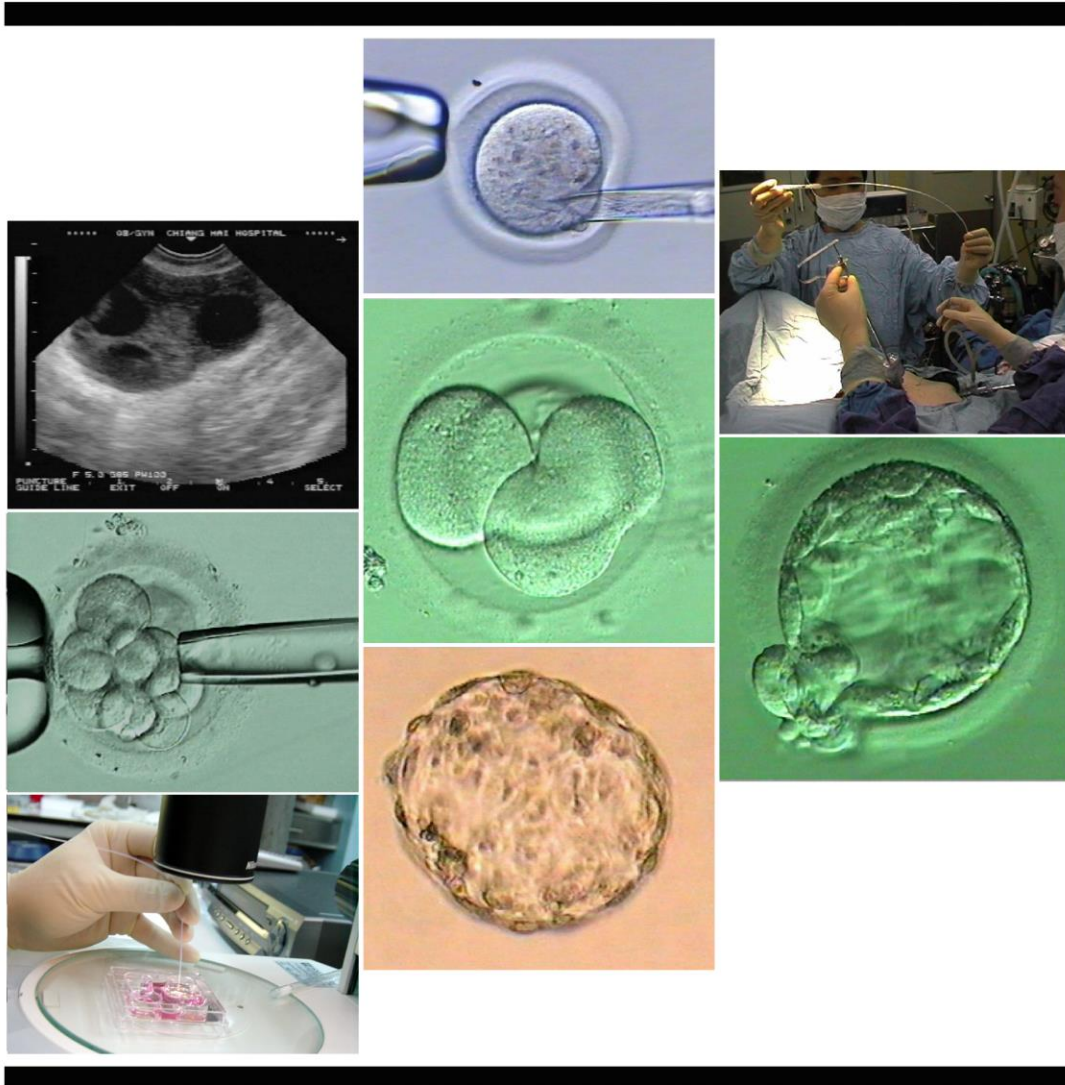


Annual Report

2018



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

ANNUAL REPORT 2018

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

Clinical Faculties:	Associate Professor Opas Sreshthaputra MD. (Head)
	Assistance Professor Tawiwat Pantasri MD.
	Assistance Professor Ubol Sanganun MD.
	Assistance Professor Usanee Sanmee MD.
	Worashorn Lattiwongsakorn MD.
	Nattanita Matavanon MD.
Part-time clinical faculty	Associate Professor Supreeya Wongtra-ngan MD.
Fellowships	Natpat Jansaka MD.
	Waranya Rueangchainikhom MD.
	Siriparadee Dilokwatana MD.
	Sitthanan Thanintranon MD.
Coordinator nurse:	Rung-aroon Sreshthaputra MSc.
OPD nurses:	Kullaya Sangchun BSc.
	Sayamon Cotchapanya MNS.
	Nutchanart Suntornlinsiri BSc.
Embryologists:	Waraporn Piromlertamorn MSc.
	Usara Saowarod BSc.
	Pareeya Somsak BSc.

Data compiled and reported

Rung-aroon Sreshthaputra MSc.

รายงานประจำปี พ.ศ. 2561

หน่วยเวชศาสตร์การเจริญพันธุ์
ภาควิชาสูติศาสตร์และนรีเวชวิทยา
คณะแพทยศาสตร์
มหาวิทยาลัยเชียงใหม่

