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Female Infertility at the University Teaching Hospital of Bogodogo, Ouagadougou, Burkina Faso: Epidemiological, Clinical and Paraclinical Profile of 329 Cases

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Abstract

Context: Infertility is a public health problem, and the department of Obstetrics, Gynecology and Reproductive Medicine at the University Teaching Hospital of Bogodogo (UTH-B) initiated a fertility campaign to recruit couples for the inauguration of its assisted reproduction activities. **Objective:** To study the profile of female infertility in a cohort of couples in the city of Ouagadougou. **Patients and Methods:** This was a descriptive and analytical cross-sectional study conducted in the city of Ouagadougou from December 2022 to June 2023 among patients consulting for hypofertility in the Department of Obstetrics and Gynecology and Reproductive Medicine at the Bogodogo University Teaching Hospital. **Results:** The prevalence of female infertility was estimated at 28.72%. The mean age was 35.18 ± 5.22 years, with extremes ranging from 20 to 47 years. 237 patients (63.03%) presented with primary infertility, compared with 36.97% with secondary infertility. In terms of causes, hormonal disturbances predominated at 90.27%, followed by uterine anomalies (39.82%), then tubal anomalies (38.91%), ovarian anomalies (17.02%), and finally pelvic anomalies (6.08%). Associated factors were age, BMI and irregular menstrual cycle. **Conclusion:** In our study, complementary examinations were invaluable in profiling patients and classifying them according to susceptibility to therapeutic response. This will enable us to decide on the optimal treatment for the couple.

Keywords

Female Infertility, Hormones, Ultrasound, Hysterosalpingography, Assisted Reproduction, UTH-B, Ouagadougou, Burkina Faso

1. Introduction

According to the World Health Organization (WHO), infertility is a disorder of the male or female reproductive system defined as the inability to achieve pregnancy after 12 months or more of regular unprotected sexual intercourse in a heterosexual couple. According to the same source, it affects around 17.5% of the adult population or about one in six people worldwide. Infertility is female in 37% of cases, mixed in 35% and male in 28% of cases [1] [2].

In Africa, infertility is a serious medical and social problem due to the stigmatization of childless couples, who account for 15 to 30% depending on the region [3] [4]. In some countries, such as Nigeria and Cameroon, very high rates of female infertility have been reported [5].

In Burkina Faso, the level of infertility was estimated at 17.76% of the general population in 2016 [6]. Tiemtoré found in his study that the causes were ovarian in 67.82% of cases, uterine in 25.28% and tubal in 6.89%. Moreover, the most frequent ovarian pathology was polycystic ovary syndrome (PCOS) (44.04%) [7]. However, for Sakande, tubal obstructions were the most common cause of hypofertility, accounting for 50.0% of cases [8].

Although infertility is a global problem, there are significant geographical and clinical contrasts. Although it is currently recognized that its prevalence is almost the same in poor and rich countries, it is clear that its impact differs according to socio-economic environment [9].

According to the World Health Organization (WHO), every human being has the right to the enjoyment of the highest attainable standard of physical and mental health. Infertility can prevent the realization of these essential human rights. It is worth remembering that the responsibility for infertility lies with women, who pay the heaviest price in terms of social repercussions in Africa [10].

Recognizing the importance and impact of infertility, Burkina Faso, through the University Teaching Hospital of Bogodogo (UTH-B) and its gynecology-obstetrics and reproductive medicine department, has initiated a recruitment campaign for infertile couples from December 19 to 30, 2022, with a view to inaugurating the Medically Assisted Procreation (MAP) department. This activity, the first of its kind in a public hospital in French-speaking West Africa, will enable low-income couples to benefit from treatment. Until now, MAP services have only been available in private facilities [7] [8]. In the present study, we propose to investigate the profile of female infertility in a cohort of couples who consulted the obstetrics and reproductive medicine department of UTH-B during this recruit-

ment campaign. The aim of this study is to identify the causes of female infertility in a cohort of hypofertile couples in the city of Ouagadougou, and to analyze the factors associated with it.

2. Patients and Methods

2.1. Study Type and Framework

This was a descriptive and analytical cross-sectional study with data collection from December 2022 to June 2023. The study took place in the obstetrics, gynecology and reproductive medicine department of the University Teaching Hospital of Bogodogo (UTH-B).

2.2. Study Population

The study involved patients followed up for hypofertility during this campaign.

