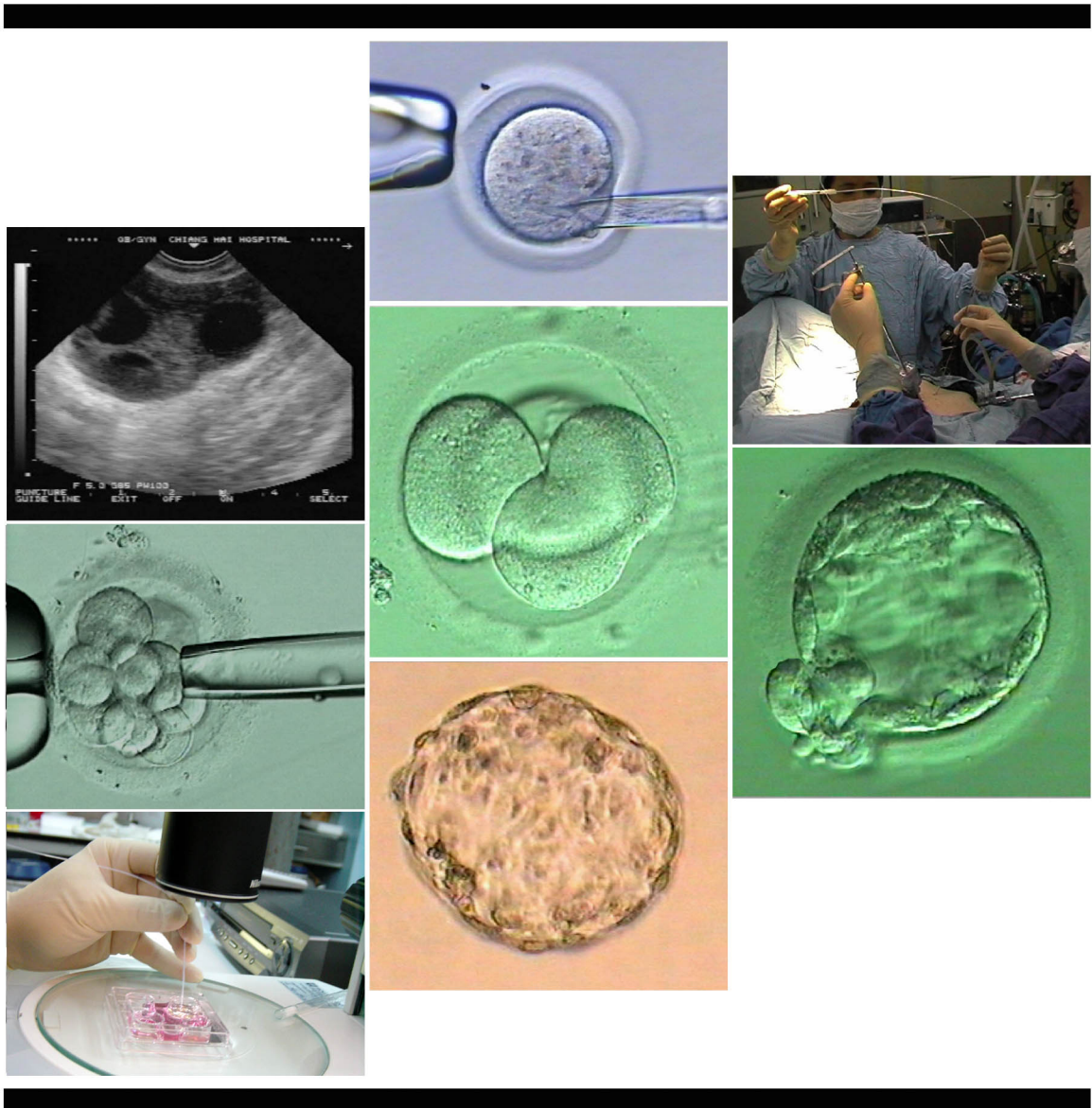


Annual Report

2011



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

ANNUAL REPORT 2011

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

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รายงานประจำปี พ.ศ. 2554

หน่วยเวชศาสตร์การเจริญพันธุ์
ภาควิชาสูติศาสตร์และนรีเวชวิทยา
คณะแพทยศาสตร์
มหาวิทยาลัยเชียงใหม่