หัวหน้าหน่วย

อาจารย์ประจำหน่วย

รศ.น.พ.โอภาส เศรษฐบุตร

รศ.พ.ญ.ทวิวัน พันธศรี

ผศ.พ.ญ.อุบล แสงอนันต์

ผศ.พ.ญ.อุษณีย์ แสนหมี

อ.พ.ญ.วรชร์ ลัทธวงศกร

อ.พ.ญ.ณัฐนิดา มัทวานนท์

รศ.พ.ญ.สุปรียา วงษ์ตระหง่าน

น.พ.ณัฐพัชร จันทร์สกา

พ.ญ.วรัญญา เรืองชัยนิคม

พ.ญ.ศิริภารดี ดิลกวัฒนา

น.พ.สิริฉันท ฐนินทรานนท์

รุ่งอรุณ เศรษฐบุตร

กัลยา แสงจันทร์

ศยามล คชปัญญา

นุชนาต สุนทรลัมศิริ

วราภรณ์ ภีรมย์เลิศอมร

อุสรา เสาวรส

ปาริยา สมศักดิ์

อาจารย์พิเศษ

แพทย์หลักสูตรต่อยอด

พยาบาลวิจัยประจำหน่วย

พยาบาลประจำห้องตรวจ

นักเทคนิคการแพทย์

รวบรวมข้อมูลและจัดทำรายงาน

รุ่งอรุณ เศรษฐบุตร

Content

	Page
<i>PART I Number of attended patients in 2018</i>	
1. Number of infertile patients	2
2. Number of gynecologic endocrine patients	3
3. Number of patients with history of endometriosis or pelvic mass	4
4. Number of patients with history of endometriosis or pelvic mass Distributed by diagnosis	5
<i>PART II Treatment of infertile couples in 2018</i>	
1. Distribution of overall treatments of infertility	7
2. Number of intrauterine insemination and A.R.T. cycle per month and total clinical pregnancy rate	8
<i>PART III Assisted reproductive technology laboratory report</i>	
1. In vitro fertilization (IVF) cycle	11
2. Intracytoplasmic sperm injection (ICSI) cycle	12
3. Frozen thawed embryo transfer (FET) Cycle	13
4. Pregnancy outcome by type of A.R.T. and age group of female patients	14
<i>PART IV Endoscopic procedures and other surgeries</i>	
1. Number of hysteroscopic procedures in infertile patients	17
2. Number of hysteroscopic /vaginoscopic procedures in gynecologic patients	18
3. Number of laparoscopic procedures in infertile patients	19
4. Number of laparoscopic procedures in gynecologic patients	22
5. Number of explore laparotomy procedures in infertile patients	24
6. Number of explore laparotomy procedures in gynecologic patients	25
<i>PART V Distribution of gynecologic endocrine patients and others</i>	
Distribution of gynecologic endocrine patients and others	28

PART I**NUMBER OF ATTENDED PATIENTS IN 2018**

- Infertile patients
- Gynecologic endocrine patients
- Endometriosis patients

I. Number of infertile patients

Month	New case (couples)	Ongoing case (couple visits)
January	18	39
February	29	62
March	35	93
April	36	42
May	67	125
June	41	114
July	31	98
August	42	110
September	30	101
October	39	119
November	26	128
December	23	76
Total	417	1107

Number

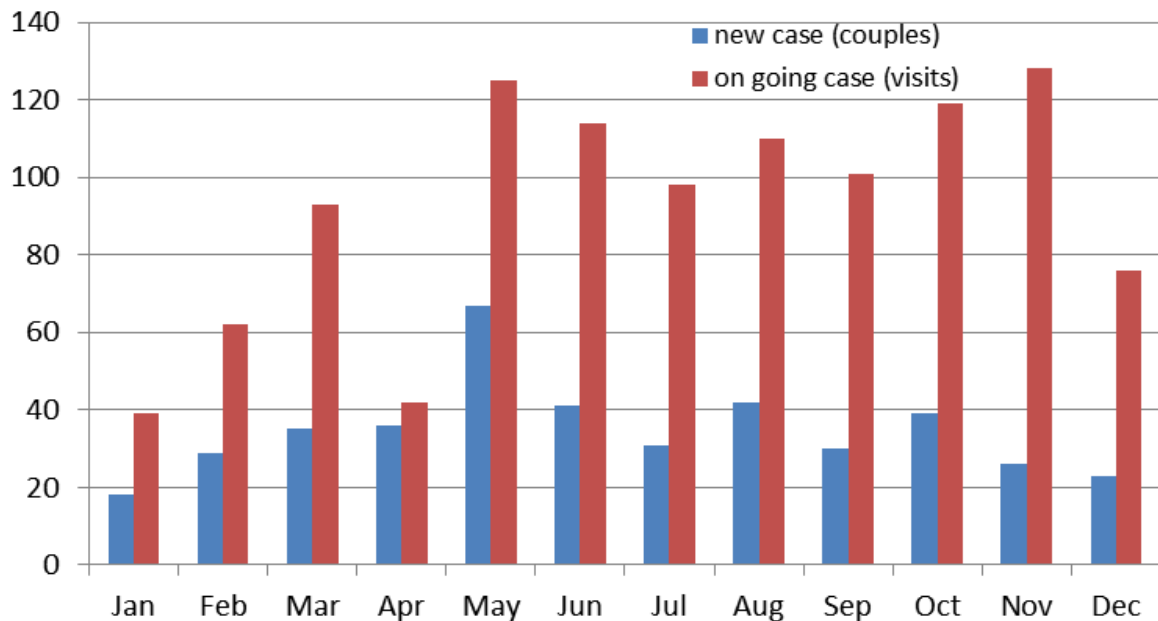


Figure I. Number of Infertile couples per month

II. Number of gynecologic endocrine patients

Month	New case (cases)	Ongoing case (visits)
January	16	21
February	22	32
March	19	39
April	23	31
May	31	71
June	35	71
July	21	86
August	14	76
September	10	85
October	10	74
November	21	84
December	16	67
Total	238	737