2.3. Selection Criteria

Sampling

Sampling technique:

This was an exhaustive sampling: All patients who consulted the department between December 19 and 30, 2022 and who reported the results of all prescribed paraclinical examinations were included in the sample.

Sample size:

Assuming a margin of error(i) of 5% and a confidence level of 95%, the z-statistic corresponding to our confidence level is 1.96. A study carried out in Chad in 2018 found a prevalence of female infertility of 30% [3]. Using Schwartz's formula.

$$n = t^2 \times p \times q / m^2$$

Where

t^2 = 1.96; m = absolute precision = 0.05; p = 0.3; q = 1-p = 0.7; n = sample size; n = (1.96)2 × 0.3 × 0.7/(0.05) 2 = 322.69.

Our minimum sample size was 323.

2.4. Inclusion Criteria

Couples meeting the following criteria were included in our sample:

(1) To have consulted the Gynaecology Department at UTH-B as part of the MAP campaign.

(2) To have reported morphological and biological tests.

(3) To have presented objective abnormalities during explorations.

(4) To have given verbal consent to participate in the study.

2.5. Non-Inclusion Criteria

Couples whose paraclinical work-up was incomplete were not included in our sample.

2.6. Data Collection and Processing

Data collection took place from December 19, 2022 to June 1, 2023.

(1) Data sources were patients' clinical records and interview.

(2) Collection instrument: We developed a collection form for the collection of study variables, which was adopted following a pre-test.

(3) Data collection procedure: The data were collected by ourselves, by filling in the data collection forms.

2.7. Method of Collection

Data collection technique: We carried out a literature review and telephone calls to complete the information.

2.8. Variables Measured

The following variables were collected on the data collection forms:

(1) Socio-demographic characteristics: age, profession, marital status, level of education, place of origin.

(2) Gynaeco-obstetrical, medical and surgical history.

(3) Eating habits.

(4) Clinical examination: blood pressure, Body mass index (BMI).

(5) Results of paraclinical examinations: hormone assessment (FSH, LH, estradiol, AMH, TSH prolactin…), ultrasound, hysterosalpingography (HSG), diagnostic hysteroscopy.

2.9. Processing Software

The manually collected data were entered, processed and analyzed on a computer, using Word, Excel version 2016 and Epi info version 7.2.5.0.

Data analysis involved 3 levels:

(1) Descriptive analysis: involved calculating percentages for qualitative variables and measures of central tendency (mean, median) and dispersion (standard deviation, minimum, maximum) for quantitative variables.

(2) Univariate analysis: the Chi-square test was used to compare percentages; when the conditions for applying the test were not met, Fisher's exact test was used. The Student's t test was used to compare means.

(3) Multivariate analysis using logistic regression.

(4) A p threshold of less than 0.05 was considered significant; the Odds ratio was used as a measure of association with a 95% confidence interval.

2.10. Operational Definitions

In our study, any patient in whom one of the following elements had been highlighted was considered as female infertility:

(1) Any significant anatomical abnormality of the genital tract (vagina, uterus, fallopian tubes, ovary, pelvis) that could interfere with the encounter between male gamete and female gamete.

(2) Any hormonal biological abnormality (FSH, LH, Estradiol, prolactin, TSH, AMH....) that could alter the functioning of the female genital tract.

3. Results

3.1. Frequency of Female Infertility

The number of couples who returned the results of their complementary examinations was 329 out of 1200 couples who consulted during this period. The infertility of the couple was attributable to the woman alone in 108 couples, *i.e.* 32.8%, and the 2 partners were incriminated in 221 couples, *i.e.* 67.2%.

3.2. Sample Characteristics

The descriptive analysis of socio-demographic and clinical characteristics have been represented in (Table 1).

Table 1. Descriptive analysis of socio-demographic and clinical characteristics (n = 329).

Variables	Head count	Percentages (%)
Maternal age		
<35 years	146	44.37
>35 years	183	56.62
Marital status		
Married	243	73.86
Common-law	74	22.49
Polygamy	12	3.65
Occupation		
Salaried	175	53.19
housewife	52	15.80
Tradeswoman	43	13.07
Pupil/student	21	6.38
Hairdresser	14	4.26
Seamstress	13	3.95
Restorer	7	2.13
Decorator	4	1.22
Length of time of hypofertility		
<5 years	116	35.26
>5 years	213	64.74
Systolic blood pressure		
Normal (139 mmHg/89 mmHg)	239	72.64
Rising (≥ 140 mmHg/90 mmHg)	75	22.80
Falling (≤ 80 mmHg/60 mmHg)	15	4.56

Continued

Body mass index		
Obese > 30	30	9.12
Overweight = 25 - 30	114	34.65
Normal = 18 - 24	185	56.23

Patients with an age greater than 35 years represented 56.62% of the sample. They were salaried in 53.19% of cases. The duration of infertility was greater than 5 years in 64.74% of cases and the body mass index was normal in 56.23% of cases.