หัวหน้าหน่วย

อาจารย์ประจำหน่วย

แพทย์หลักสูตรต่อยอด

พยาบาลประจำหน่วย

พยาบาลประจำห้องตรวจ

นักเทคนิคการแพทย์

รวบรวมและจัดทำรายงาน

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รศ.พ.ญ.สุปรียา วงษ์ตระหง่าน
รศ.น.พ.โอภาส เศรษฐบุตร
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นุชนาต สุนทรลัมศิริ
วราภรณ์ ภิมย์เลิศอมร
สุดารัตน์ สามฉิมโฉม
นส.วรินดา พุนทวีรัตน์

รุ่งอรุณ เศรษฐบุตร

Preface

The department of Obstetrics and Gynecology, faculty of Medicine, Chiang Mai University divides into four major subspecialties; maternal fetal medicine, reproductive medicine, gynecologic oncology and urogynecology division. All of the divisions have the same missions which are teaching, research and service. Every mission needs the information for improving the quality of the services and academic view; therefore each subspecialty worked hard for the amending of their services and has summarized the service parts into the annual report. These reports are also published on our department's website: <http://www.med.cmu.ac.th/dept/obgyn/2011/>, please visit.

This annual report 2011 on reproductive medicine, especially which related to reproductive surgery and infertility, has been successfully published with great contribution of Associate Professor Teraporn Vutyavanich and his colleagues in reproductive medicine division. It reflects our reproductive medicine work and can be used for benchmarking especially for the one who involve in this field. I would like to make an appreciation and expression of thanks to my reproductive medicine colleagues for their dedication to our department.

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Preface

The Division of Reproductive Medicine is actively involved in the teaching and training of medical students, residents and fellows in the subspecialty of reproductive medicine. The division is also engaged in conducting researches related to the field of human reproduction. It serves as a resource and referral center for provincial and other tertiary care centers in Northern Thailand.

In this annual report, we summarized our services related to reproductive surgery and infertility that were provided in the year 2011. This report was compiled with the help of many other team members from the operating room, in-patient and outpatient department, and the assisted conception laboratory. I would like to thank all team members for their kind contribution and dedication.

It is hoped that this annual report will be useful as a reference, and a benchmark for future improvement of our services.

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PART I**NUMBER OF ATTENDED PATIENTS IN 2011**

- Infertile patients
- Gynecologic endocrine patients
- Endometriosis patients

I. Number of infertile patients

Month	New case (cases)	On going case (visits)
January	30	42
February	37	66
March	36	87
April	25	60
May	49	76
June	45	99
July	25	54
August	44	69
September	58	88
October	18	69
November	27	70
December	29	49
Total	423	829

