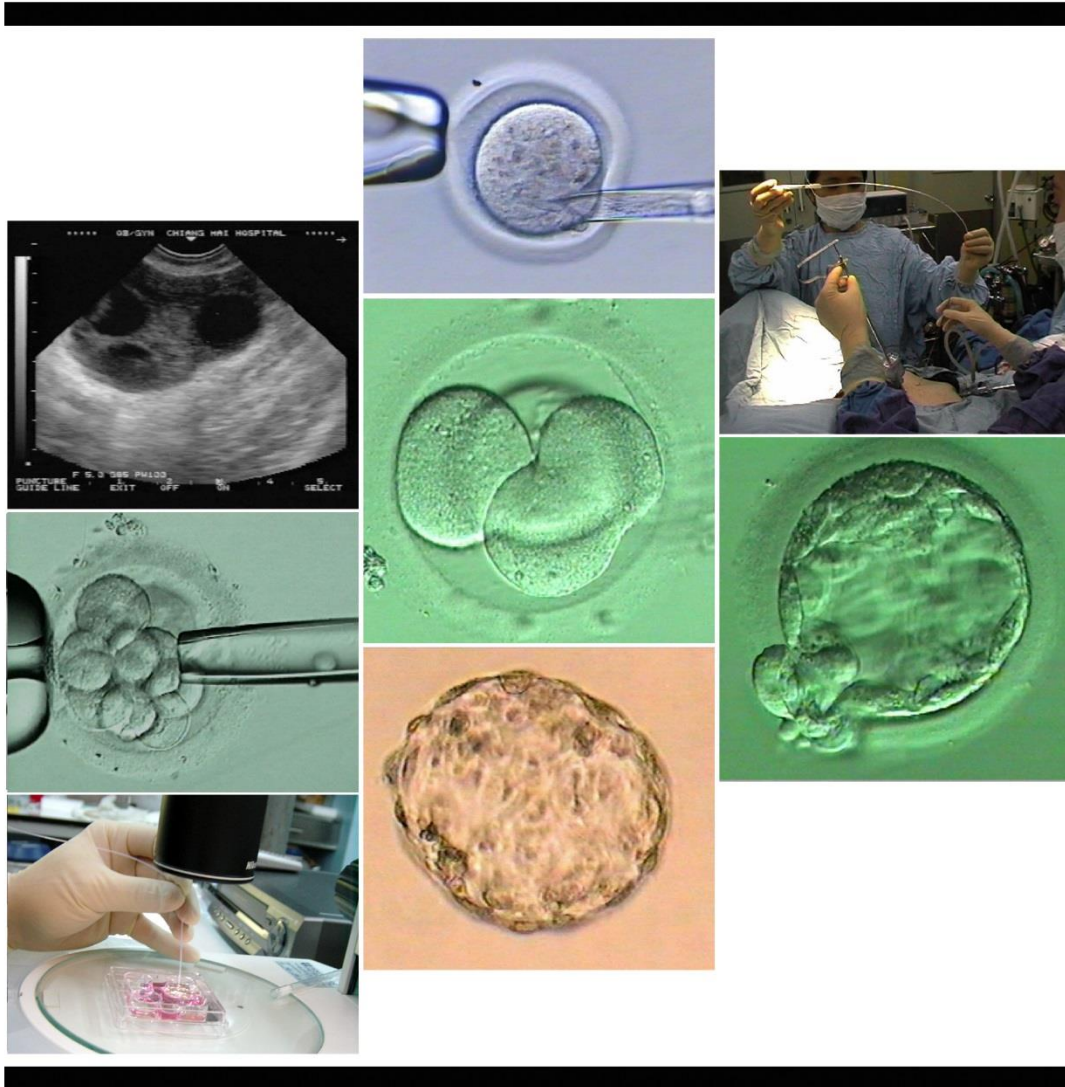


Annual Report

2021



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

ANNUAL REPORT 2021

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คณะแพทยศาสตร์
มหาวิทยาลัยเชียงใหม่

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พยาบาลประจำห้องตรวจ

นักเทคนิคการแพทย์

รวบรวมข้อมูลและจัดทำรายงาน

รุ่งอรุณ เศรษฐบุตร

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PART I**NUMBER OF ATTENDED PATIENTS IN 2021**

- Infertile patients
- Gynecologic endocrine patients
- Endometriosis patients

I. Number of infertile patients

Month	New case (couples)	Ongoing case (couple visits)
January	38	90
February	25	145
March	51	210
April	20	72
May	14	67
June	34	149
July	25	172
August	19	120
September	24	132
October **	30	117
November	19	144
December	20	110
Total	319	1528