3.3. Paraclinical Examinations

3.3.1. Hormonal Assessment

In our study, mainly 5 hormones (FSH, LH, estradiol, prolactin and AMH) were prescribed. AMH is the hormone that presents the most abnormalities (80.25% of cases). An overall overview of the values of these different hormones is listed in the (Table 2).

Table 2. Distribution of patients according to hormone values (n = 329).

Hormone		Hormone value	Age group						Head count	Percentage (%)
			20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49		
FSH (UI/L)	Normal	3 - 8.1	5	21	60	53	31	2	172	52.27
	High	> 8.1	0	9	28	50	50	3	140	42.55
	Low	< 3	0	0	2	9	6	0	17	5.18
TOTAL			5	30	90	112	87	5	329	100
LH (UI/L)	Normal	1.9 - 12.5	4	25	74	82	67	2	254	77.20
	High	> 12.5	0	3	6	18	13	2	42	12.76
	Low	< 1.9	0	0	11	11	11	0	33	10.04
TOTAL			4	28	91	111	91	4	329	100
Estradiol (pg/mL)	Normal	21 - 251	5	30	73	89	68	5	270	82.07
	High	> 251	0	0	3	5	7	0	15	4.56
	Low	< 21	2	2	9	16	13	2	44	13.37
TOTAL			7	32	85	110	88	7	329	100
Prolactin (mIU/L)	Normal	110 - 562	5	23	65	82	61	5	241	73.25
	High	> 562	0	9	19	31	23	0	82	24.92
	Low	< 110	0	1	4	1	0	0	6	1.83
TOTAL			5	33	88	114	84	5	329	100
AMH (ng /mL)	Normal	1.5 - 4	3	10	30	20	0	2	65	19.75
	High	> 4	1	5	19	9	1	0	35	10.63
	Low	< 1.5	0	14	41	81	91	2	229	69.62
TOTAL			4	29	90	110	92	4	329	100

3.3.2. Pelvic Ultrasound

Pelvic ultrasound was normal in 45.90% of cases. Myomas were the most common abnormality in 30.09% of patients. The distribution of patients according to ultrasound results is shown in Table 3.

Table 3. Distribution of patients according to ultrasound findings (n = 329).

Results	Headcount	Percentage %
Normal ultrasound	151	45.90
Uterine lesions		
Myomas	99	30.09
Endometrium thick > 8 mm	9	2.74
Naboth's cyst	3	0.91
Ovarian lesions		
Polycystic ovaries (≥ 20 follicles/ovary)	37	11.24
Ovarian cysts	14	4.26
Ovary not visualized	1	0.30
Tubal lesions		
Hydrosalpinx	2	0.61
Other		
Douglas effusion	3	0.91
Endometriosis	1	0.30

3.3.3. Hysterosalpingography

Hysterosalpingography (HSG) was normal in the majority of cases (51.06%). Tubal obstruction was the most common abnormality found in 33.43% of cases. The distribution of patients according to the results of hysterosalpingography is listed in Table 4.

Table 4. Distribution of patients according to hysterosalpingography findings (n = 329).

HSG Results	Headcount	Percentage (%)
Hysterosalpingograhy Normal	168	51.06
Tubal lesions		
Tubal obstructions	110	33.43
Tubal phimosis	22	6.69
Hydrosalpinx	19	5.77
Pelvic inflammatory Desease (PID)	2	0.61
Tubal ectasia	1	0.61
Uterine lesions		
Uterine myoma/polyp	41	14.46
Uterine malformations	9	2.74

Continued

Uterine synechia	8	2.43
Adenomyosis	7	2.13
Endometrial hyperplasia	6	1.82
Cervical synechia	2	0.61
Endometrial hypotrophy	2	0.61
Cervical/isthmic abruption	2	0.61
Pelvic/peritoneal adhesions	20	6.08

3.3.4. Etiology of Female Infertility

Hormonal disruption was the leading cause of female infertility (90.27%) followed by uterine abnormalities (39.82%). The causes of female infertility are presented in Table 5.