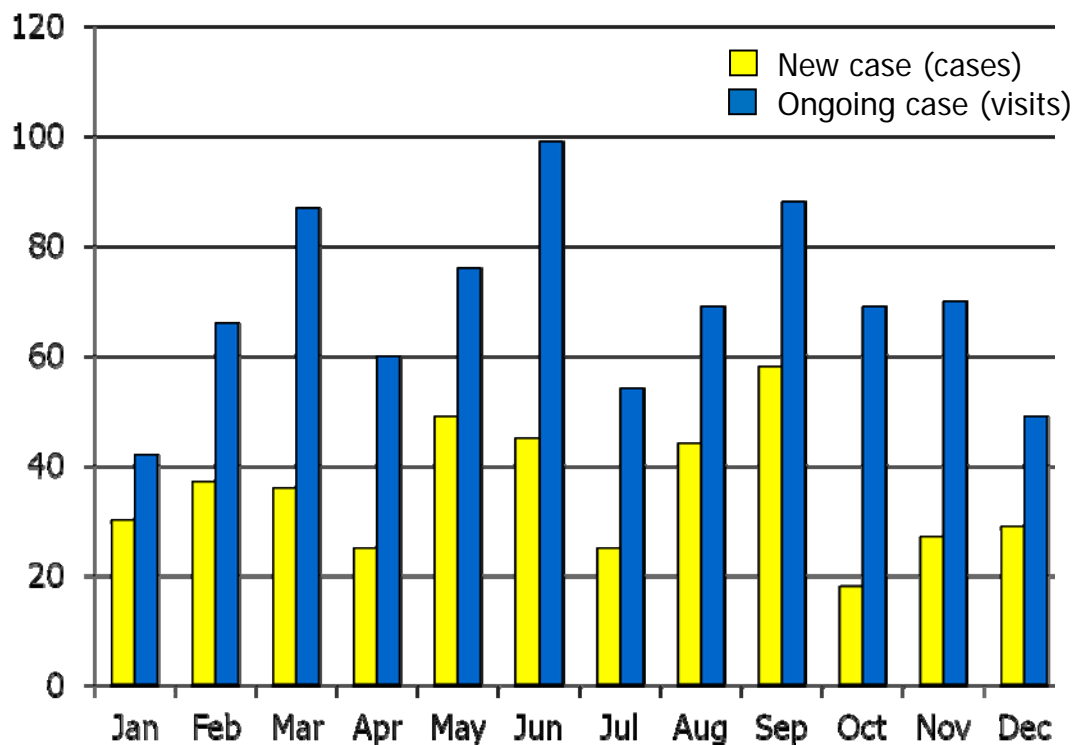


Figure I. Number of Infertile patients per month

II. Number of gynecologic endocrine patients

Month	New case (cases)	On going case (visits)
January	7	55
February	12	49
March	15	57
April	6	37
May	15	54
June	14	48
July	11	58
August	8	45
September	12	44
October	6	49
November	9	47
December	7	57
Total	122	600

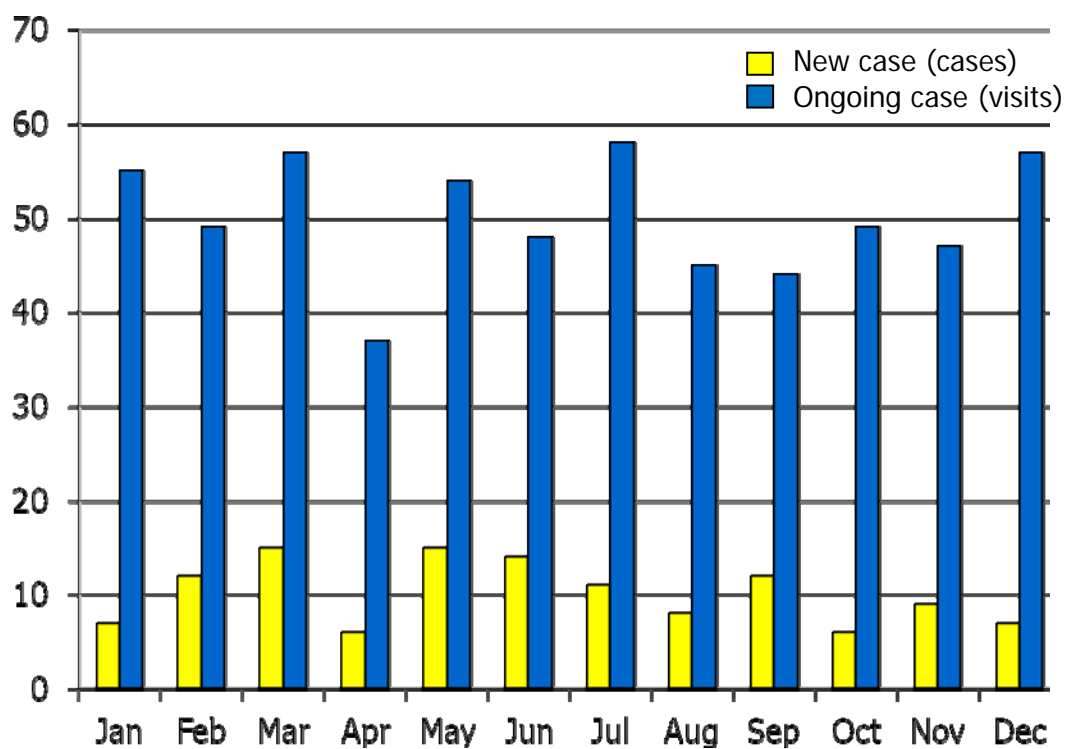


Figure II. Number of endocrine patient per month

III. Number of endometriosis patients

Month	New case (cases)	On going case (visits)
January	3	67
February	10	72
March	11	82
April	5	59
May	8	64
June	18	87
July	8	58
August	11	69
September	10	73
October	19	78
November	13	79
December	14	71
Total	130	859