Number

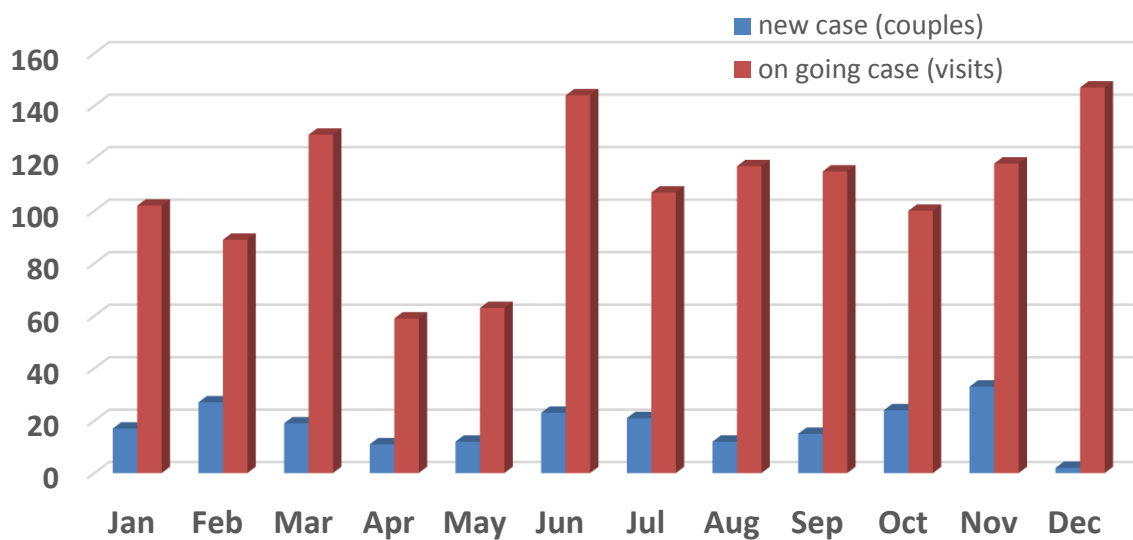


Figure I. Number of Infertile couples per month

II. Number of gynecologic endocrine patients

Month	New case (cases)	Ongoing case (visits)
January	15	72
February	12	78
March	29	82
April	12	76
May	10	56
June	27	95
July	21	103
August	9	83
September	7	44
October	3	46
November	9	45
December	6	47
Total	160	827

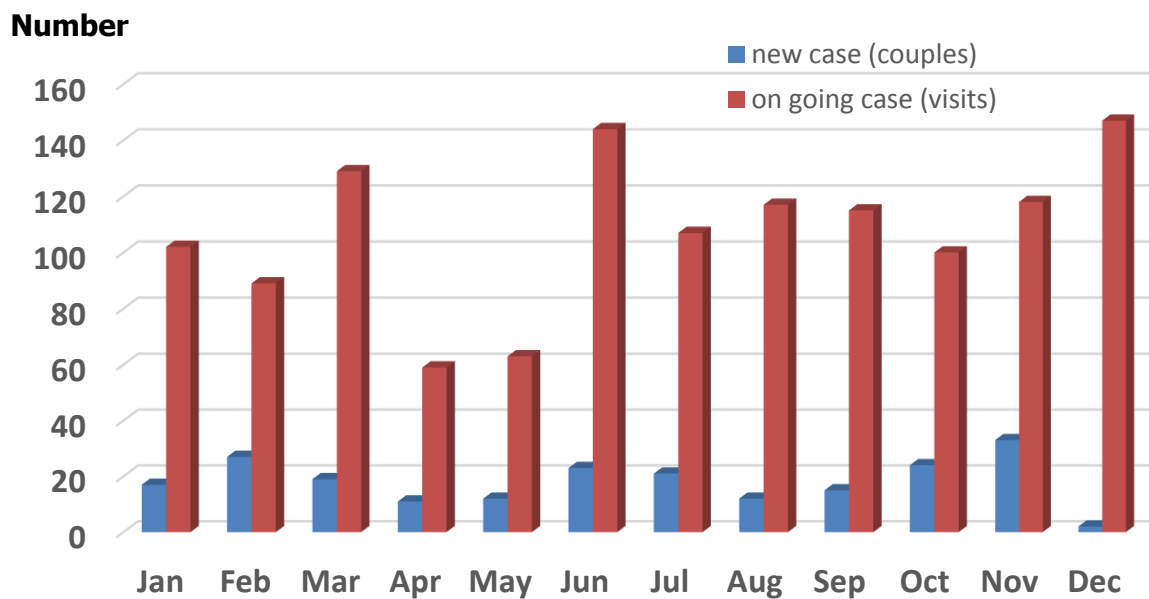


Figure II. Number of endocrine patients per month

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

Month	New case (cases)	Ongoing case (visits)
January	17	102
February	27	89
March	19	129
April	11	59
May	12	63
June	23	144
July	21	107
August	12	117
September	15	115
October	24	100
November	33	118
December	2	147
Total	226	1290