Table 5. Distribution of patients according to the female infertility causes.

Causes	Headcount	Percentage (%)
Hormonal	297	90.27
AMH abnormalities	264	80.25
FSH abnormalities	157	47.73
Prolactin abnormalities	88	26.75
LH abnormalities	75	22.08
Estradiol abnormalities	59	17.97
Uterine	131	39.82
Myoma	114	34.65
Uterine malformations	9	2.74
Uterine synechia	7	2.13
Adenomyosis/Endometriosis	7	2.13
Endometrial hyperplasia	6	1.82
Endometrial hypotrophy	2	0.61
Cervical synechia	2	0.61
Tubal	128	38.91
Tubal obstruction	110	33.43
Phimosis	22	6.69
Hydrosalpinx	19	5.77
PID	2	0.61
Tubal ectasia	1	0.30
Ovarian	56	17.02
Polycystic ovaries	37	7.29
Cyst	14	5.17
Early menopause	9	1.52
Pelvic (pelvic/peritoneal adhesion)	20	6.08

3.4. Analysis of Associated Factors

3.4.1. Analysis of Factors Associated with Hormonal Infertility

In our sample, there was a strong statistical correlation between age (p = 0.0002) and BMI (0.0042) with hormonal abnormalities. The analysis of factors associated with hormonal infertility is shown in Table 6.

Table 6. Analysis of factors associated with hormonal infertility.

Variables	Hormonal cause		Value of p	Odds Ratio	Confidence interval
	Yes (%)	No (%)			
			Age		
< 35	122 (83.56)	24 (16.44)			
≥ 35	175 (95.63)	8 (4.37)	0.0002	4.2846	2.34 - 7.33
			Occupation		
Salaried	154 (88.00)	21 (12.00)			
Non-salaried	124 (92.54)	10 (7.46)	0.1298	0.5924	2.6 - 13.63
			Residence		
Urban	222 (90.61)	23 (9.39)			
Semi-urban	58 (90.63)	6 (9.38)	0.5815	0.9985	1.33 - 1.88
			Menstrual cycle		
Regular	202 (88.99)	25 (11.01)			
Irregular	95 (93.14)	7 (6.86)	0.1653	0.5962	0.6 - 3.1
			BMI		
Obese	28 (93.33)	2 (6.67)			
Overweight	108(94.74)	6(5.26)			
Normal	161(87.03)	24(12.97)	0.0042	4.2854	1.8 - 4
			History		
Miscarriage	65 (92.86)	5 (7.14)	0.2843	1.5112	0.31 - 1.1
Ectopic pregnancy	26 (89.66)	3 (10.34)	0.5538	0.9276	0.1 - 6.31
Myomectomy	53 (92.98)	4 (7.02)	0.5785	1.1034	3.4 - 3.9

3.4.2. Factors Associated with Infertility of Tubal Origin

In our sample, there was a significant association between age, history of ectopic pregnancy and tubal anomalies (p = 0.0168 and p = 0.0001 respectively). The analysis of factors associated with infertility of tubal origin is shown in Table 7.

Table 7. Factors associated with tubal infertility.

Variables	Tubal cause		Value of p	Odds Ratio	Confidence Interval
	Yes (%)	No (%)			
			Age		
< 35	47 (32.19)	99 (67.81)			
≥ 35	81 (44.26)	102 (55.74)	0.0168	2.6703	0.38 - 0.95

Continued

		Occupation			
Salaried	74 (42.29)	101 (57.71)			
Non-salaried	46 (34.33)	88 (65.67)	0.0958	1.4001	1.23 - 7.46
		Residence			
Urban	90 (36.73)	155 (63.27)			
Semi-urban	31 (48.44)	33 (51.56)	0.0596	0.6191	1.61 - 2.38
		Menstrual cycle			
Regular	88 (38.77)	139 (61.23)			
Irregular	40 (39.22)	62 (60.78)	0.5165	0.9814	6.2 - 22.8
		BMI			
Obese	4 (13.33)	26 (86.66)			
Overweight	28(24.56)	86(75.44)			
Normal	82(44.32)	63(55.68)	0.1996	1.6191	2.3 - 7.18
		History			
Miscarriage	32 (45.71)	38 (54.29)	0.1196	1.4282	1.36 - 6.74
Ectopic pregnancy	22 (75.86)	7 (24.14)	0.0001	5.7206	2.77 - 5.8
Myomectomy	32 (56.14)	25 (43.86)	0.2978	1.2777	2.64 - 3.23

3.4.3. Factors Associated with Ovarian Infertility (Polycystic Ovaries + Premature Menopause)

In our sample, polycystic ovaries had a close association with age (p=0.0378), irregular cycle (p = 0.0001), BMI (p = 0.0381) as well as history of miscarriage (p = 0.0073). The analysis of factors associated with ovarian infertility (polycystic ovaries + premature menopause) is listed in Table 8.