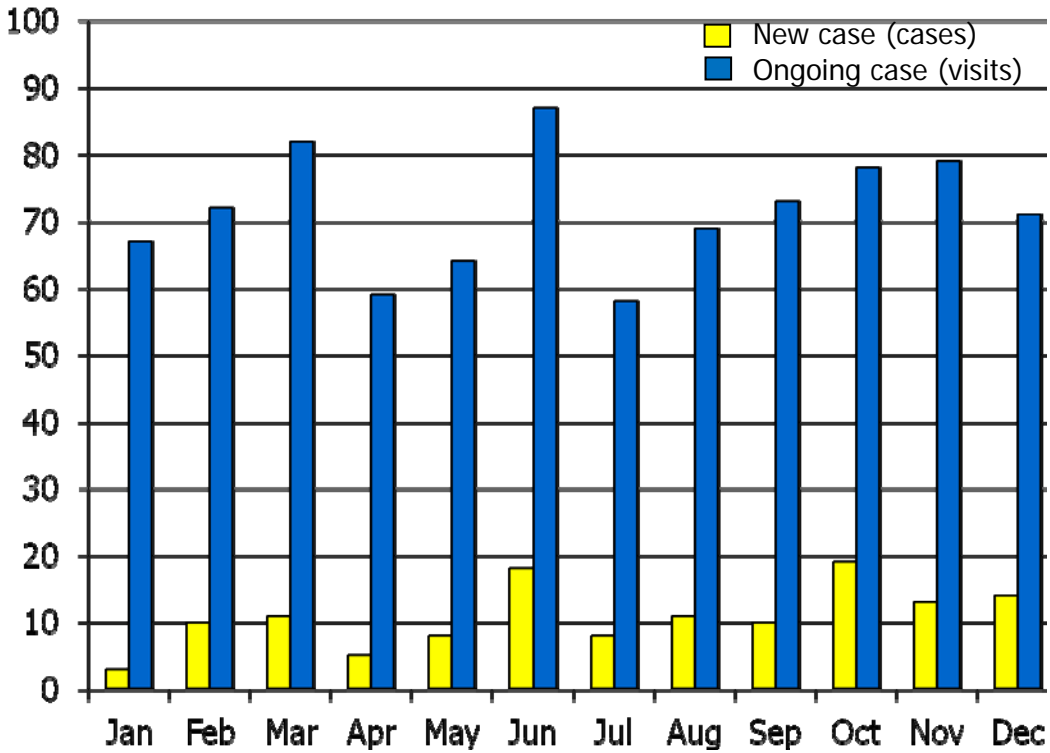


Figure III. Number of endometriosis patient per month

PART II**BASELINE CHARACTERISTICS AND DIAGNOSIS
OF
NEW & ON-GOING INFERTILE CASES IN 2011**

I. Age, duration of marriage & infertility

		Mean \pm SD	Range
Age	Female (years)	32.4 \pm 5.7	18 - 48
	Male (years)	35.5 \pm 8.2	20 - 69
Duration of marriage (months)		65.3 \pm 48.9	4 - 264
Duration of infertility (months)		56.1 \pm 49.7	4 - 324

II. Infertility status

Status	Female (cases)	Male (cases)
Primary infertility	281 (63.6 %)	249 (61.9 %)
Secondary infertility	161 (36.4 %)	153 (38.1 %)
Total	442	402