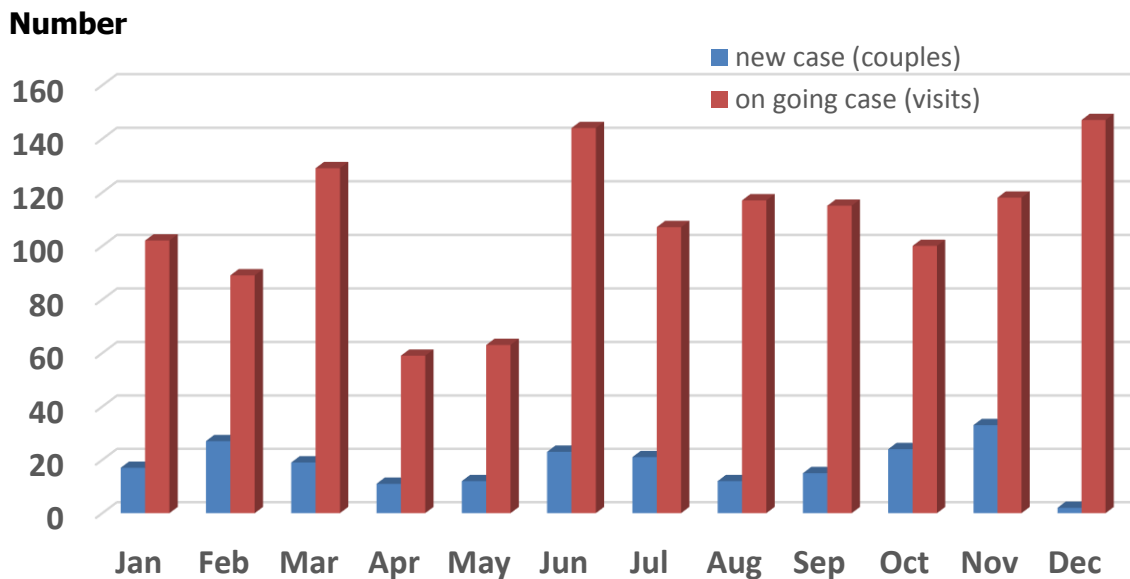


Figure III. Number of endometriosis or pelvic mass patients per month

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

	New case (cases)	Ongoing case (visits)
Ovarian cyst	26	79
Dermoid cyst	11	44
Endometrioma	37	315
Endometriosis	18	236
Hydrosalpinx	3	20
Catamenial endometriosis	0	13
Dysmenorrhea	6	18
Chronic Pelvic pain	5	42
Adenomyosis	14	118
Myoma uteri	65	287
Submucous myoma	1	15
Pelvic adhesion	-	4
Edometrial polyp	50	99
Total	236	1290

PART II**TREATMENT OF INFERTILE COUPLES IN 2021**

I. Distribution of ART Treatment

Treatment	Number (cycles)	Percent
Intrauterine insemination (IUI)	91	32.4
Therapeutic insemination using frozen donor sperm (TDI)	5	1.8
In vitro fertilization and embryo transfer (IVF)	39	13.9
Intracytoplasmic sperm injection (ICSI)	44	15.7
Fresh embryo transfer from IVF	4	1.4
Fresh embryo transfer from ICSI	5	1.8
Frozen embryo transfer from IVF	43	15.3
Frozen embryo transfer from ICSI	50	17.8
Total cycles of treatment	281	100

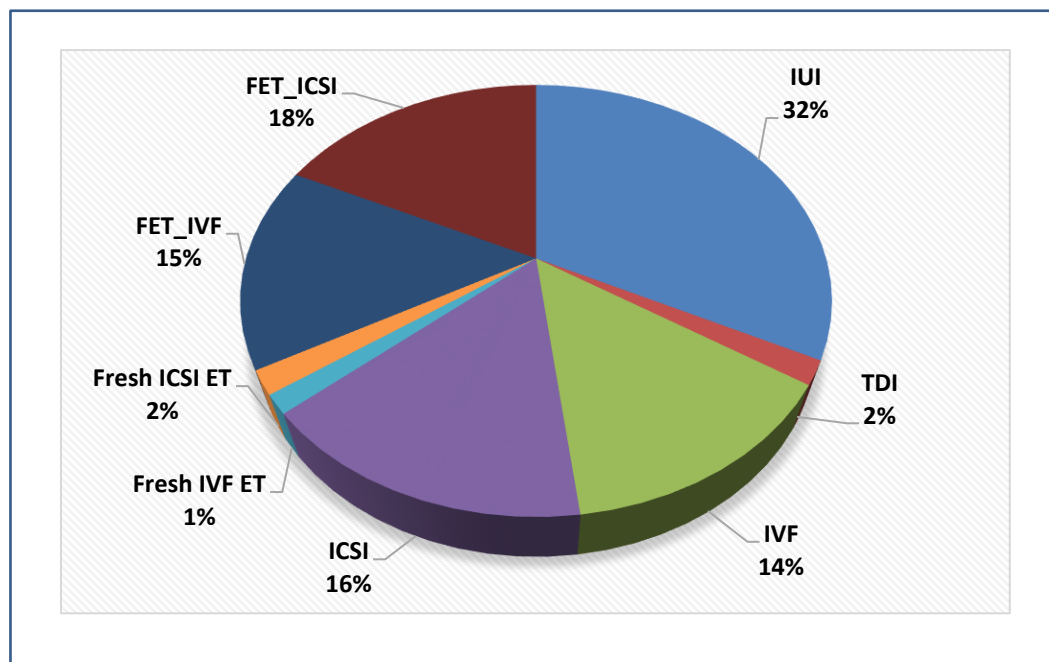


Figure VI. Percent of ART treatments

II. Distribution of Embryo transfer Treatment

Treatment	Number (cycles)	Percent
Fresh embryos transfer / IVF	6	5.8
Fresh embryos transfer / ICSI	5	4.8
Frozen-thawed embryos transfer (FET) / IVF	43	41.3
Frozen-thawed embryos transfer (FET) / ICSI	50	48.1
Total cycles of treatment	104	100