Number

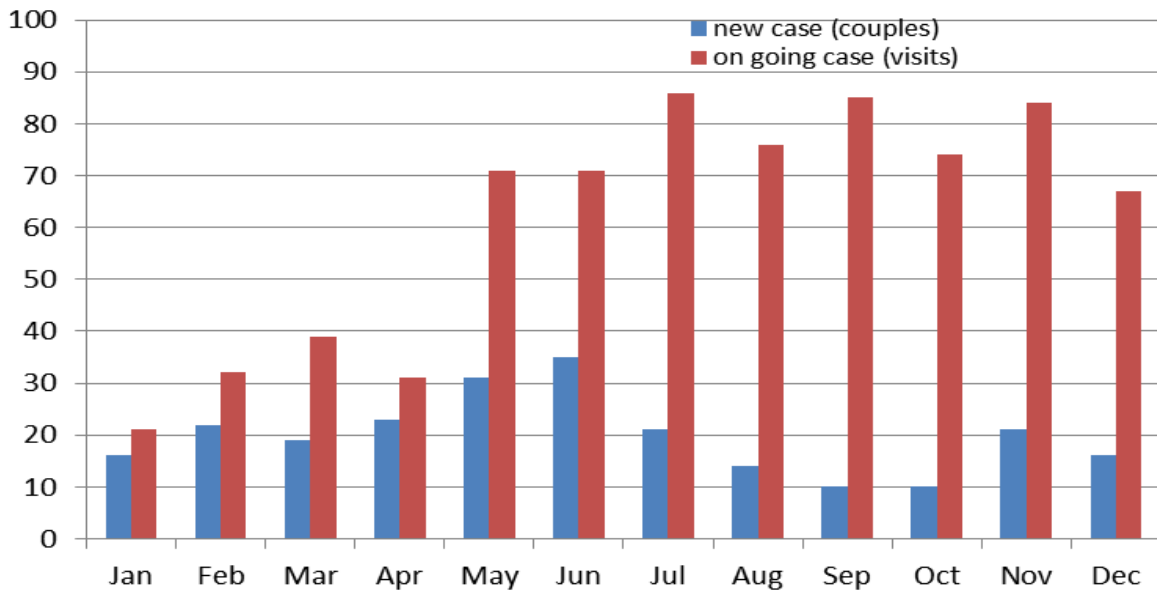


Figure II. Number of endocrine patients per month

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

Month	New case (cases)	Ongoing case (visits)
January	22	64
February	23	81
March	28	96
April	27	47
May	34	141
June	40	125
July	32	119
August	25	114
September	19	113
October	32	153
November	23	138
December	30	130
Total	335	1321

Number

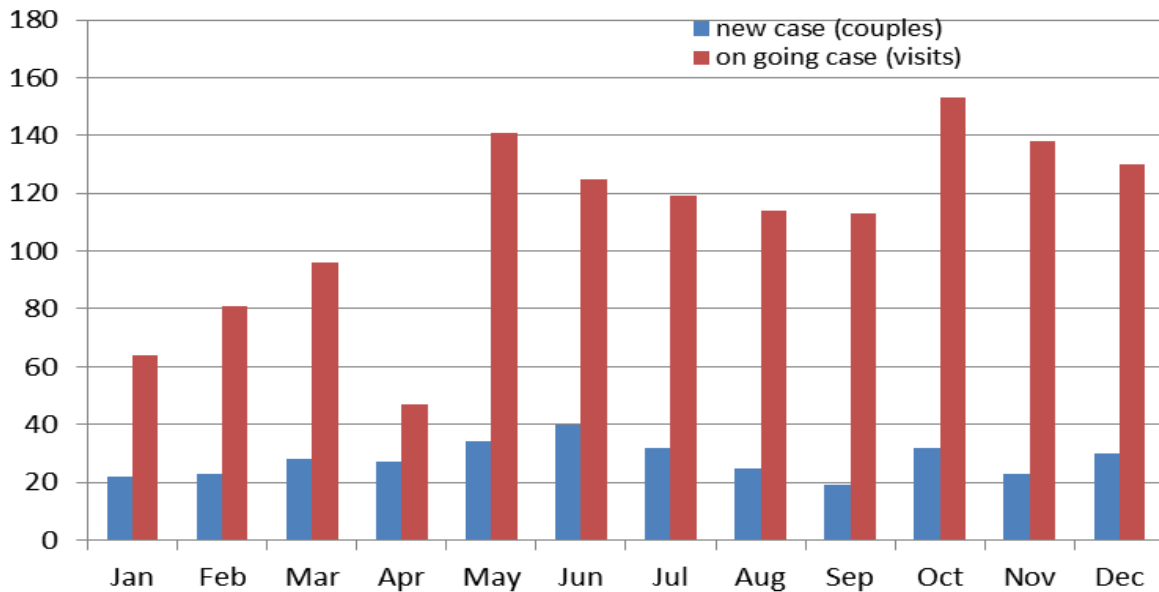


Figure III. Number of endometriosis or pelvic mass patients per month

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

	New case (cases)	Ongoing case (visits)
Ovarian cyst / Endometrioma	80	341
Dermoid cyst	16	38
Endometriosis	50	275
Hydrosalpinx	3	24
Dysmenorrhea	12	15
chronic Pelvic pain	11	46
Adenomyosis	22	68
Myoma uteri	57	238
Submucous myoma	18	56
Edometrial polyp	1	2
catamomial pneumothorax	2	3
others	58	215
Total	335	1321

PART II**TREATMENT OF INFERTILE COUPLES IN 2018**

I. Distribution of infertility treatments

Treatment	Number (cycles)	Percent
Intrauterine insemination (IUI)	97	30.2
Therapeutic insemination using frozen donor spermatozoa (TDI)	9	2.8
In vitro fertilization and embryo transfer (IVF & ET)	35	10.9
Intracytoplasmic sperm injection (ICSI)	60	18.7
Frozen-thawed embryos transfer (FET) from IVF	35	10.9
Frozen-thawed embryos transfer (FET) from ICSI	85	26.5
Total cycles of treatment	321	100