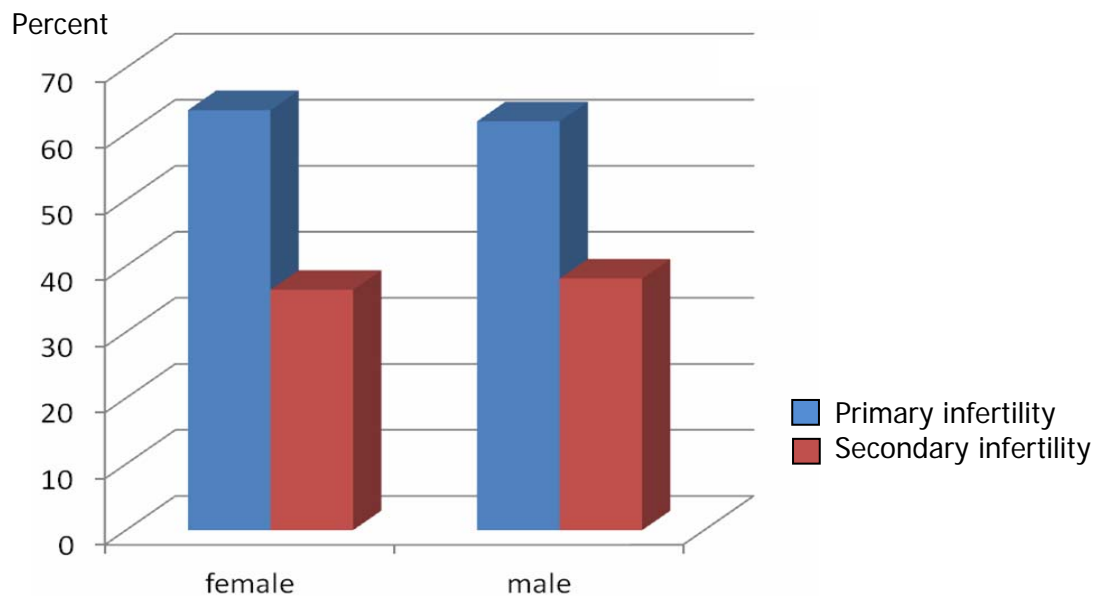


Figure IV. Infertility status

III. Diagnosis of male partners

Diagnosis	Case(s)	Percent
Normozoospermia	234	70.9
Asthenozoospermia	19	5.8
Oligozoospermia	18	5.5
Severe oligozoospermia	16	4.8
Azoospermia	15	4.5
Oligo-asthenozoospermia	13	3.9
Severe oligo-asthenozoospermia	4	1.2
Teratozoospermia	3	0.9
S/P Vasectomy	5	1.5
Anti HIV positive	1	0.3
Klinefelter syndrome	1	0.3
cryptozoospermia	1	0.3
Total	330	100