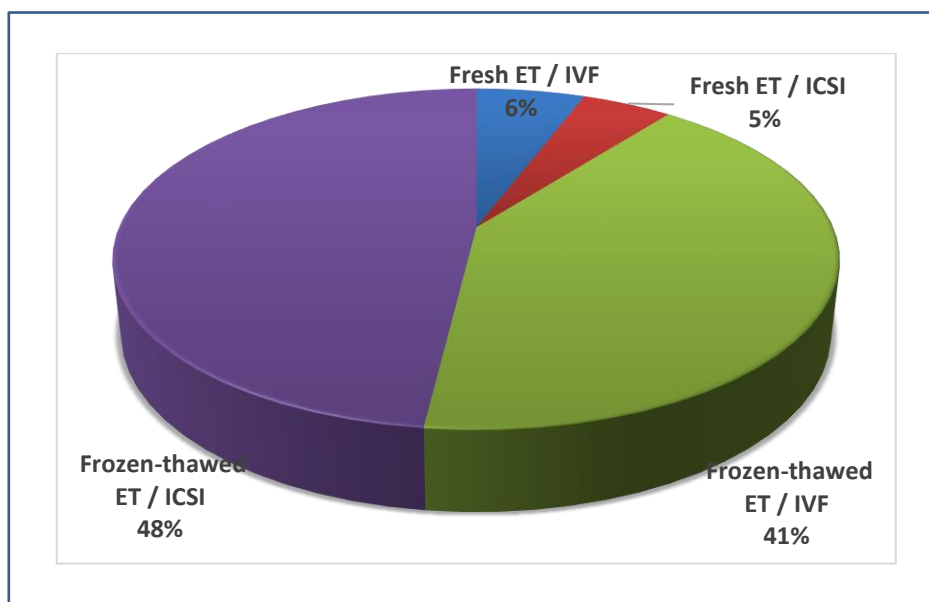


Figure V. Percent of ET treatments

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

Month	IUI	TDI	IVF	ICSI	Oocyte freezing	FET /IVF	FET /ICSI
January	8	1	-	-	-	-	5
February	11	-	4	3	-	5	1
March	13	2	12	7	-	3	3
April	4	-	1	3	-	4	-
May	3	1	-	-	-	3	4
Jun-	13	1	7	3	-	7	7
July	7	1	5	7	-	2	8
August	10	-	2	3	-	6	1
September	7	1	2	4	-	2	3
October	3	-	3	7	-	4	5
November	8	-	3	7	-	3	7
December	3	-	1	3	-	4	6
Total	90	7	40	47	-	43	50
Fertilization rate (%)			64.9	66.7			
Thawed embryo survival rate (%)						88.4	67.4
Further thawed embryo development rate (%)						93.0	52.7
Number cycle of embryo transfer			6	5		43	50
Chemical pregnancy (case(s))	-	-	1	2	-	6	7
Clinical pregnancy (case(s))	6	1	1	1	-	14	11
Number of gestational sac with fetal heart activity	1 sac	4	-	-	1	-	1
	2 sacs	-	-	-	-	-	1
	3 sacs	-	-	-	-	-	-
Abortion (case(s))	2	-	-	-	-	1	1
Ectopic pregnancy (case)	-	-	-	-	-	-	-
Clinical pregnancy rate (%)	6.7*	14.3*	16.7**	20.2**	-	32.6**	22.4**

* pregnancy rate per 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)	36.2 \pm 4.5	28 - 46	40 cycles
Number of oocyte retrieved	12.5 \pm 7.7	3 - 33	509 oocytes
Number of normal fertilization	8.1 \pm 5.1	2 - 20	316 oocytes
Number of oocyte inseminated			487 oocytes
Normal fertilization rate			64.9 %
Number of cleavage stage embryo	7.7 \pm 4.7	1 - 19	302 embryos
Cleavage rate			95.6 %
Number of embryo transfer	2.4 \pm 0.6	2	12 embryos
Number of embryo freezing	6.8 \pm 4.7	1 - 18	265 embryos

II. Intracytoplasmic sperm injection (ICSI) cycle

ICSI cycle	mean \pm SD (per cycle)	Range (per cycle)	Total (per year)
Age of patient (years)	36.2 \pm 5.0	24 - 46	47 cycles
Number of oocyte retrieved	10.5 \pm 7.9	1 - 39	492 oocytes
Number of M II oocytes retrieved	8.3 \pm 6.0	1 - 28	390 oocytes
Number of normal fertilized embryos (2 PN)	5.5 \pm 4.6	0 - 20	260 oocytes
Fertilization rate			66.7 %
Number of cleavage stage embryo	5.5 \pm 4.3	0 - 19	254 embryos
Cleavage rate			97.7 %
Number of embryo transfer	1.4 \pm 0.8	0 - 2	10 embryos
Number of embryo freezing	4.9 \pm	0 - 20	231 embryos

