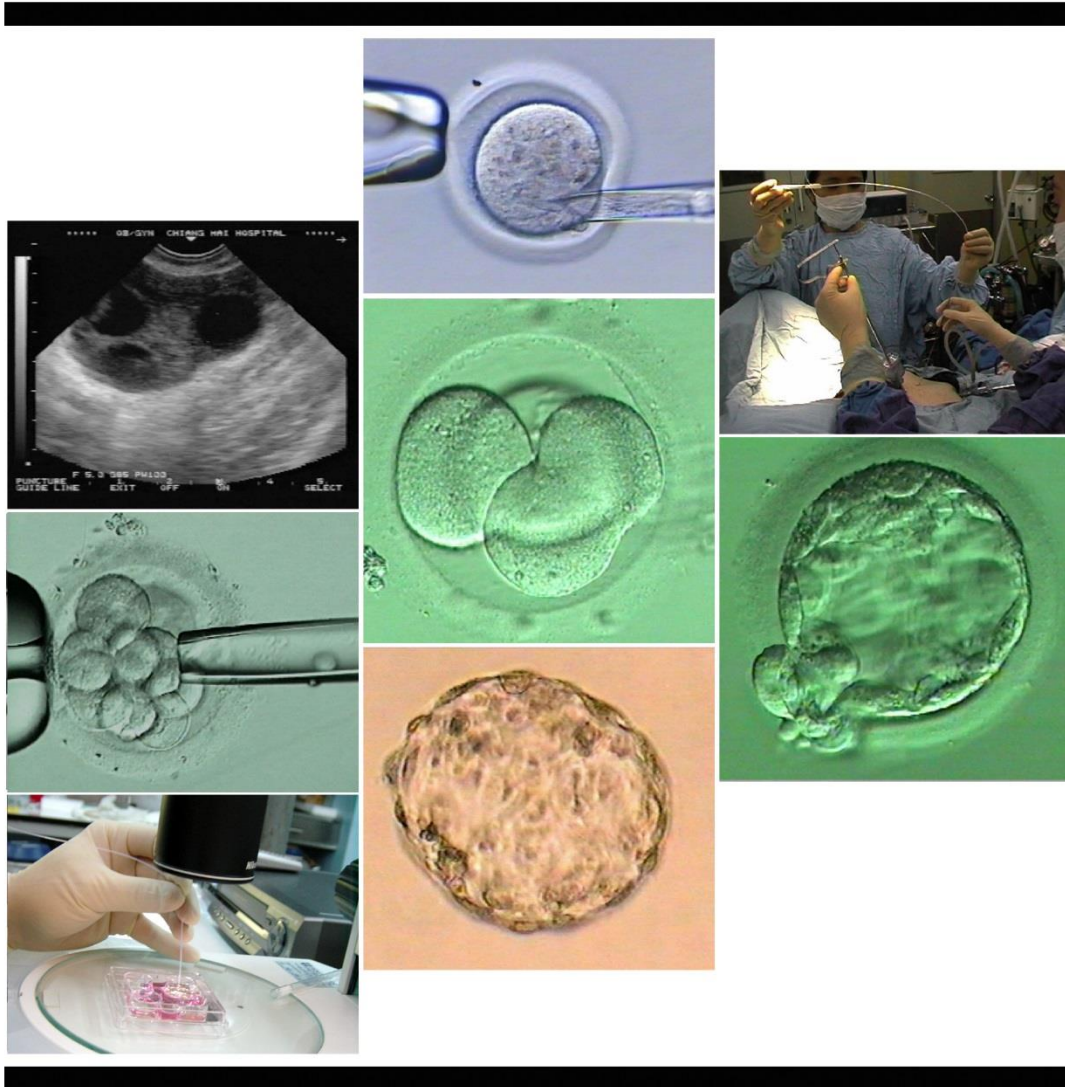


# Annual Report

## 2022



Division of Reproductive Medicine  
Department of Obstetrics & Gynecology  
Faculty of Medicine, Chiang Mai University  
Chiang Mai, Thailand

# ANNUAL REPORT 2022

Division of Reproductive Medicine  
Department of Obstetrics and Gynecology  
Faculty of Medicine  
Chiang Mai University  
Chiang Mai, Thailand

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	Worashorn Lattiwongsakorn MD.
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	Jamjit Doungpunta MSc.

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Data compiled and reported

Rung-aroon Sreshthaputra MSc.

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# รายงานประจำปี พ.ศ. 2565

หน่วยเวชศาสตร์การเจริญพันธุ์  
ภาควิชาสูติศาสตร์และนรีเวชวิทยา  
คณะแพทยศาสตร์  
มหาวิทยาลัยเชียงใหม่

หัวหน้าหน่วย

อาจารย์ประจำหน่วย

อาจารย์พิเศษ

แพทย์หลักสูตรต่อยอด

พยาบาลประจำหน่วย

พยาบาลประจำห้องตรวจ

นักเทคนิคการแพทย์

รวบรวมข้อมูลและจัดทำรายงาน

รศ.พ.ญ.ทวิวัน พันธศรี  
ผศ.พ.ญ.อุบล แสงอนันต์  
ผศ.พ.ญ.อุษณีย์ แสนหมี่  
อ.พ.ญ.วรชกร ลัทธวิงศกร  
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รุ่งอรุณ เศรษฐบุตร