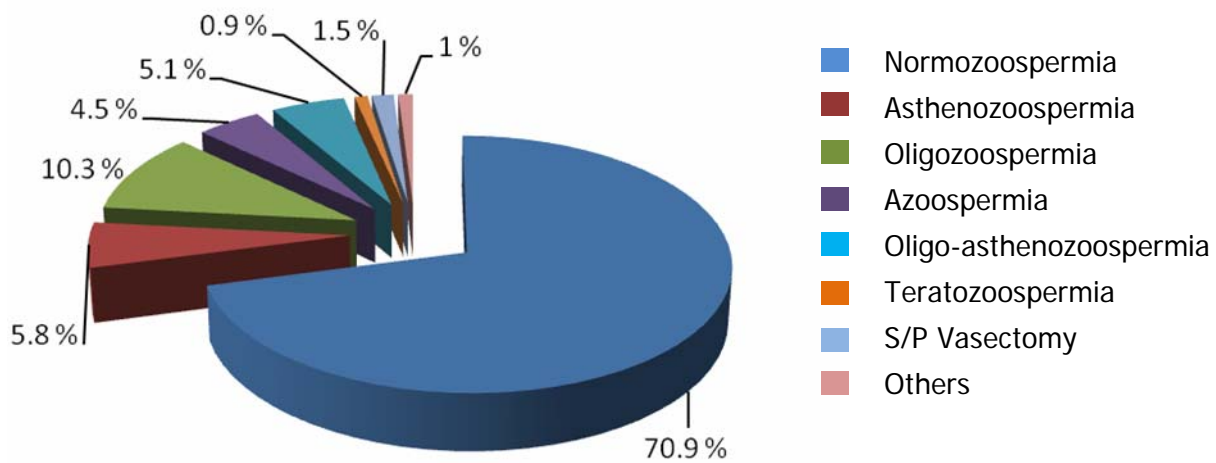


Figure V. Diagnosis of male partners

IV. Diagnosis of female partners

Diagnosis	Number	Percent
No demonstrable cause	82	27.8
Endometriosis (ES)	44	14.9
Post TR	35	11.9
PCOS	18	6.1
Unilateral tubal occlusion	22	7.5
Bilateral tubal occlusion	17	5.8
Ovulatory dysfunction / PCOS	24	8.1
Impaired ovarian reserve	12	4.1
Myoma Uteri / Adenomyosis	26	8.8
HIV serodiscordant	4	1.4
Pelvic adhesion	4	1.4
Habitual abortion	2	0.7
Intrauterine adhesion	3	1.0
ES and pelvic adhesion	1	0.3
Septate uterus / Bicornuate uterus	1	0.3
Total *	295	100.0

* Total number of female partners who had completed investigation

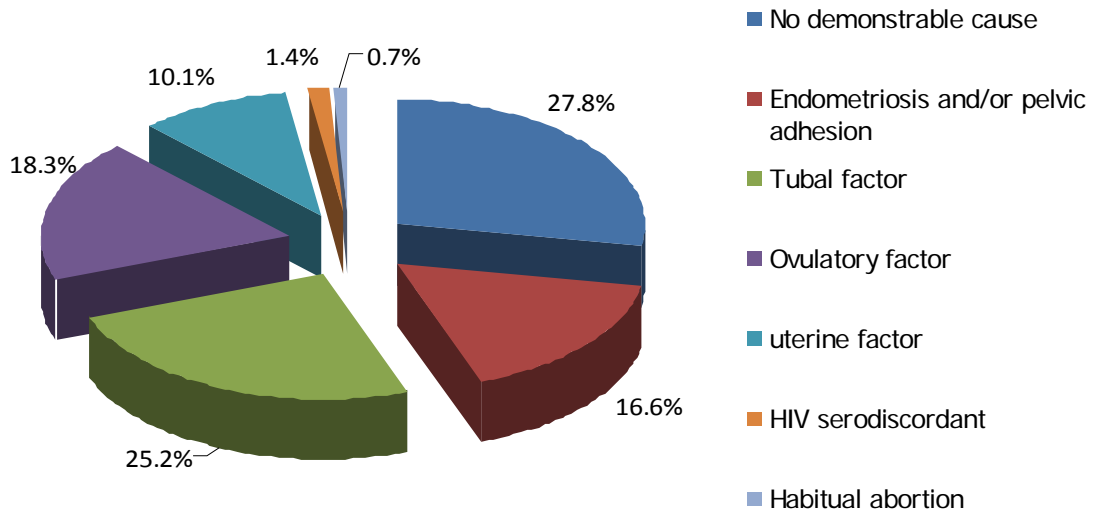


Figure VI. Diagnosis of female partners

PART III**TREATMENT OF INFERTILE COUPLES IN 2011**

I. Distribution of overall treatment of infertility in 2011

Treatment	Number (cycles)	Percent
Ovulation induction and timing sexual intercourse (OI+SI)	177	55.0
Intrauterine insemination (IUI)	94	29.2
Therapeutic insemination using frozen donor spermatozoa (TDI)	2	0.6
In vitro fertilization and embryo transfer (IVF & ET)	10	3.1
Intracytoplasmic sperm injection (ICSI)	19	5.9
In vitro fertilization and ICSI (in the same cycle)	-	-
In vitro maturation (IVM)	-	-
Frozen-thawed embryos transfer (FET)	20	6.2
Gamete intrafallopian transfer (GIFT)	-	-
Zygote intrafallopian transfer (ZIFT)	-	-
Direct intraperitoneal insemination (DIPI)	-	-
Total cycles of treatment	322	100

