), (12.5%) respectively, and passive smoking (secondhand smoke exposure) also aligns with Saudi Arabia study [25,43]. The convergence in these results and regions likely reflects the similar behavioral, culture that discourage smoking but smoking indoors especially in homes and public areas is still prevalent, thereby increasing passive smokers. Exposure to radiation only (2%) aligns with Saudi Arabia (4.1%) (25), which attributed to occupational or medical radiation exposure.

The study demonstrate the highest percentage (< 600 METs) have low level of physical activity with (92%) and smaller percentage did high levels of PA while UK study PA levels varied from vigorous exercise to moderate, also (45) in Sir Lanka point to a positive association between low IPAQ scores (sedentary lifestyle behavior) and female infertility. This variation suggests that physical activity patterns may differ significantly between populations, potentially due to cultural and socio-economic factors influencing exercise habits and opportunities [44].

In this cross sectional study, Ovulation problems, primarily brought on by polycystic ovarian syndrome (PCOS) (46.3%), were the most frequent cause of infertility in women, and smaller proportion for dimension ovarian reserved (17.4%) which aligns with [34]. revealed that PCOS was high with (66.2%; 53.3%) small proportion for dimension ovarian reserved. This cross-sectional study further reviled (42.3%), (38%) for unexplained and male factors respectively and (11.7%) for uterine factors, (10.1%) for tubal factors lastly very small portions for vaginal infection and stenosis (4.6%), (0.3%) respectively, while in Nigeria, the most frequent cause of infertility were tubal factors, uterine factors, and ovarian (39.5%,30%,and 13%) respectively [46].

The cross sectional study further demonstrate, about (79.1%) had some form of treatment before, (78%) pharmaceutical (induce ovulation), only (20%) IUI, (3.7%) IVF and none for ICSI aligns with Iranian study and in Saudi Arabia showed that Ovarian stimulators was high about (54.2%), a study by (44) in UK confirms that only small proportion uses advanced fertility treatments like IVF and ICSI due to cost, availability and patient eligibility[30,47].

5. Conclusions

Everyone has the right to start a family and raise kids. Infertility is a global health concern that requires a correct diagnosis and determinants. Infertility is influenced by a wide range of biological, behavioral, social, and physical variables. In addition, it seems that infertility has a big influence on women's lives in our society; infertile women were more likely to be abused emotionally and physically and to have their marriages end. Infertility types are significantly correlated with age, education, stillbirth and abortion, number of years attempting to conceive,

and passive smoking, according to the study, which also shows that the largest presentage of infertile women were primary and had been trying to conceive for at least four years. Because infertility has a number of social and health impacts, it should not be seen as a personal problem but rather as a serious public health issue with larger social implications. All infertile women should be enrolled in government and nongovernmental organization (NGOs) infertility management programs, and infertile women at different national health care levels require a comprehensive but quick evaluation. However, every attempt is made to conceive the mother and restore happiness to the family.

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Conflict of interest statement

There are no disclosed conflicts of interest.

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