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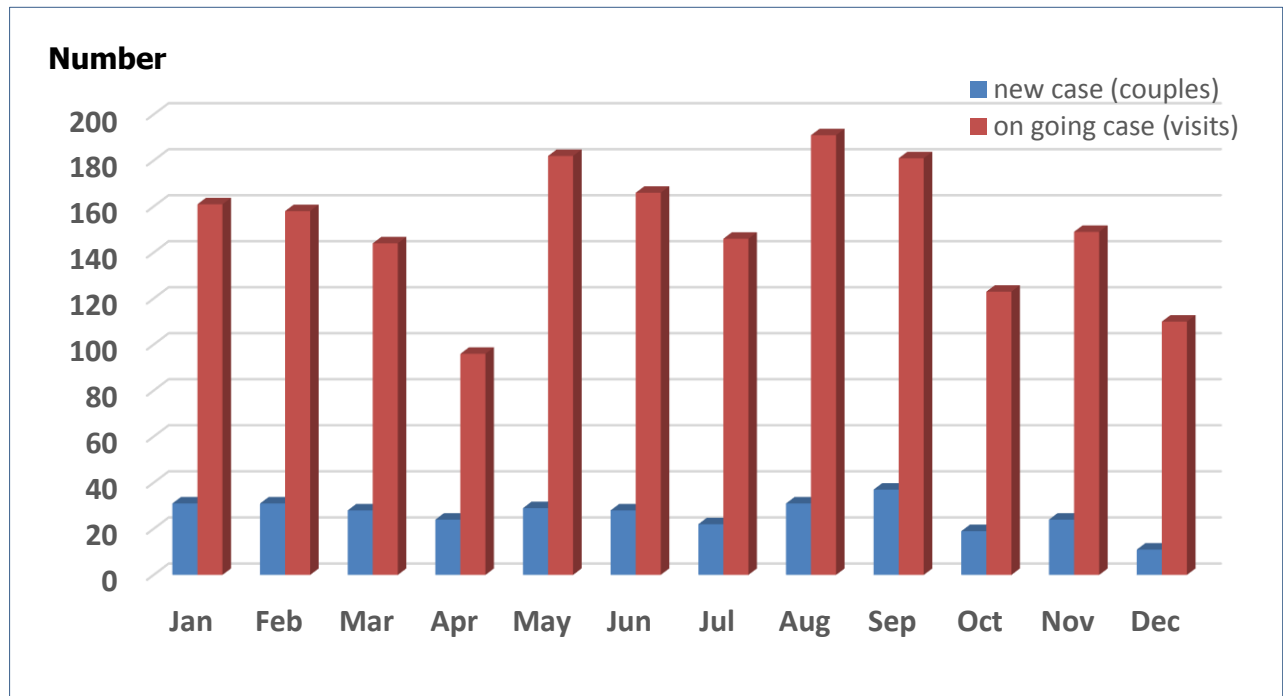
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**PART I****NUMBER OF ATTENDED PATIENTS IN 2022**

- Infertile patients
- Gynecologic endocrine patients
- Endometriosis patients
- Transgender patients

## I. Number of infertile patients

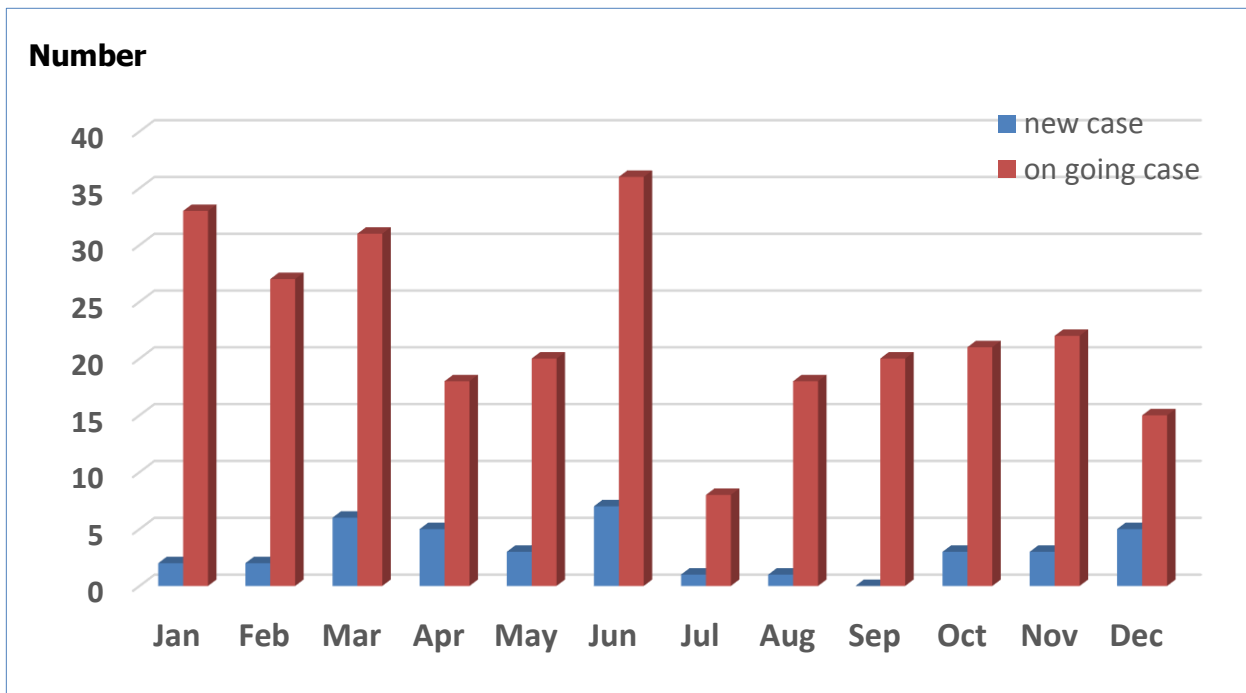
Month	New case (couples)	Ongoing case (couple visits)
January	31	161
February	31	158
March	28	144
April	24	96
May	29	182
June	28	166
July	22	146
August	31	191
September	37	181
October **	19	123
November	24	149
December	11	110
<b>Total</b>	<b>315</b>	<b>1807</b>



**Figure I.** Number of infertile couples per month

## II. Number of gynecologic endocrine patients

Month	New case (cases)	Ongoing case (visits)
January	2	33
February	2	27
March	6	31
April	5	18
May	3	20
June	7	36
July	1	8
August	1	18
September	0	20
October	3	21
November	3	22
December	5	15
<b>Total</b>	<b>38</b>	<b>269</b>