Table 8. Factors associated with ovarian infertility (polycystic ovaries + premature menopause).

Variables	Ovarian cause		Value of p	Odds Ratio	Confidence interval
	Yes (%)	N (%)			
		Age			
< 35	25 (20.16)	99 (79.84)			
≥ 35	21 (11.93)	155 (88.07)	0.0378	0.5377	2.2 - 18.7
		Occupation			
Salaried	28 (17.83)	129 (82.17)			
Non-salaried	16 (12.90)	108 (87.10)	0.1676	1.4632	0.6 - 1.1
		Residence			
Urban	4 (6.90)	54 (93.10)			
Semi-urban	41 (18.22)	184 (81.78)	0.0626	2.999	2.5 - 30.3
		BMI			
Obese	13 (43.33)	17 (56.67)			

Continued

Overweight	17 (14.91)	97(85.09)			
Normal	16 (8.65)	153(91.35)	0.0381	0.9945	2.5 - 10.3
		Menstrual cycle			
Regular	20 (9.76)	185 (90.24)			
Irregular	26 (27.37)	69 (72.63)	0.0001	0.2883	0.2 - 0.5
		Past history			
Miscarriage	17 (26.15)	48 (73.85)	0.0073	2.5067	6 - 9.8
Ectopic pregnancy	4 (15.38)	22 (84.62)	0.5882	1.0043	0.4 - 1.2
Myomectomy	3 (5.66)	50 (94.34)	0.0523	0.3026	0.5 - 2.7

3.4.4. Factors Associated with Infertility of Uterine Origin (Myoma)

In our sample, age was a risk factor for the appearance of myomas with a correlation of 0.0022. Similarly, myomas still persist in patients who underwent myomectomy (p = 0.0483). Analysis of the factors associated with infertility of uterine origin (myoma) is shown in Table 9.

Table 9. Factors associated with infertility of uterine origin (myoma).

Variables	Myomes		Value of p	Odds Ratio	Confidence interval
	Yes (%)	No (%)			
		Age			
< 35	38 (26.03)	108 (73.97)			
≥ 35	76 (41.53)	107 (58.47)	0.0022	2.0144	0.1 - 0.5
		Occupation			
Salaried	69 (39.43)	106 (60.57)			
Non-salaried	41 (30.60)	93 (69.40)	0.0549	1.4747	0.8 - 4.5
Residence					
Urban	88 (35.92)	157 (64.08)			
Semi-urban	20 (31.25)	44 (68.75)	0.2933	1.2323	2.1 - 8.8
		Menstrual cycle			
Regular	78 (34.36)	149 (65.64)			
Irregular	36 (35.29)	66 (64.71)	0.4824	0.9599	3.7 - 20
		BMI			
Obese	5 (16.67)	25 (83.33)			
Overweight	42(36.84)	72(63.16)			
Normal	81(43.78)	104(56.22)	0.1672	1.4063	3.7 - 9.1
		History			
Miscarriage	24 (34.29)	46 (65.71)	0.5309	0.9798	0.34 - 1.33
Ectopic pregnancy	11 (37.93)	18 (62.07)	0.4203	1.1683	0.6 - 2.1
Myomectomy	24 (42.11)	33 (57.89)	0.0483	1.9638	0.4 - 0.9

4. Discussion

4.1. Limits, Difficulties and Constraints of the Study

This study not only allowed us to assess the needs for medically assisted procreation, which reflected the deep suffering of the population, but also to assess the therapeutic journey of couples. The main difficulty of our study was the cost of additional tests, which led to the exclusion of many patients from the sample. For example, the FSH, LH and prolactin assays each cost an average of US$20 and the AMH almost US$60. Out of nearly 1,200 couples who consulted, only 376 brought back usable additional tests. Another difficulty came from the fact that the additional tests were carried out in different laboratories depending on the patients' choice. This posed enormous difficulties for comparing figures because the reference values varied from one laboratory to another. Also, our study was limited to couples who consulted at UTH-B during the campaign. This could create a bias in the full extrapolation to the entire Burkinabe population

4.2. Epidemiology

In our study, in 32.8% of couples, infertility was of female origin alone. This figure is similar to those found in the literature. In France and Chad, the prevalence of female infertility was estimated at 30% [3] [4]. But the WHO, in a vast multinational study, determined that in 37% of infertile couples, female infertility was the cause [2]. This difference may be due to the fact that our study was carried out in a smaller population and in a limited area, and consequently the prevalence of infertility may have been underestimated.