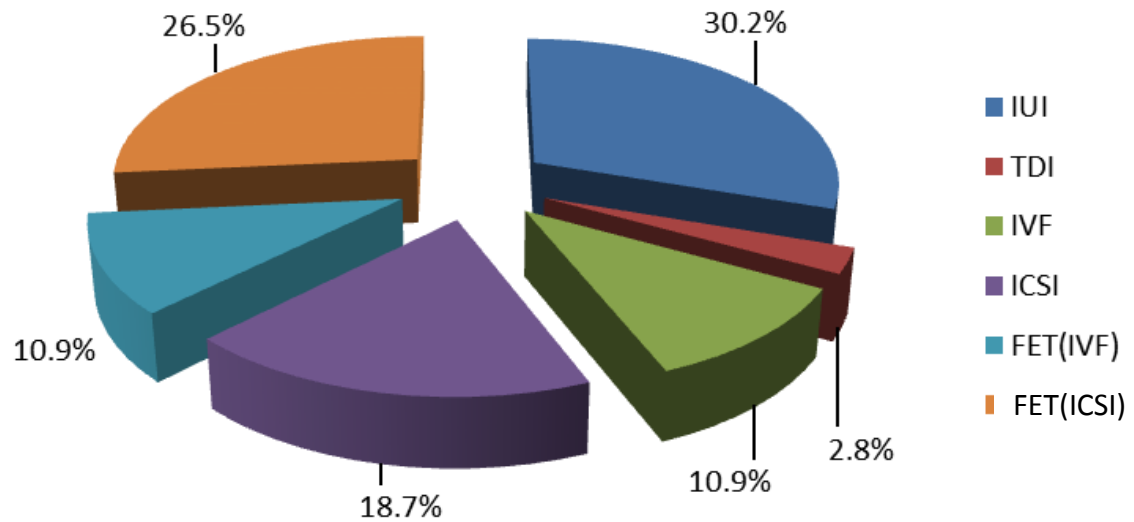


Figure IV. Percent of infertility treatments

II. Number of intrauterine insemination & A.R.T cycles per month and total clinical pregnancy rate

Month	IUI	TDI	IVF	ICSI	FET/ IVF	FET/ ICSI
January	8	1	2	2	3	3
February	8	-	1	10	2	6
March	3	-	1	4	2	7
April	5	2	3	1	1	15
May	10	1	3	12	5	10
June	9	-	6	7	4	9
July	4	1	2	5	3	6
August	12	-	1	1	3	13
September	13	-	2	4	2	5
October	11	1	4	5	5	2
November	7	1	4	8	2	6
December	7	2	5	1	3	3
Total	97	9	35	60	35	85
Failed fertilization			-	-		
Embryo transfer			10	9	35	85
Chemical pregnancy			-	-	-	6
Clinical pregnancy	8	1	2	1	13	17
Abortion	-	-	-	-	2	4
Ectopic pregnancy	-	-	-	-	-	-
Singleton pregnancy	8	-	1	1	6	12
Twin pregnancy	-	-	1	-	4	1
Triplet pregnancy	-	-	-	-	1	-
Clinical pregnancy rate (percent)	8.2^a	11.1^a	20.0^b	11.1^b	37.1^b	20.0^b

Remark: ^a pregnancy rate per cycle
^b pregnancy rate per transferred cycle

Percent per cycle

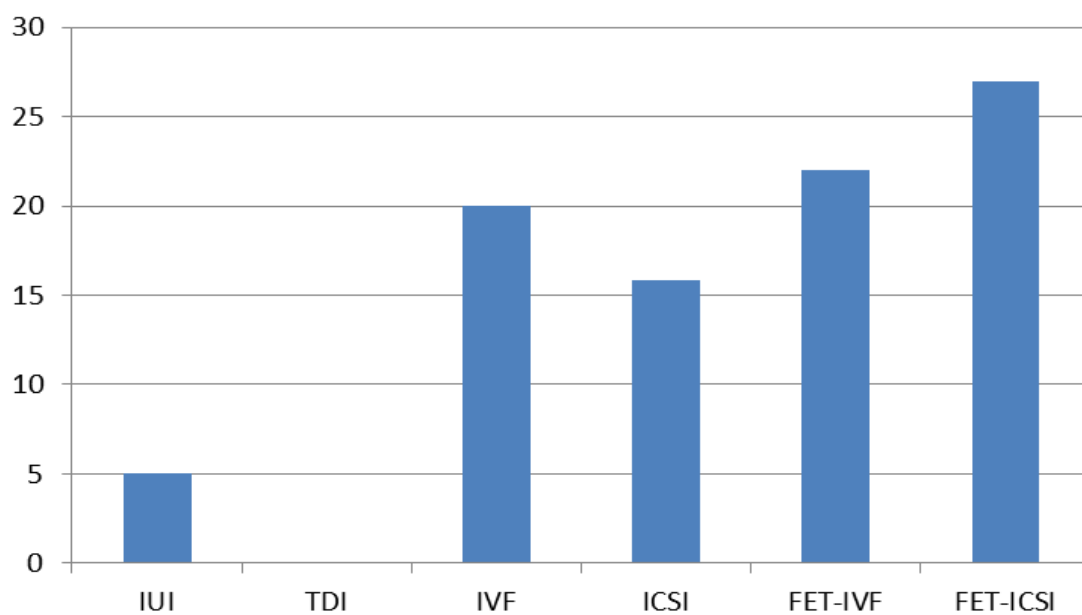


Figure V. Pregnancy rate of infertility treatments

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 patient (years)	35.6 \pm 4.0	27– 43	34 cycles
Number of oocyte retrieved	14.4 \pm 12.7	3 – 48	478 oocytes
Number of normal fertilization	10.2 \pm 7.1	1 – 23	292 embryos
Normal fertilization rate			61.1 %
Number of cleavage stage embryo	10.5 \pm 7.7	1 – 23	288 embryos
Cleavage rate			98.6 %
Number of embryo transfer	1.8 \pm 0.6	1 – 3	18 embryos (10 cycles)
Number of embryo freezing	9.3 \pm 7.7	0 – 23	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)	35.6 \pm 4.5	24 – 43	60 cycles
Number of oocyte retrieved	15.3 \pm 10.1	2 - 36	738 oocytes
Number of M II oocytes retrieved	10.1 \pm 7.6	1 - 30	597 oocytes
Number of normal fertilized embryos	10.1 \pm 6.8	1 – 22	421 embryos
Fertilization rate			70.5 %
Number of cleavage stage embryo	7.0 \pm 5.1	1 - 22	398 embryos
Cleavage rate			94.7 %
Number of embryo transfer	2.0 \pm 0.7	1 - 3	9 embryos (20 cycles)
Number of embryo freezing	19.9 \pm 11.0	0 - 40	418 embryos

III. Frozen thawed embryo transfer (FET) ; embryos from standard IVF

Frozen-thawed Embryo transfer cycle (FET-IVF)	mean \pm SD (per cycle)	Range (per cycle)	Total (per year)
Age of patient (years)	36.1 \pm 3.8	30 – 44	33 cycles
Number of embryo thawing	3.4 \pm 1.0	2 – 7	119 embryos
Number of embryo survived	2.1 \pm 0.5	1 - 4	109 embryos
Number of embryo transfer	1.9 \pm 0.6	1 – 3	70 embryos
Survival rate of thawed embryos			83.2 %