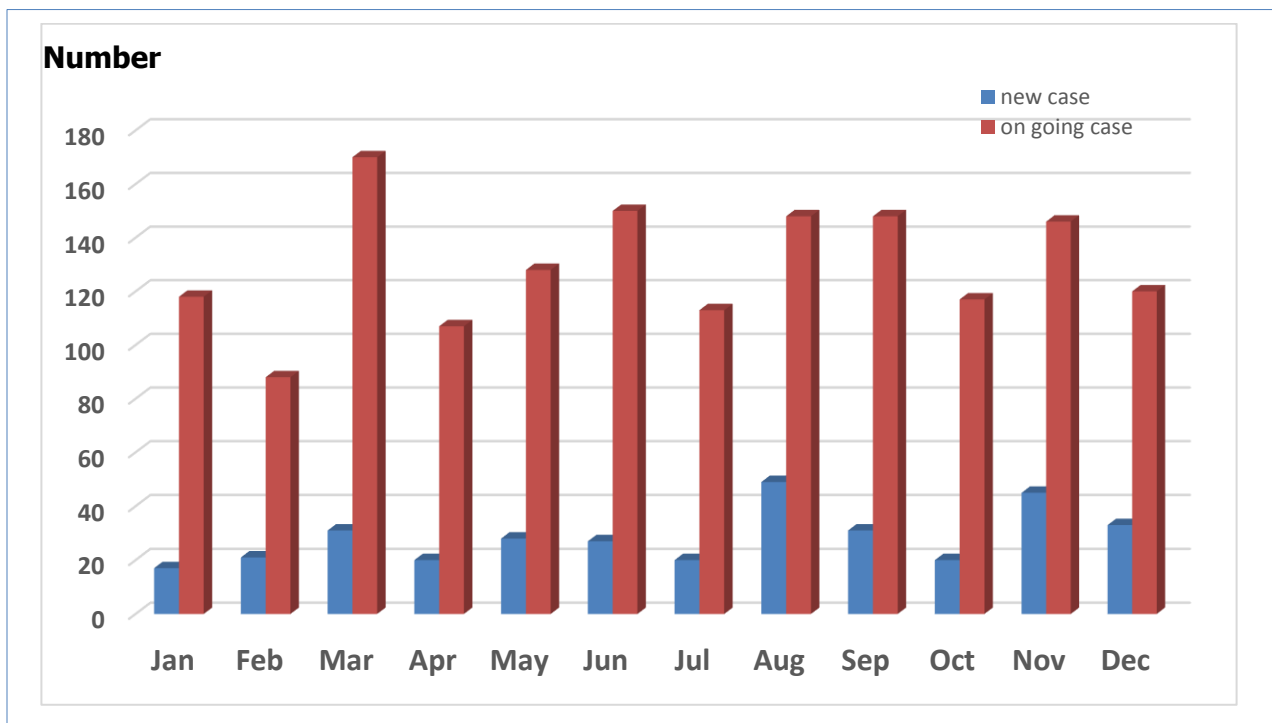


**Figure II.** Number of endocrine patients per month



### III. Number of patients with history of endometriosis or pelvic mass

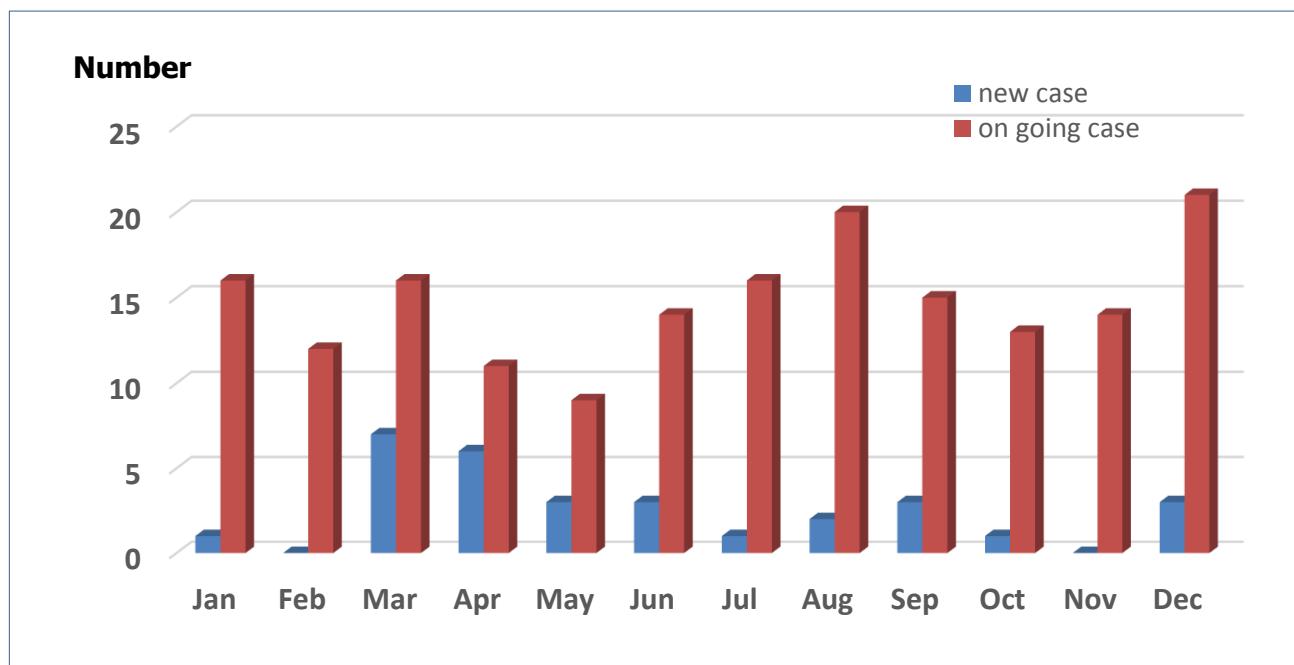
Month	New case (cases)	Ongoing case (visits)
January	17	118
February	21	88
March	31	170
April	20	107
May	28	128
June	27	150
July	20	113
August	49	148
September	31	148
October	20	117
November	45	146
December	33	120
<b>Total</b>	<b>342</b>	<b>1553</b>



**Figure III.** Number of endometriosis or pelvic mass patients per month

#### IV. Number of Transgender patients

Month	New case (cases)	Ongoing case (visits)
January	1	16
February	0	12
March	7	16
April	6	11
May	3	9
June	3	14
July	1	16
August	2	20
September	3	15
October	1	13
November	0	14
December	3	21
<b>Total</b>	<b>30</b>	<b>177</b>



**Figure IV.** Number of transgender patients per month

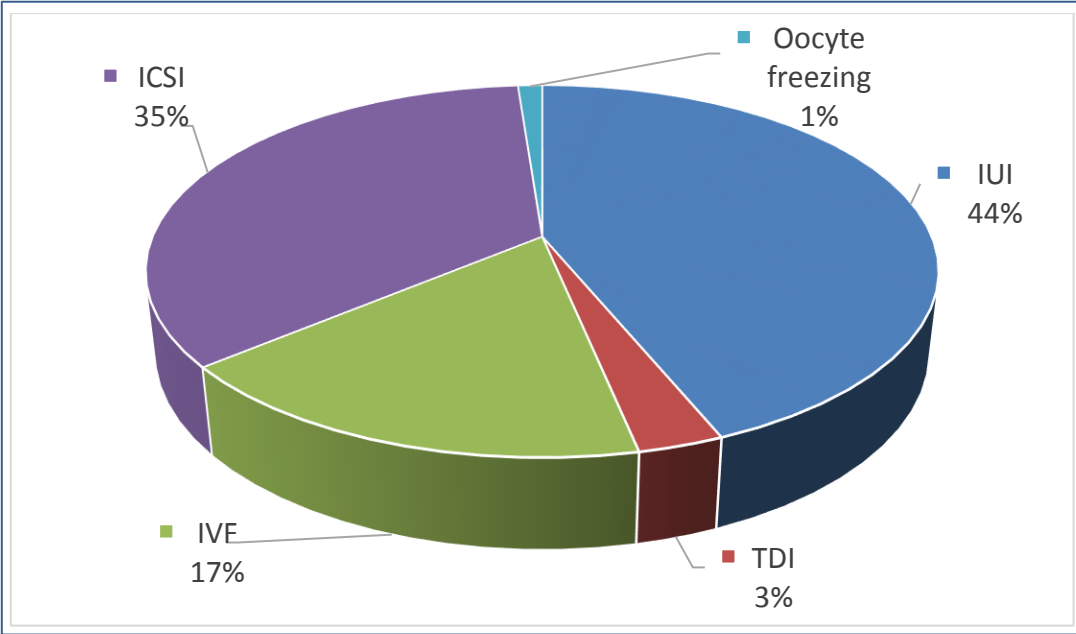
**V. Number of patients with history of endometriosis or pelvic mass distributed by diagnosis**