III. Oocyte freezing cycle

ICSI cycle	mean \pm SD (per cycle)	Range (per cycle)	Total (per year)
Age of patient (years)	-	-	-
Number of oocyte retrieved	-	-	-
Number of M II oocytes retrieved and freezing	-	-	-

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)	34.7 \pm 4.7	27 - 48	
Number of embryo thawing	3.1 \pm 1.1	1 - 6	146
Number of embryo survived	3.0 \pm 0.9	1 - 6	129
Thawed embryo survival rate (immediately)			88.4 %
Number of embryo transfer	1.8 \pm 0.5	1 - 3	79
Number of embryo freezing back			8
Further cleavage rate after thawing			67.4 %

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 4.4	24 - 46	
Number of embryo thawing	3.1 \pm 1.6	1 - 10	157
Number of embryo survived	2.9 \pm 1.6	0 - 10	146
Thawed embryo survival rate (immediately)			93.0 %
Number of embryo transfer	1.8 \pm 0.7	1 - 3	77
Number of embryo freezing back			5
Further cleavage rate after thawing			52.7 %

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	13	2	-	-	-
≥34-39	20	2	-	1	-
≥40	7	1	-	-	-
total	40	5	-	1	-

b. Fresh embryos transfer cycle (ICSI cycle)

Age (years)	Number of OPU cycle	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	Abortion
<34	13	1	-	-	-
≥34-39	22	5	1	-	-
≥40	12	1	1	-	-
total	47	7	2	-	-

c. Frozen embryos transfer cycle (IVF embryo)

Age (years)	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	abortion
<34	19	2	7	-
≥34-39	17	3	5	1
≥40	7	1	2	-
total	43	6	14	1

d. Frozen embryos transfer cycle (ICSI embryo)

Age (years)	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	abortion
<34	12	2	5	-
≥34-39	25	4	3	1
≥40	13	1	3	-
total	50	7	11	1

PART VI

**ENDOSCOPIC PROCEDURES
&
OTHER SURGERIES**

I. Number of one-day laparoscopic surgeries and findings in infertile patients

Procedure ; Finding	Number
Laparoscopic examination with dye test ; Normal finding with patent of both tubes patent of one tube bilateral tubal obstruction	3 - -
Laparoscopic cauterization of endometriotic spot and/or lysis adhesion and dye test ; patent of both tubes patent of one tube bilateral tubal obstruction	2 - -
Total	5

II. Number of one day laparoscopic surgery and findings in gynecologic Patient

Procedure ; Finding	Number
Laparoscopic examination & cauterization of endometriotic spot ; Endometriosis	2
Laparoscopic examination ; Chronic pelvic pain : Normal finding	1
Laparoscopic tubal resection	2
Total	5

III. Number of hysteroscopic procedures in infertile patients

Hysteroscopic procedure (; finding)	Number
Hysteroscopic examination ; WNL in patient with history of infertility only	5
WNL in patient with history of recurrent implantation failure	6
Hysteroscopic resection of endometrial polyp (+/- Curettage)	34
Hysteroscopic resection of submucous myoma (+/- Curettage)	9
Hysteroscopic resection of intrauterine septum / adhesion	5
Hysteroscopic dilatation of cervical stenosis & retained intrauterine foley's catheter	1
Hysteroscopy to remove IUD in uterine synechiea case	1
Total	61