IV. Frozen thawed embryo transfer (FET); embryos from ICSI

Frozen-thawed Embryo transfer cycle (FET-ICSI)	mean \pm SD (per cycle)	Range (per cycle)	Total (per year)
Age of patient (years)	34.9 \pm 4.2	23 – 42	83 cycles
Number of embryo thawing	3.7 \pm 1.3	1 – 8	310 embryos
Number of embryo survived	2.3 \pm 0.7	1 - 4	211 embryos
Number of embryo transfer	2.1 \pm 0.6	1 – 4	192 embryos
Survival rate of thawed embryos			68.1 %

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

5.1 Fresh embryos transfer cycle (IVF cycle)

Age (years)	Number of OPU cycle	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy
≤34	15	5	-	2
>34-39	13	3	-	-
≥40	7	2	-	-
total	35	10	-	2

5.2 Fresh embryos transfer cycle (ICSI cycle)

Age (years)	Number of OPU cycle	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy
≤34	22	2	-	1
>34-39	25	5	-	-
≥40	13	1	-	-
total	60	8	-	1

5.3 Frozen-thawed embryos transfer cycle ; embryos from standard IVF cycle

Age (years)	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	abortion
≤34	13	-	5	-
>34-39	15	-	7	2
≥40	7	-	-	-
total	35	-	12	2

5.4 Frozen-thawed embryos transfer cycle ; embryos from ICSI

Age (years)	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	abortion
≤34	36	3	4	3
>34-39	38	3	9	2
≥40	11	-	2	-
total	85	-	15	5

PART IV**ENDOSCOPIC PROCEDURES
&
OTHER SURGERIES**

I. Number of hysteroscopic procedures in infertile patients

Hysteroscopic procedure (; finding)	Number	Percent
Hysteroscopic examination ; WNL in patient with history of infertility only	13	15
WNL in patient had history of habitual abortion & Infertility	3	4
WNL in patient with history of recurrent implantation failure	4	5
Uterine didelphis	1	1
Hysteroscopic resection of endometrial polyp (+/- Curettage)	35	41
Hysteroscopic resection of submucous myoma (+/- Curettage)	20	24
Hysteroscopic resection of intrauterine septum / adhesion	3	4
Cervical dilation of cervical stenosis	6	7
Total	85	100

Number

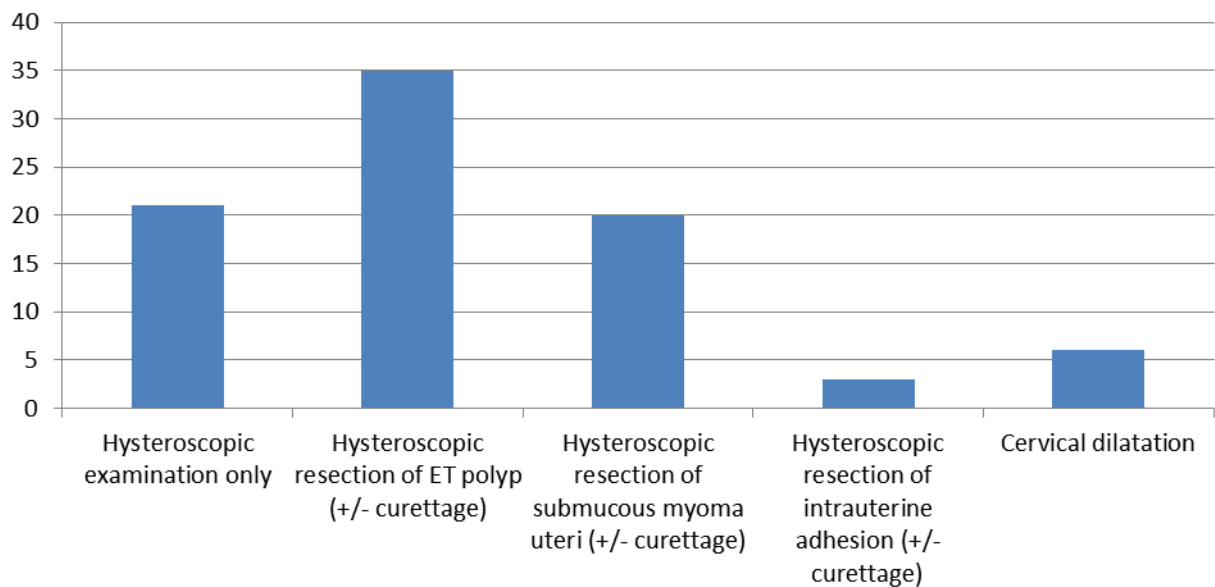


Figure VI. Number of hysteroscopic procedures in infertile patient

II. Number of hysteroscopic /vaginoscopic procedures in gynecology patients

Hysteroscopic procedure (; finding)	Number	Percent
Hysteroscopic examination in patient with history of Recurrent pregnancy loss (; Normal finding), AUB/DUB	3 2	6.1 4.1
Hysteroscopic resection of endometrial polyp	18	36.7
Hysteroscopic resection of submucous myoma uteri / intrauterine mass	10	20.4
Hysteroscopic resection of intrauterine adhesion in patient with history of recurrent pregnancy loss	6	12.2
Hysteroscopic curettage in post-menopausal bleeding	2	4.1
Hysteroscopy for IUD removal	1	2.1
Hysteroscopic examination with cervical dilatation / Incomplete trans-vaginal septum / vaginal stenosis	3	6.1
Hysteroscopy with curettage / Endometrial atrophy, Endometrial hyperplasia	2	4.1
Vaginoscopic examination / uterine didelphys, trans vaginal septum	2	4.1
Total	49	100