	<b>New case (cases)</b>	<b>Ongoing case (visits)</b>
Ovarian cyst	24	53
Dermoid cyst	21	51
Endometrioma	30	276
Endometriosis	20	268
Hydrosalpinx	9	11
Dysmenorrhea	4	2
Chronic Pelvic pain	4	24
Adenomyosis	14	135
Myoma uteri	70	262
Submucous myoma	11	35
Pelvic adhesion	3	4
Edometrial polyp	64	143
Others	68	289
<b>Total</b>	<b>342</b>	<b>1553</b>

**PART II****TREATMENT OF INFERTILE COUPLES IN 2022**

**I. Distribution of ART Treatment**

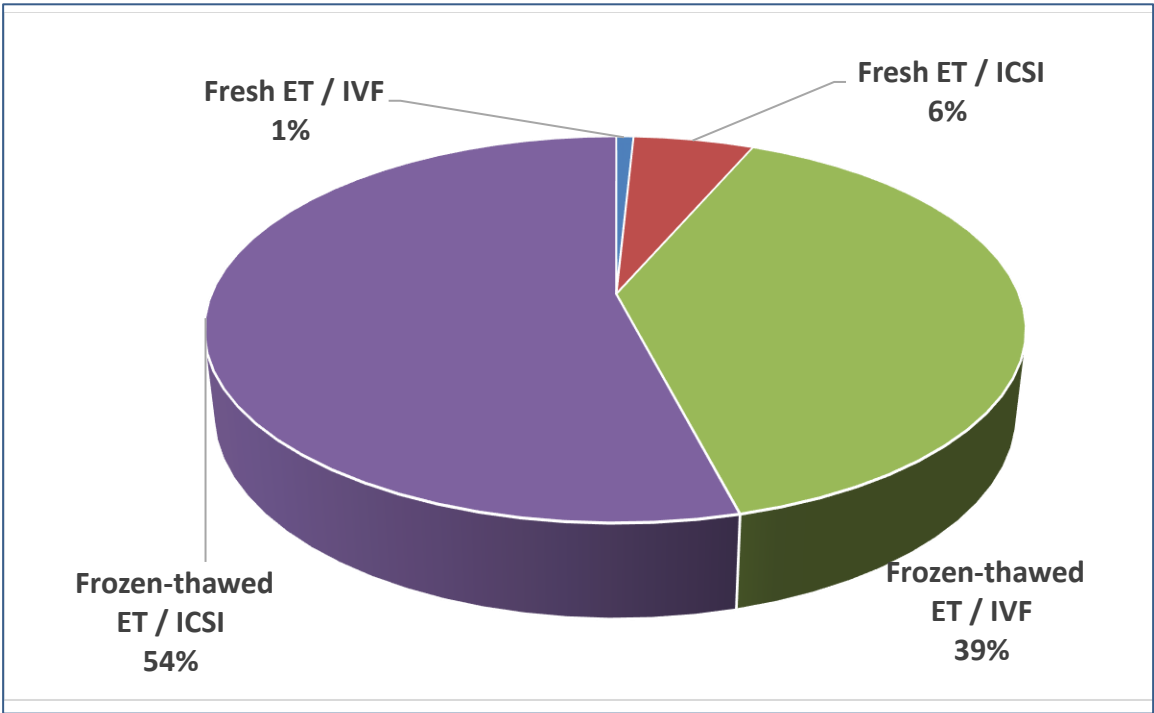
Treatment	Number (cycles)	Percent
Intrauterine insemination (IUI)	74	43.8
Therapeutic insemination using frozen donor sperm (TDI)	5	2.9
In vitro fertilization and embryo transfer (IVF)	29	17.2
Intracytoplasmic sperm injection (ICSI)	59	34.9
Oocyte freezing	2	1.2
<b>Total cycles of treatment</b>	<b>169</b>	<b>100</b>



**Figure V.** Percent of A.R.T. treatments

**II. Distribution of Embryo transfer Treatment**

Treatment	Number (cycles)	Percent
Fresh embryos transfer / IVF	1	0.8
Fresh embryos transfer / ICSI	7	5.6
Frozen-thawed embryos transfer (FET) / IVF	49	39.5
Frozen-thawed embryos transfer (FET) / ICSI	67	54.0
<b>Total cycles of treatment</b>	<b>124</b>	<b>100</b>



**Figure VI.** Percent of embryo transfer treatments

### III. Number of A.R.T cycles per month and pregnancy rate

Month	IUI	TDI	IVF	ICSI	Oocyte freezing	FET /IVF	FET /ICSI
January	7	-	1	5	-	4	6
February	6	-	1	11	-	7	5
March	8	-	0	5	-	2	9
April	3	-	1	0	-	1	3
May	9	-	5	10	-	5	5
Jun	7	-	0	6	-	2	8
July	2	1	5	3	-	5	4
August	10	-	5	5	-	5	5
September	7	1	4	9	-	8	3
October	6	2	-	-	-	5	8
November	5	3	5	3	2	2	8
December	4	1	2	2	-	3	3
<b>Total</b>	<b>74</b>	<b>8</b>	<b>29</b>	<b>59</b>	<b>2</b>	<b>49</b>	<b>67</b>
Fertilization rate (%)			58.8	56.8			
Thawed embryo survival rate (%)						93.5	94.9
Further thawed embryo development rate (%)						62.4	56.6
Number cycle of embryo transfer			1	7		85	107
Chemical pregnancy (case(s))	-	-	0	0	-	26	26
Clinical pregnancy (case(s))	5	1	0	0	-	18	20
Number of gestational sac with fetal heart activity	1 sac	4	-	-	-	11	17
	2 sacs	-	-	-	-	7	3
	3 sacs	-	-	-	-	-	-
Abortion (case(s))	1	-	-	-	-	1	1
Ectopic pregnancy (case)	-	-	-	-	-	-	-
Clinical pregnancy rate (%)	6.8*	12.5*	0**	0**	-	36.7**	29.9**