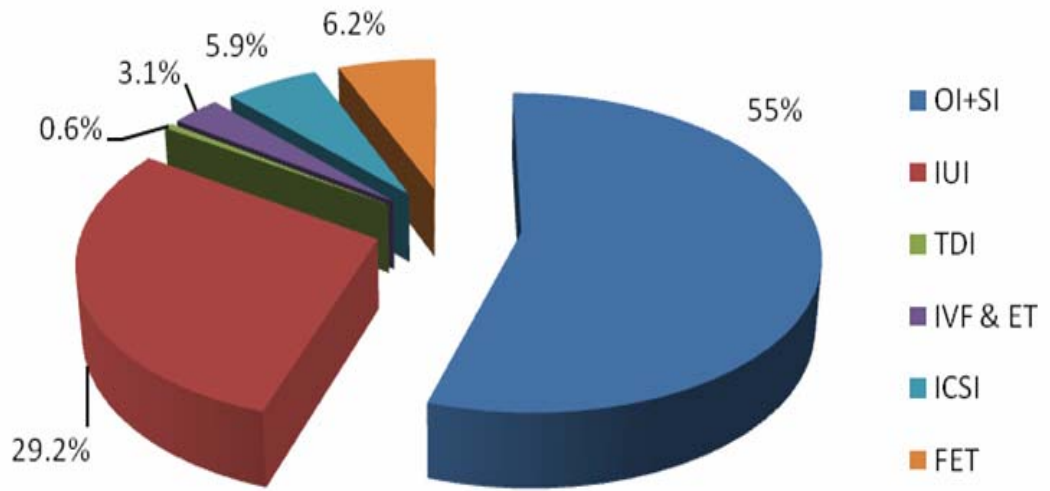


Figure VII. Percent of infertility treatment

II. Number of intrauterine insemination and A.R.T cycle per month

Month	IUI	TDI	IVF	IVF+ ICSI	IVM	ICSI	FET
January	5	-	1	-	-	-	1
February	9	-	1	-	-	2	2
March	2	-	2	-	-	-	1
April	8	-	-	-	-	-	1
May	7	-	1	-	-	1	1
June	8	-	-	-	-	4	2
July	7	-	1	-	-	4	2
August	5	-	3	-	-	2	4
September	12	-	-	-	-	-	2
October	14	1	1	-	-	5	1
November	9	1	-	-	-	1	-
December	8	-	-	-	-	-	3
Total	94	2	10	-	-	19^a	20
Clinical pregnancy rate (percent)	5.2^b	-	30.0^c	-	-	19.0^c	16.7^c

Remark: ^a embryo transfer were not done in 3 cases

^b pregnancy rate per cycle

^c pregnancy rate per transferred cycle

PART IV**ASISSTED REPRODUCTIVE TECHNOLOGY
LABORATORY REPORT**

I. Fertilization rate in IVF and ICSI cycle & survival rate in frozen-thawed embryo transfer cycle

	mean \pm SD (per cycle)	Range (per cycle)	Total (per year)
IVF cycle			
Age of patient (years)	34 \pm 8.3	20 - 44	10 patients
Number of oocyte retrieved	12.8 \pm 8.6	4 - 29	128 oocytes
Number of normal fertilized embryos	8.3 \pm 5.6	2 - 18	83 embryos
Fertilization rate			64.8 %
ICSI cycle			
Age of patient (years)	32.6 \pm 5.9	20 - 42	24 patients
Number of over all oocyte retrieved	13.8 \pm 10.0	2 - 44	317 oocytes
Number of M II oocytes retrieved	10.2 \pm 7.8	1 - 29	234 oocytes
Number of normal fertilized embryos	6.7 \pm 5.7	0 - 21	153 oocytes
Fertilization rate			65.4 %
Frozen-thaw Embryo transfer ecycle (FET)			
Age of patient (years)	36.5 \pm 6.8	20 - 47	23 patients
Number of embryo freezing	6.9 \pm 5.5	2 - 21	160 embryos
Number of embryo thawing	2.8 \pm 1.1	2 - 7	54 embryos
Number of survived embryo after thawing	2.4 \pm 0.8	0 - 3	45 embryos
Survival rate of thawed embryos			83.3 %

III. A.R.T. outcome and pregnancy outcome by type of A.R.T. and age group of female patients

Fresh embryos transfer cycle

Age (years)	IVF			ICSI		
	Number of OPU cycle	Pregnancies	Deliveries	Number	Pregnancies	Deliveries
<34	3	0	0	12	2	1
≥34-39	5	3	3	8	2	2
≥40	3	0	0	4	1	1
total	11	3	3	24	5	4