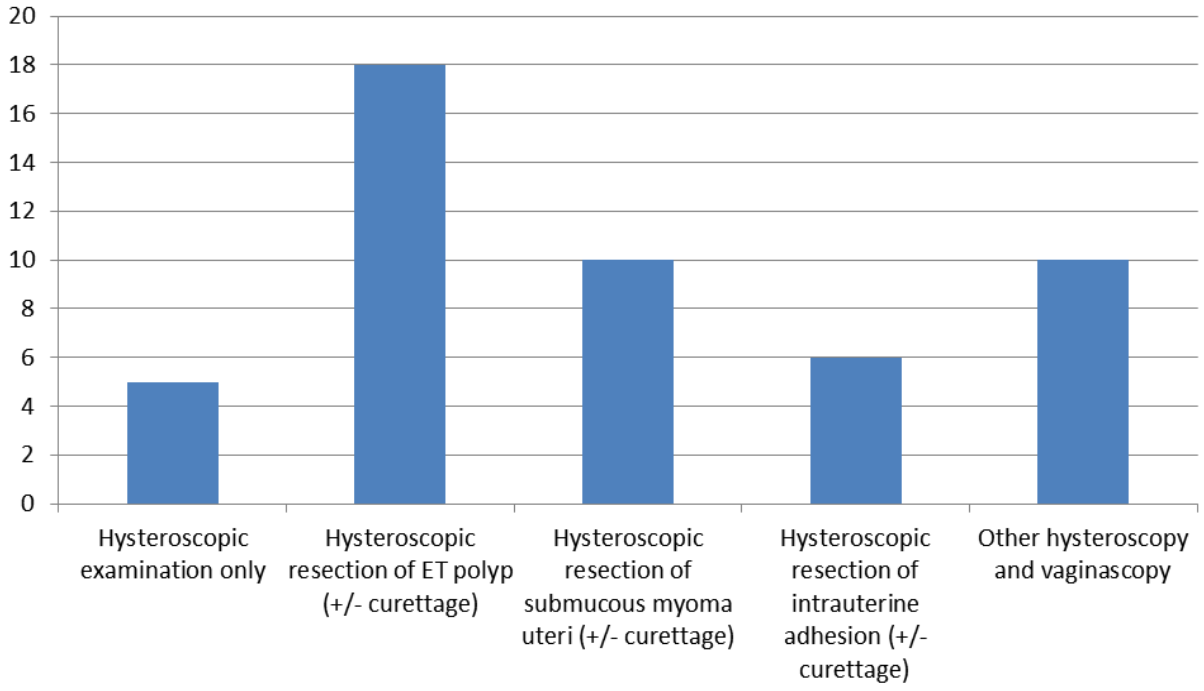
Number

Figure VII. Hysteroscopic/vaginoscopic procedures in gynecology patient

III. Number of laparoscopic procedures in infertile patients

Procedure	Diagnosis / finding	Number	Percent
Cystectomy & dye test	Ovarian cyst / endometrioma	30	33.7
Cystectomy & myomectomy & dye test	Ovarian cyst with myoma uteri	4	4.5
Cystectomy & myomectomy & fimbrioplasty & dye test	Ovarian cyst & myoma uteri	3	3.4
Cystectomy & lysis adhesion & dye test	Ovarian cyst / endometrioma with pelvic adhesion	21	23.6
Salpingectomy or fimbrioplasty & dye test +/- lysis adhesion	Ovarian cyst / endometrioma with hydrosalpinx	12	13.5
Proximal tubal occlusion	Hydrosalpinx	1	1.1
Patial tubal excision	Hydrosalpinx	1	1.1
Reversal tubal sterilization	S/P Tubal resection	2	2.2
Myomectomy & dye test	Myoma uteri	4	4.5
Laparoscopic examination & dye test	Infertility / Uterine didelphys	10	11.2
Lysis pelvic adhesion & cauterization of endometiotic spot & dye test	Pelvic adhesion & endometriosis	1	1.1
Total		89	100