\* pregnancy rate per stimulation cycle

\*\* pregnancy rate per transferred cycle

**PART III**

**ASISSTED REPRODUCTIVE TECHNOLOGY  
LABORATORY REPORT**



### I. In vitro fertilization (IVF) cycle

IVF cycle	mean $\pm$ SD (per cycle)	Range (per cycle)	Total (per year)
Age of patients (years)	35.6 $\pm$ 4.3	25 - 42	29 cycles
Number of oocyte retrieved	14.9 $\pm$ 7.5	4 - 34	432 oocytes
Number of normal fertilization	8.8 $\pm$ 6.3	0 - 26	254 oocytes
Normal fertilization rate			58.8. %
Number of cleavage stage embryo	8.7 $\pm$ 6.3	0 - 19	251 embryos
Cleavage rate			98.8 %
Number of embryo transfer	-	-	1 embryos
Number of embryo freezing	8.6 $\pm$ 5.8	1 - 26	231 embryos

## II. Intracytoplasmic sperm injection (ICSI) cycle

ICSI cycle	mean $\pm$ SD (per cycle)	Range (per cycle)	Total (per year)
Age of patient (years)	35.8 $\pm$ 4.3	24 - 43	59 cycles
Number of oocyte retrieved	11.8 $\pm$ 10.2	1 - 37	692 oocytes
Number of M II oocytes retrieved	9.4 $\pm$ 7.8	1 - 30	546 oocytes
Number of normal fertilized embryos	5.4 $\pm$ 5.0	0 - 23	315 oocytes
Fertilization rate			57.7 %
Number of cleavage stage embryo	5.4 $\pm$ 5.0	0 - 23	312 embryos
Cleavage rate			99.0 %
Number of embryo transfer	-	-	8 embryos
Number of embryo freezing	5.0 $\pm$ 4.9	0 - 20	287 embryos

## III. Oocyte freezing cycle

OPU cycle	mean $\pm$ SD (per cycle)	Range (per cycle)	Total (per year)
Age of patient (years)	40 ( $\pm$ 2.8 )	38 - 42	2 cases
Number of oocyte retrieved	11 ( $\pm$ 4.2 )	8 -14	22 oocytes
Number of M II oocytes retrieved and freezing	10.5 ( $\pm$ 3.5)	8 - 13	21 oocytes

#### IV. Frozen thawed embryo transfer (FET) : IVF embryo

Frozen-thawed Embryo transfer cycle (FET)	mean $\pm$ SD (per cycle)	Range (per cycle)	Total (per year)
Age of patients (years)	35.6 $\pm$ 3.8	26 - 46	
Number of embryo thawing	3.4 $\pm$ 1.5	1 - 8	168
Number of embryo survived	3.2 $\pm$ 1.5	1 - 8	157
Thawed embryo survival rate (immediately)			93.5 %
Number of embryo transfer	1.7 $\pm$ 0.5	1 - 3	85
Number of embryo freezing back			13
Further cleavage rate after thawing			62.4 %

#### V. Frozen thawed embryo transfer (FET) : ICSI embryo

Frozen-thawed Embryo transfer cycle (FET)	mean $\pm$ SD (per cycle)	Range (per cycle)	Total (per year)
Age of patient (years)	36.0 $\pm$ 4.5	24 - 46	
Number of embryo thawing	2.8 $\pm$ 1.5	1 - 8	138
Number of embryo survived	3.0 $\pm$ 1.6	0 - 7	131
Thawed embryo survival rate (immediately)			94.9 %
Number of embryo transfer	1.6 $\pm$ 0.5	1 - 3	73
Number of embryo freezing back			9
Further cleavage rate after thawing			62.6 %

## VI. Pregnancy outcome by type of A.R.T. and age group of female patients

### a. Fresh embryos transfer cycle (IVF cycle)

Age (years)	Number of OPU cycle	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	Abortion
<34	8	1	-	-	-
≥34-39	17	-	-	-	-
≥40	4	-	-	-	-
<b>total</b>	<b>29</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>

### b. Fresh embryos transfer cycle (ICSI cycle)

Age (years)	Number of OPU cycle	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	Abortion
<34	15	-	-	-	-
≥34-39	35	6	-	-	-
≥40	9	1	-	-	-
<b>total</b>	<b>59</b>	<b>7</b>	<b>-</b>	<b>-</b>	<b>-</b>

**c. Frozen embryos transfer cycle (IVF embryo)**

Age (years)	Number of ET cycle	No Pregnancy	Chemical Pregnancy	Clinical Pregnancy		Abortion
				Single ton	twin	
<34	12	4	-	3	5	-
≥34-39	32	16	2	9	2	3
≥40	5	4	-	-	-	1
<b>total</b>	<b>49</b>	<b>24</b>	<b>2</b>	<b>12</b>	<b>7</b>	<b>4</b>

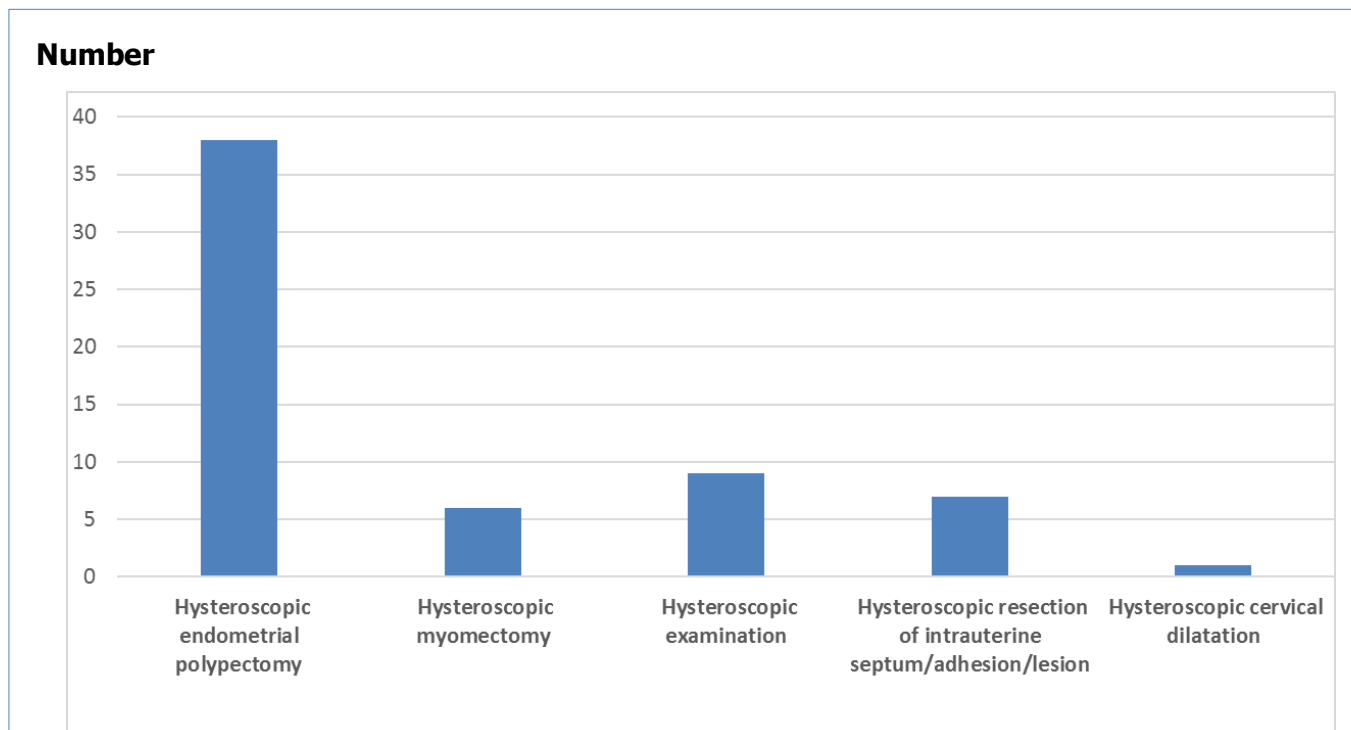
**d. Frozen embryos transfer cycle (ICSI embryo)**