Number

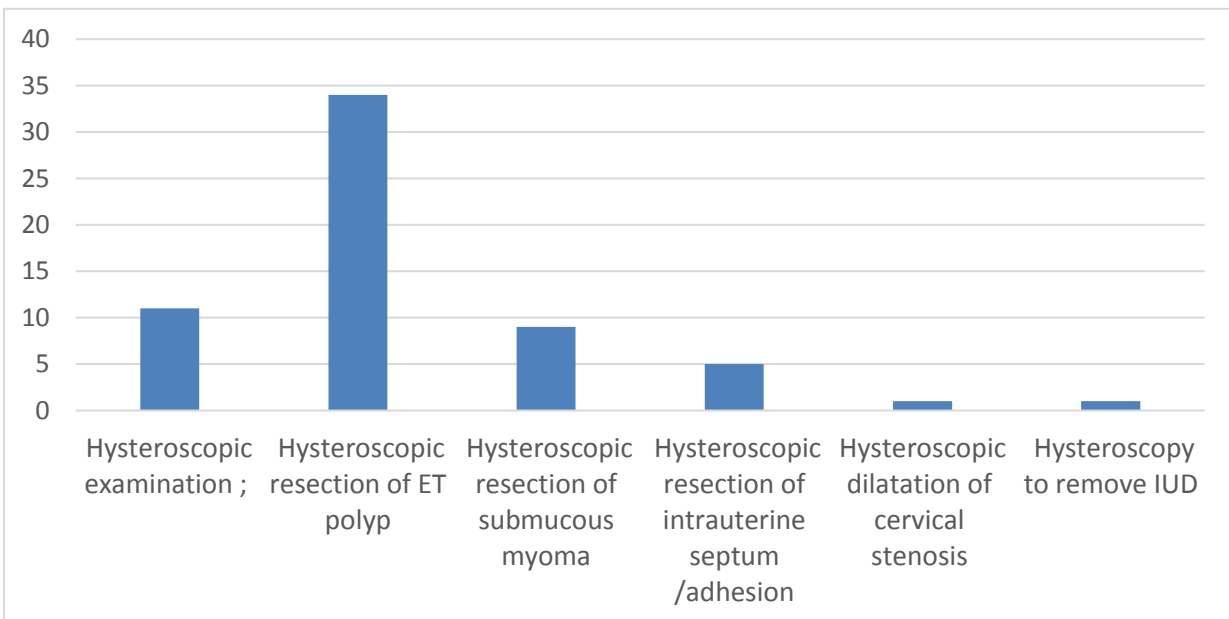


Figure VI. Number of hysteroscopic procedures in infertile patients

IV. Number of hysteroscopic /vaginoscopic procedures in gynecologic patients

Hysteroscopic procedure / Diagnosis	Number
Hysteroscopic examination in patient with hx of recurrent pregnancy loss / secondary amenorrhea; result : WNL	10
Hysteroscopic resection of intrauterine adhesion / septum	5
Hysteroscopic resection of endometrial polyp (+/- curettage)	25
Hysteroscopic resection of submucous myoma uteri / intrauterine mass / intrauterine lesion	18
Hysteroscopic examination in AUB / post-monopausal bleeding patient	6
Hysteroscopic IUD removal	3
Hysteroscopic and vaginoscopic resection of vaginal scar	1
Others Hysteroscopy & Vaginaoscopy	5
Total	73

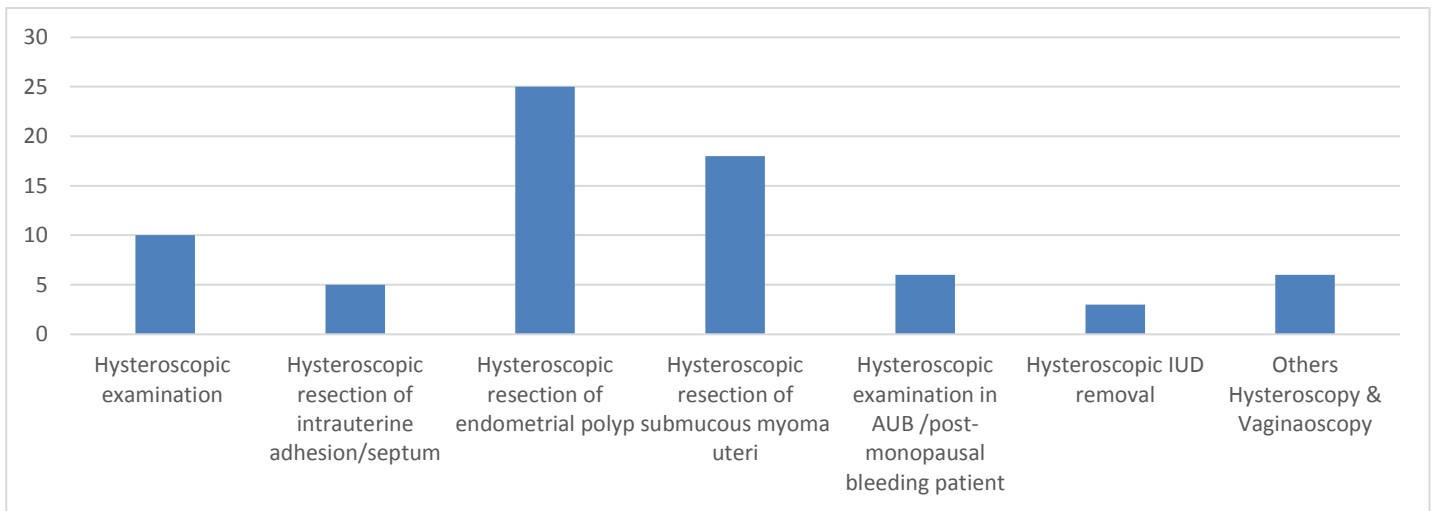
Number

Figure VII. Number of hysteroscopic/vaginaoscopic procedures in gynecologic patients

V. 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	9
Cystectomy & salpingectomy or fimbrioplasty with 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 and dye test	Hydrosalpinx	1
Unilateral/Bilateral salpingectomy (+/- lysis adhesion)	Hydrosalpinx	3
Tubal re-anastomosis	s/p Tubal resection	1
Myomectomy & dye test +/- lysis adhesion	myoma uteri	5
Lysis pelvic adhesion & cauterization of endometiotic spot & dye test	Pelvic adhesion & endometriosis	2
Total		36