Number

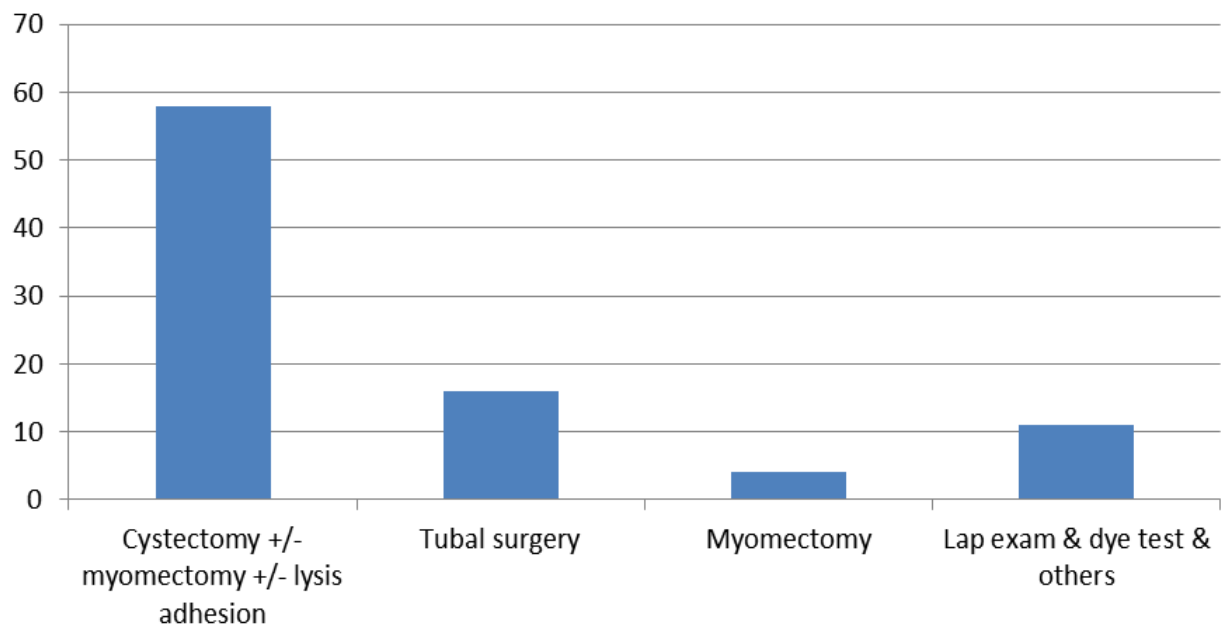


Figure VIII. Number of laparoscopic procedures in infertile patients

IV. Number of laparoscopic procedures in gynecologic patients

Procedure	Diagnosis / finding	Number	Percent
Unilateral / bilateral Cystectomy with or without lysis adhesion	Endometrioma / dermoid cyst	32	29.1
Salpingectomy	Tubal pregnancy	5	4.5
Salpingo-oophorectomy	Dermoid cyst / endometrioma	6	5.5
TLH & Unilateral or Bilateral salpingectomy with/without SO / lysis adhesion	Myoma uteri / Hypermenorrhea / Endometriosis / HSIL	24	21.8
Lysis adhesion	Severe pelvic adhesion	2	1.8
Lap.examination with cauterization of endometriotic spot	Endometriosis	3	2.7
Myomectomy & Ovarian cystectomy	Myoma uteri & Ovarian cyst	2	1.8
Myomectomy	Myoma uteri	1	0.9
NOTE assisted vaginal hysterectomy (+/- BSO)	Dermoid cyst / Myoma uteri	4	3.6
Uro-gynecology & pelvic reconstruction surgery (Cooperation with Uro-Gyn unit)	Uro-gynecologic problem	25	22.7
Bilateral gonadectomy	AIS	1	0.9
Vaginoplasty	Mullerian agenesis	1	0.9
Vaginoscopy	Vaginal polyp	1	0.9
LTR	Complete family	3	2.7
Total		110	100

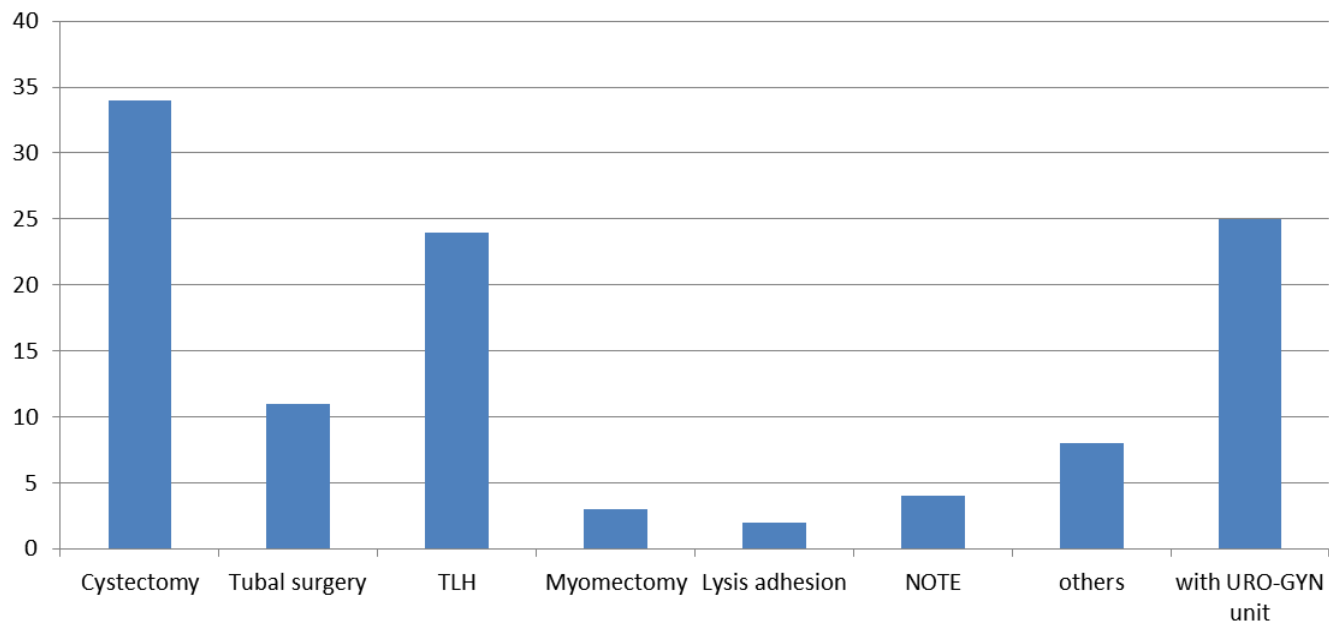
Number

Figure IX. Number of laparoscopic procedures in gynecology patient

V. Number of explore laparotomy procedures and other surgeries in infertile patients

Procedure	Diagnosis / finding	Number
Myomectomy and dye test	Myoma uteri	23
Myomectomy and cystectomy and dye test	Myoma uteri and ovarian cyst	10
Myomectomy with lysis adhesion	Myoma uteri and pelvic adhesion	1
Reversal tubal sterilization	S/P Tubal resection	6
Salpingectomy and lysis adhesion	Severe adhesion and hydrosalpinx	3
Ovarian cystectomy and lysis adhesion and dye test	Ovarian cyst and pelvic adhesion	1
Salpingo-oophorectomy and dye test	Ovarian mass	1
Total		45