Age (years)	Number of ET cycle	No Pregnancy	Chemical Pregnancy	Clinical Pregnancy		Abortion
				Single ton	twin	
<34	16	7	-	7	1	1
≥34-39	38	27	2	7	2	-
≥40	13	9	-	2	-	2
<b>total</b>	<b>67</b>	<b>43</b>	<b>2</b>	<b>16</b>	<b>3</b>	<b>3</b>

**PART VI****ENDOSCOPIC PROCEDURES  
&  
OTHER SURGERIES**

### I. Number of hysteroscopic procedures in infertile patients

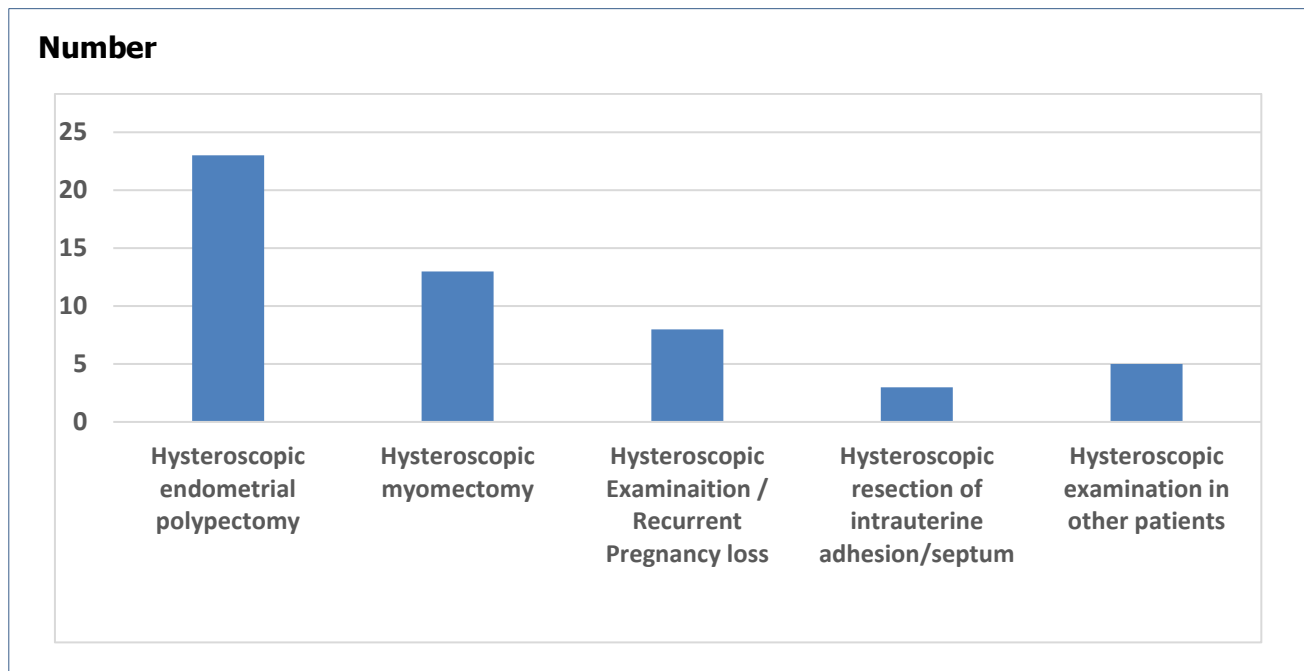
Hysteroscopic procedure	Number
Hysteroscopic endometrial polypectomy (+/- Curettage)	38
Hysteroscopic myomectomy (+/- Curettage)	6
Hysteroscopic examination in patients # with history of infertility # with recurrent implantation failure # with history of intrauterine fluid collection	7 1 1
Hysteroscopic resection of intrauterine septum / adhesion / lesion	7
Hysteroscopic cervical dilatation	1
<b>Total</b>	<b>61</b>



**Figure VII.** Number of hysteroscopic procedures in infertile patients

## II. Number of hysteroscopic procedures in gynecologic patients

Hysteroscopic procedure / Diagnosis	Number
Hysteroscopic endometrial polypectomy (+/- curettage)	23
Hysteroscopic myomectomy / resection of intrauterine mass or lesion (+/- curettage)	13
Hysteroscopic examination in patient with history of recurrent pregnancy loss	8
Hysteroscopic resection of intrauterine adhesion / septum	3
Hysteroscopic examination in : # AUB / post-menopausal bleeding patients	2
# Uterine didelphys patients	2
# Herlyn Werner-Wunderlich syndrome patient	1
<b>Total</b>	<b>52</b>