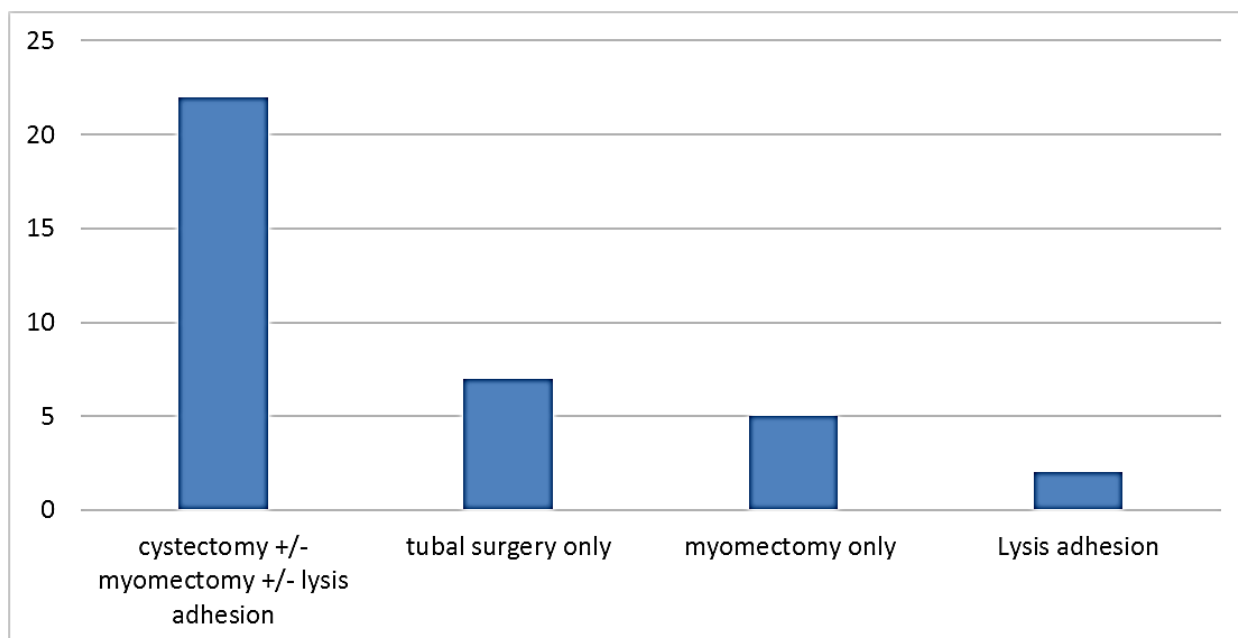
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Figure VIII. Number of laparoscopic procedures in infertile patients

VI. Number of laparoscopic procedures in gynecologic patients

Procedure	Diagnosis / finding	Number
Unilateral / Bilateral cystectomy +/- lysis adhesion	Endometrioma / Dermoid cyst	31
Salpingectomy (+/- lysis adhesion)	Tubal pregnancy	5
Salpingostomy	Tubal pregnancy	1
TLH & Unilateral/Bilateral salpingo- oophorectomy	Myoma uteri / Endometrium hyperplasia / Ovarian cyst	8
TLH & Bilateral salpingo-oophorectomy	Female to male transition	1
TLH & Bilateral salpingectomy	Myoma uteri / Adenomyosis	12
TLH & Unilateral / Bilateral salpingo- oophorectomy (+/- lysis adhesion)	Myoma uteri / Adenomyosis / Endometrioma	14
TLH & Bialteral salpingectomy & Bilateral ovarian cystectomy	Adenomyosis / Ovarian cyst	3
Uro-gynecology & pelvic reconstruction surgery (Cooperation with Uro-Gyn team)	Uro-gynecologic problem	6
Myomectomy & Lysis adhesion	Myoma uteri	2
Tubal resection	Complete family	2
Drainage of ovarian endometrioma & lysis adhesion	Infected endometrioma	1
Excision of bilateral uterus horn & cauterization of endometriosis spot	Bilateral horn of uterus and endometriosis spot	1
Total		87