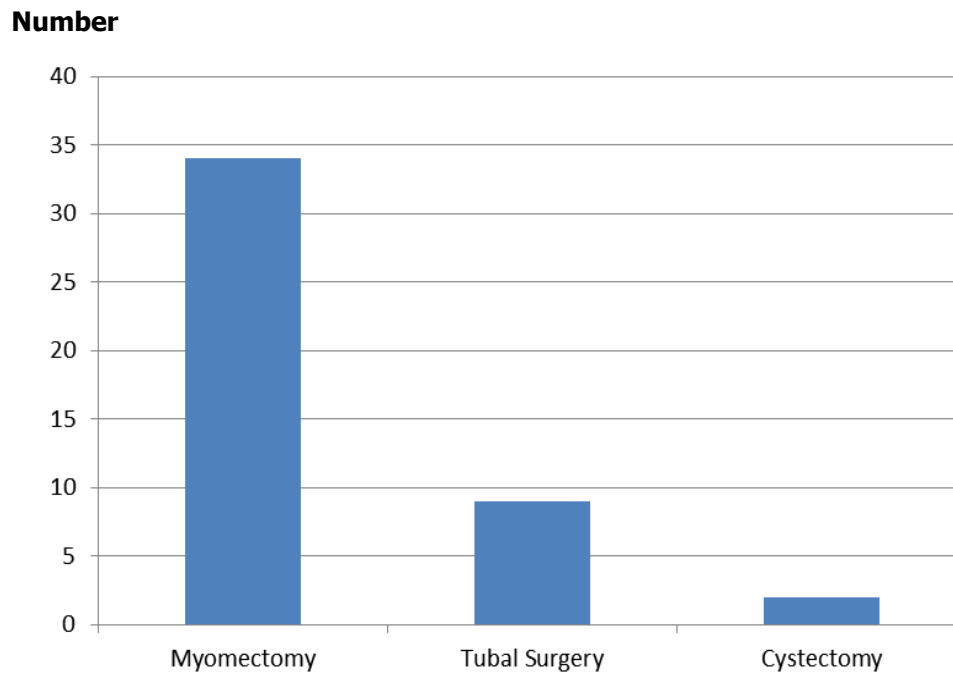


Figure X. Number of explore laparotomy procedures in infertile patient

VI. Number of explore laparotomy procedures in gynecology patients

Procedure	Diagnosis / finding	Number
TAH	Myoma uteri / Hypermenorrhea / Mental retardation	2
TAH with bilateral salpingectomy	Intramural myoma uteri	2
TAH + BSO / SO	Myoma uteri / Adenomyosis	6
	Endometrial hyperplasia	1
	Ovarian tumor	3
Myomectomy	Myoma uteri	6
Myomectomy & cystectomy	Myoma uteri & ovarian cyst	1
Ovarian cystectomy & lysis adhesion	Endometrioma	1
Salpingo-oophorectomy	Ovarian cyst / Ovarian tumor	2
Vaginoplasty	Transverse vaginal septum	2
Repaired or Reptained vaginal mold / PV for dilatation	Vaginal stenosis	5
Hymenoplasty	Thickening hymen	1
Excision of labial agglutination / Vulva biopsy & labial repairing	Labial agglutination	2
Total		34

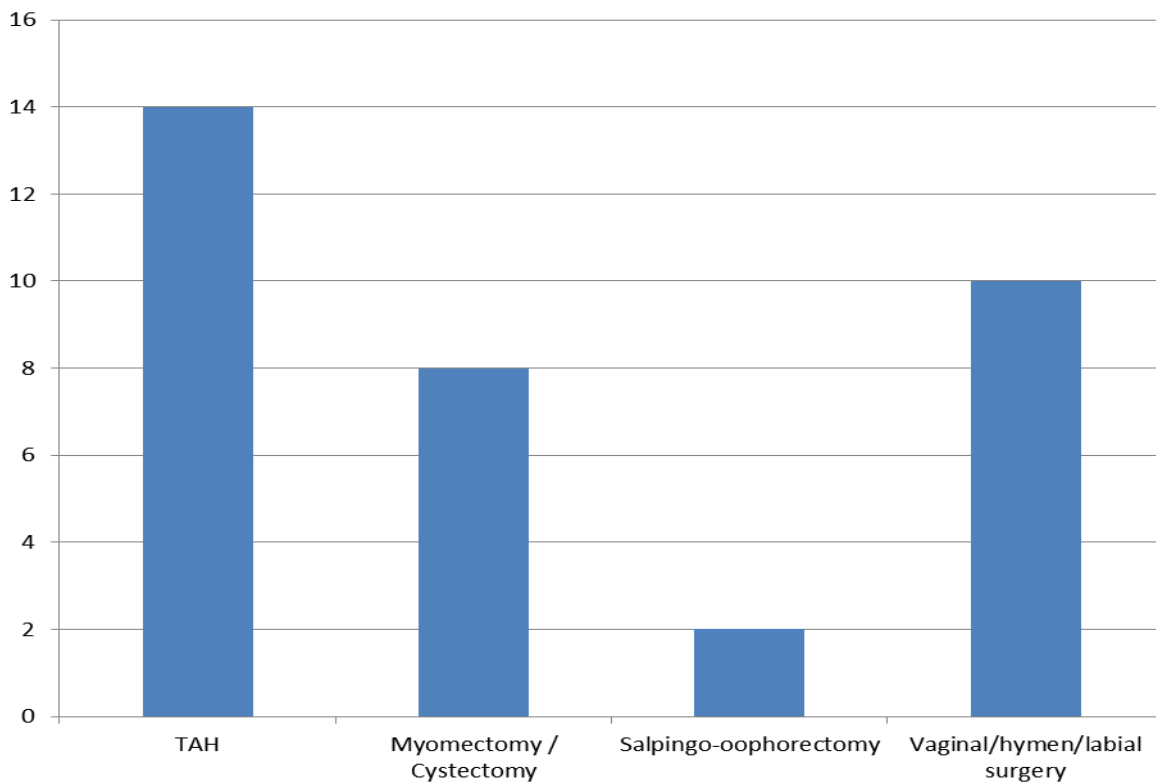
Number

Figure XI. Number of other surgeries in gynecology patient

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 Microadenoma of pituitary gland / Prolactinoma / Pituitary adenoma	18	86
PCOS	45	161
Anovulation / irregular menstruation	7	33
Primary amenorrhea	7	19
Secondary amenorrhea	22	89
Oligomenorrhea	-	7
Hirsutism	3	5
Mullerian agenesis	3	4
Recurrent pregnancy loss	16	26
Congenital adrenal hyperplasia	1	5
AUB / Hypermenorrhea	36	46
Premature ovarian Failure / Perimenopause / Surgical menopause	17	72
Gonadal dysgenesis	-	8
Turner's syndrome	4	36
Pituitary disorder	1	38
Labial agglutination	7	18
Uterine didelphys / Septate uterus	3	11
Precocious puberty	4	3
Asherman syndrome	4	7
Mccune Albright syndrome	-	1
Hypogonadotropic Hypogonadism	1	16
Others	39	46
Total	238	737