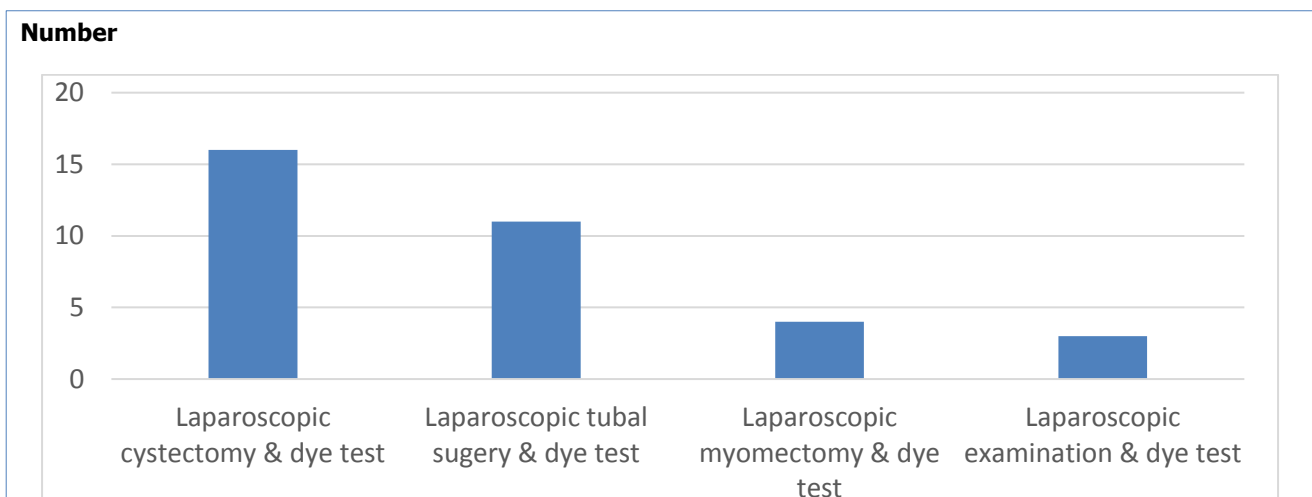


**Figure VIII.** Number of hysteroscopic procedures in gynecologic patients



### III. Number of laparoscopic procedures in infertile patients

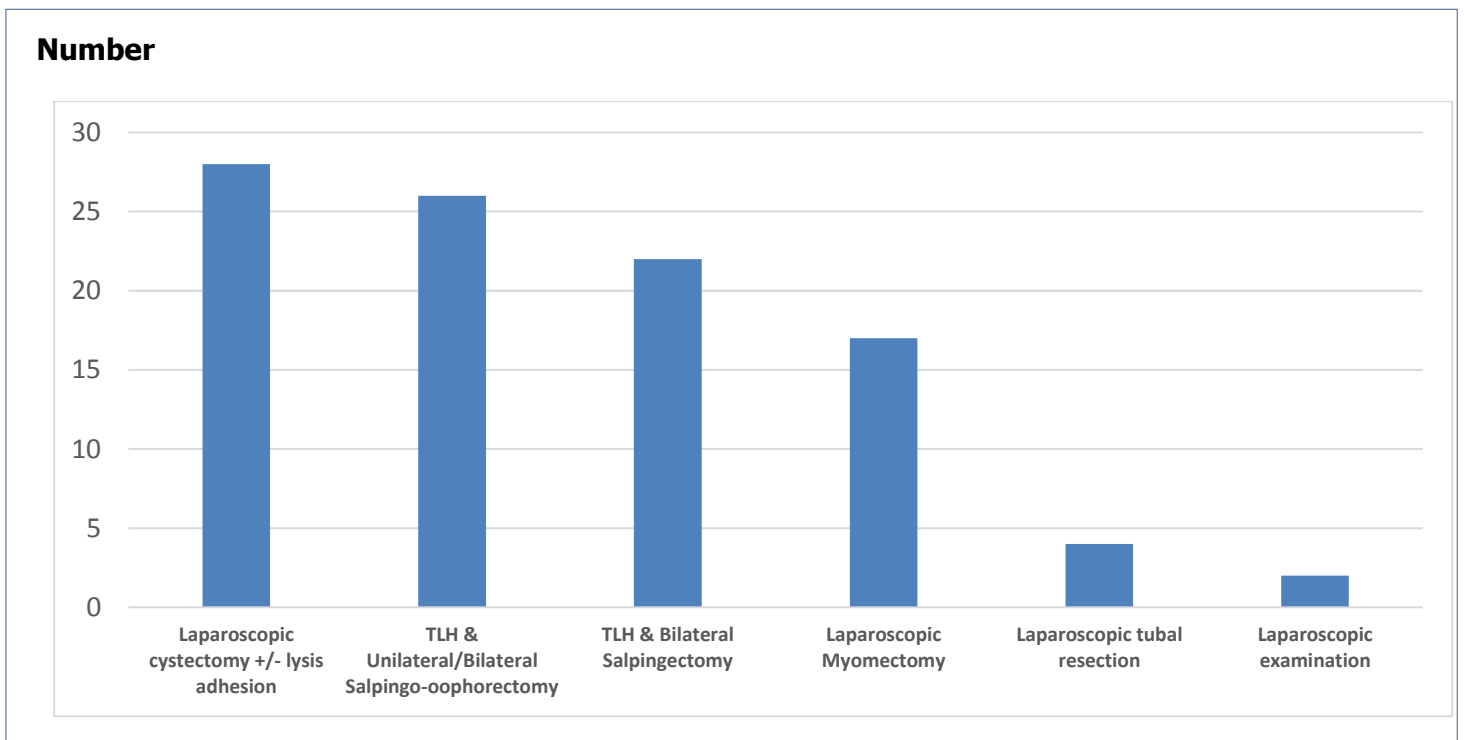
Procedure	Diagnosis / finding	Number
Cystectomy & dye test	Ovarian cyst / endometrioma	9
Cystectomy & myomectomy & dye test (+/- lysis adhesion)	Ovarian cyst with myoma uteri	2
Cystectomy & lysis adhesion & dye test	Ovarian cyst / endometrioma with pelvic adhesion	3
Cystectomy & salpingectomy / fimbrioplasty & dye test (+/- lysis adhesion)	Ovarian cyst / endometrioma with hydrosalpinx	2
Salpingectomy & Lysis adhesion & dye test (+/- tubal occlusion)	Hydrosalpinx & Pelvic adhesion	2
Fimbrioplasty with lysis adhesion & dye test	Hydrosalpinx	2
Unilateral/Bilateral salpingectomy (+/- lysis adhesion)	Hydrosalpinx	2
Tubal re-anastomosis	s/p Tubal resection	5
Myomectomy & dye test +/- lysis adhesion	myoma uteri	4
Laparoscopic examination & dye test	Infertility	3
<b>Total</b>		<b>34</b>