4.3. Sociodemographical Aspects

(1) Age

The mean age was 35.18 ± 5.22 years, with extremes of 20 and 47 years. The 35-39 age group accounted for 31.31%. Moreover, 55.62% of patients were over 35. These results are similar to those of Sakandé in 2016, who reported an average age of 35.96 years, but higher than those of Tiemtoré in 2019 and Dembélé *et al.* who found an average age of 31.75 and 32 years respectively [8] [9] [11]. In addition, Tiagha in his study reported opposite results, *i.e.* 79% for under-35 s versus 22% for over-35 s [5]. This could mean that, on the one hand, recourse to parenthood takes place at a late age and, on the other hand, the diagnosis of infertility is made late, as stipulated in numerous studies [12]-[14].

(2) Profession

53.19% of clients were female employees. In Guinea Conakry, Leno reported similar results. These data show that women with a certain degree of financial autonomy have easier access to ART [15].

4.4. Clinical Characteristics

Patients were overweight or obese in 43.77% of cases. It should be noted that a BMI greater than 27 kg/m2 could lead to ovarian dysfunction by increasing estro-

gen production, which the body perceives as negative feedback. Furthermore, a high body fat percentage reduces the effectiveness of assisted reproduction treatment [2] [16].

4.5. Causes of Female Infertility

In our study, hormonal disturbance was the leading cause of female infertility (90.27%), followed by uterine anomalies (39.82%), then tubal anomalies (38.91%), ovarian anomalies (17.02%) and finally pelvic anomalies (6.08%).

Our results differ from those of the WHO meta-analysis, which reported, in order of importance, ovulatory disorders (25%), endometriosis (15%), pelvic adhesions (12%), tubal obstruction (11%), other tubal/uterine anomalies (11%) and hyperprolactinemia (7%).

In France, ovarian failure is the leading cause of infertility after the age of 35 [4].

In African literature, the causes of female infertility have also been reported. Kalume in Goma identified the following etiological factors: the tubopelvic factor (67.6%), by far the most preponderant, was followed by ovulatory disorders (41.0%); the uterine and cervicovaginal factors were relatively less frequent [10]. As for Abebe, he found that the most frequently encountered causes of female infertility were pelvic inflammatory disease, tubal factors and abortion, with an overall prevalence of 39.38%, 39.17% and 36.41% respectively [17].

Of note is the frequency of pelvic adhesions, which could be the consequence of a high frequency of genital infections, but which were not investigated in our context. However, African series have strongly incriminated this infectious factor [3] [15].

4.6. Factors Associated with Female Infertility

Age, BMI and irregularity of the menstrual cycle were identified as factors associated with infertility in our study.

Indeed, hormonal abnormalities increase with age, notably FSH and AMH. Liu *et al*. showed in their 2015 study that there was a strong correlation between FSH levels and age in infertile women. This finding confirms that aging significantly increases FSH levels, which disrupts the ovarian function that causes infertility [18]. These statements are supported by similar studies revealing that aging causes infertility and leads to a significant decrease in AMH levels [2] [11] [16]. Various authors agree that age is a favourable factor in infertility [12]-[14].

High BMI is strongly correlated with hormonal disorders. Numerous studies have demonstrated the disruption of endocrine function due to fat accumulation [2] [18].

5. Conclusion

Procreation and the family are considered the right of every human being. Infertility is a major global health problem requiring appropriate diagnosis and urgent

treatment. Without, however, incriminating women alone in the responsibility for a couple's infertility, it should be noted that the female reproductive system is strongly influenced by hormones; even the smallest imbalance can lead to a variety of infertility problems. Various anatomical, biological and lifestyle factors influence infertility. Complementary examinations have made it possible to establish the profile of women requiring care and to choose the most appropriate treatment for the couple. The Gynecology, Obstetrics and Reproductive Medicine Department has therefore equipped itself to respond to the distress of these women, with an MAP unit that will put a smile back on the faces of these often fragile couples.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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