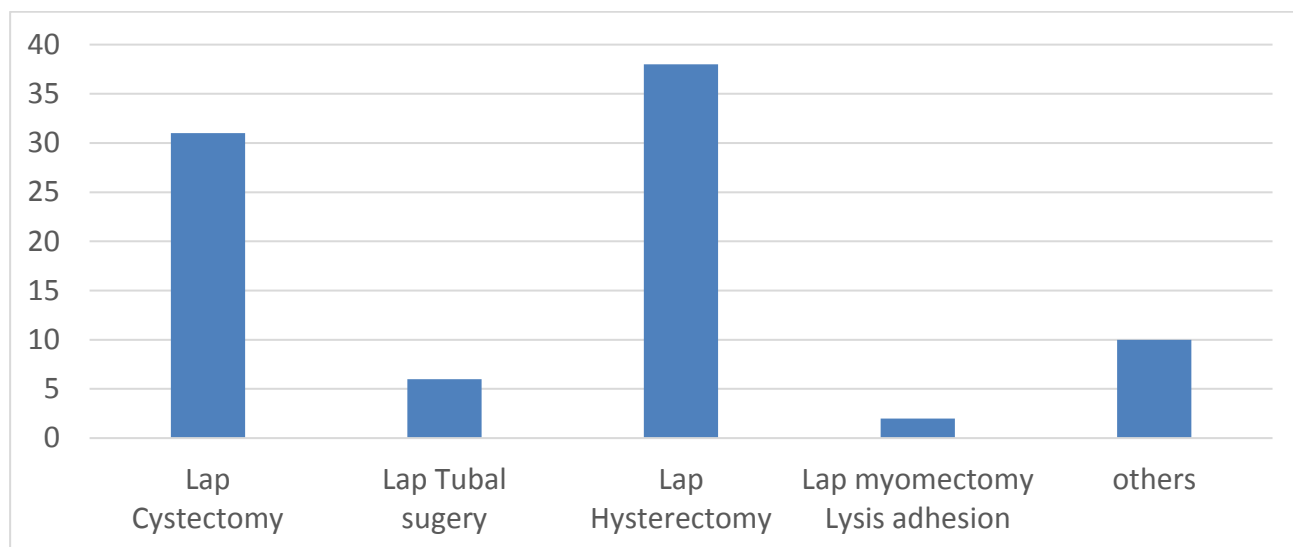
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Figure IX. Number of laparoscopic procedures in gynecologic patients

VII. Number of explore laparotomy procedures and others surgeries in infertile patients

Procedure	Diagnosis / finding	Number
Myomectomy +/- dye test	Myoma uteri	5
Osada operation	Adenomyosis	1
Reversal tubal sterilization	S/P Tubal resection	1
Ovarian cystectomy & dye test	Leakage of endometrioma	1
Lysis adhesion & dye test	Severe pelvic adhesion	1
Total		9

VIII. Number of explore laparotomy and others procedures in gynecologic patients

Procedure	Diagnosis / finding	Number
TAH +/- Bilateral salpingectomy	Myoma uteri / Adenomyosis	5
	Autism (failed laparoscopy)	1
TAH & Bilateral salpingo-oophorectomy	Myoma uteri / Adenomyosis	4
Subtotal hysterectomy & bilateral salpingectomy	Myoma uteri	1
Myomectomy	Myoma uteri	7
Salpingo-oophorectomy	Endometrioma & severe adhesion	1
Ovarian cystectomy & lysis adhesion	Dermoid cyst & pelvic adhesion	1
Open and drain pyocolpos & vaginoplasty	Uterine didelphis & transverse hemivaginal septum	1
Vaginal tract removal	Vaginal tract	1
Transvaginal aspiration & sclerotherapy	Recurrent endometrioma	1
Total		23

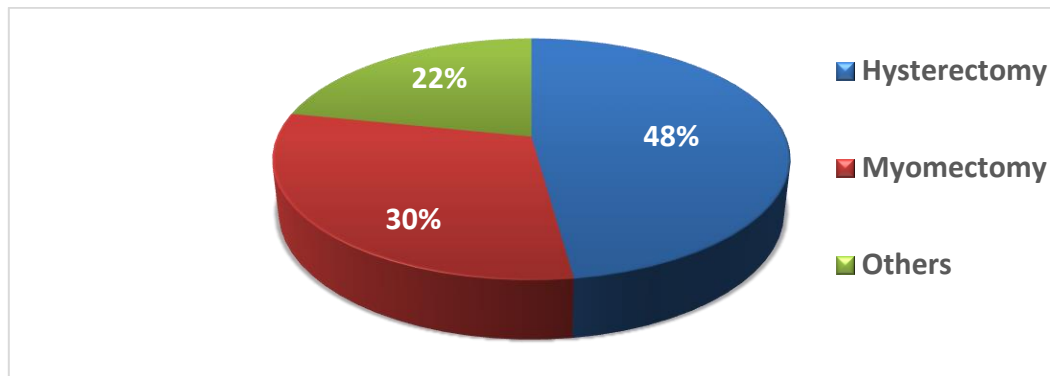


Figure XI. explore laparotomy procedures and others surgeries in gynecologic patients

PART V**GYNECOLOGIC ENDOCRINE PATIENT AND OTHERS**

Distribution of gynecologic endocrine patients and others

Diagnosis	No. of cases	
	New case (cases)	On going (visits)
Hyperprolactinemia / Macro- or Micro-adenoma of pituitary gland / Pituitary adenoma	7	96
PCOS	25	159
Anovulation / irregular menstruation	5	38
oligomenorrhea	-	7
Primary amenorrhea	5	24
Secondary amenorrhea	10	34
Mullerian agenesis	1	3
Recurrent pregnancy loss	18	18
Premature ovarian failure	-	50
Congenital adrenal hyperplasia	2	10
AUB / Hypermenorrhea	25	44
Gonadal dysgenesis	-	10
Turner's syndrome	1	26
Pituitary disorder	4	36
Uterine didelphys / Septate uterus	7	21
Precocious puberty	1	-
Hirsutism	1	4
Asherman syndrome	5	25
Labial agglutination	3	6
Hypogonadotropic hypogonadism	2	10
Transgender	31	145
Perimenopause / Post menopause / Surgical menopause	7	61
Total	160	827