**Figure IX.** Number of laparoscopic procedures in infertile patients

## VI. Number of laparoscopic procedures in gynecologic patients

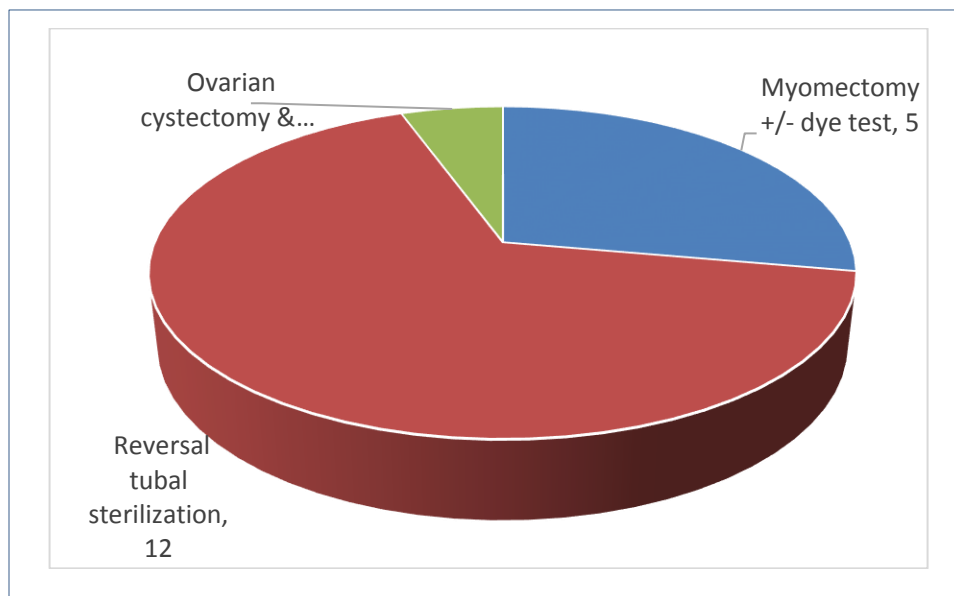
Procedure	Diagnosis	Number
Laparoscopic unilateral / bilateral cystectomy +/- lysis adhesion	Endometrioma / Dermoid cyst	28
TLH & unilateral / bilateral salpingo-oophorectomy (+/- lysis adhesion)	Myoma uteri / Endometrium hyperplasia / Ovarian cyst	26
TLH & bilateral salpingectomy (+/- lysis adhesion)	Myoma uteri / Adenomyosis	16
	Down's syndrome / Intellectual disorder / Mental retardation	4
	Endometrial hyperplasia	2
Laparoscopic myomectomy (+/- lysis adhesion)	Myoma uteri	17
Laparoscopic tubal resection	Complete family	4
Laparoscopic examination	Chronic pelvic pain	1
	Pregnancy with endometrioma	1
<b>Total</b>		<b>99</b>



**Figure X.** Number of laparoscopic procedures in gynecologic patients

### V. Number of explore laparotomy procedures and others in infertile patients

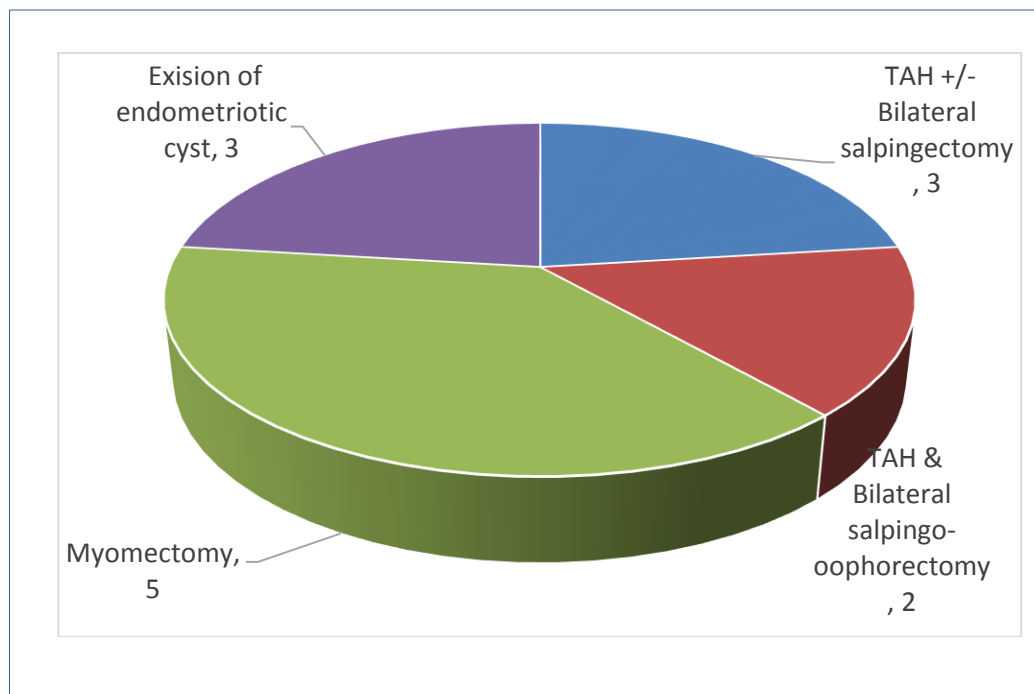
Procedure	Diagnosis / finding	Number
Myomectomy +/- dye test	Myoma uteri	5
Reversal tubal sterilization	S/P Tubal resection	12
Ovarian cystectomy & dye test	Leakage of endometrioma	1
<b>Total</b>		<b>18</b>



**Figure XI.** Number of explore laparotomy procedures and others in infertile patients

## VI. Number of explore laparotomy proceduers and others in gynecologic patients

Procedure	Diagnosis / finding	Number
TAH +/- Bilateral salpingectomy	Myoma uteri / Adenomyosis	3
TAH & Bilateral salpingo-oophorectomy	Myoma uteri / Adenomyosis	2
Myomectomy	Myoma uteri	5
Excision of endometriotic cyst	Umbilical endometriotic cyst	2
	Endometriotic cyst at abdominal wall	1
<b>Total</b>		<b>13</b>



**Figure XII.** Number of explore laparotomy procedures in gynecologic patients

**PART V**

**NUMBER OF GYNECOLOGIC ENDOCRINE PATIENT /  
TRANSGENDER PATIENTS AND OTHERS**

### Distribution of gynecologic endocrine / transgender / other patients

Diagnosis	No. of cases	
	New case (cases)	On going (visits)
Hyperprolactinemia / Macro- or Micro-adenoma of pituitary gland / Pituitary adenoma	5	72
PCOS	14	118
Anovulation / irregular menstruation	2	13
oligomenorrhea	-	1
Primary amenorrhea	6	10
Secondary amenorrhea	12	41
Mullerian agenesis	-	1
Recurrent pregnancy loss	12	13
Premature ovarian failure	1	73
Congenital adrenal hyperplasia	-	5
AUB / Hypermenorrhea	25	32
Gonadal dysgenesis	1	5
Turner's syndrome	2	29
Pituitary disorder	-	1
Uterine didelphys / Septate uterus	3	13
Precocious puberty	1	-
Hirsutism	0	2
Asherman syndrome	2	6
Labial agglutination	2	6
Hypogonadotropic hypogonadism	-	5
Transgender ( female to male )	22	148
Transgender ( male to female )	8	29
Perimenopause / Post menopause / Surgical menopause	5	51
Klinefelter syndrome	1	-