Frozen embryos transfer cycle

Age (years)	Number of cycle	Pregnancies	Deliveries
>34	6	1	1
≥34 - 39	9	2	2
≥40	6	-	-
total	21	3	3

PART V**ENDOSCOPIC PROCEDURES
&
OTHER SURGERY**

I. Laparoscopic examination finding in infertile patients

Finding	Number
Normal finding with patent of both tubes	11
Patent of both tubes with minimal/ mild endometriosis	10
mild pelvic adhesion	5
Unilateral tubal obstruction with minimal / mild endometriosis (Fimbrioplasty was done)	1
Bilateral tubal obstruction S/P TR	7
Total	34

remark : lysis adhesion was done during the procedure in case of minimal and mild adhesion and cauterization was done in case of minimal and mild endometriosis

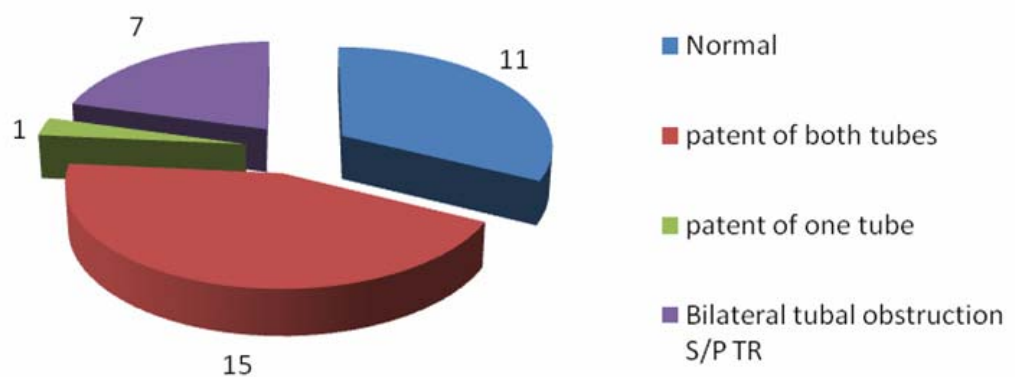


Figure VIII. Percent of laparoscopic findings in infertile patients

II. Laparoscopic examination finding in gynecologic patients with dysmenorrhea / chronic pelvic pain

Finding	Number
Normal finding	1
Endometriosis with / without pelvic adhesion *	6
adenomyosis	1
Total	8

* cauterization and lysis adhesion was done during the procedure

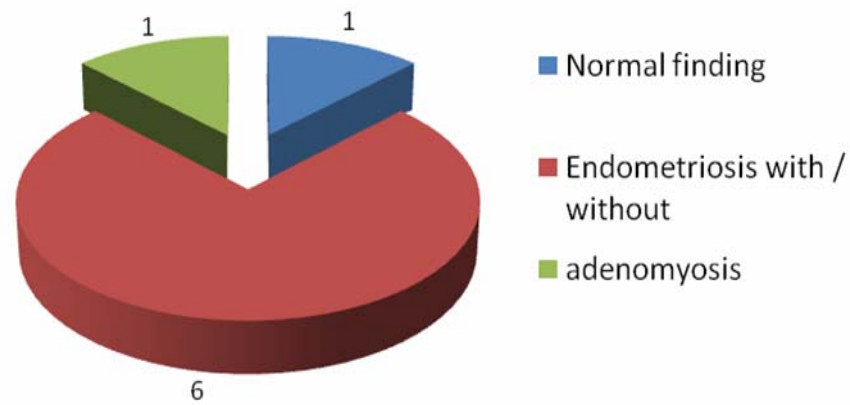


Figure IX. Number of laparoscopic finding in gynecologic patients

III. Hysteroscopic finding & procedures in all patients

Finding (or diagnosis) / Procedure	Number	Percent
WNL	27	34.2
Endometrial polyp / Polypectomy +/- curettage	18	22.8
Submucous myoma uteri / Resection of myoma	11	13.9
Cervical stenosis / Cervical dilation	3	3.8
Bicornuate uterus	1	1.3
AUB / Curettage	3	3.8
Endometrial hyperplasia /Curettage	7	8.9
Intrauterine adhesion / Resection of adhesion	5	6.3
Septate uterus / Resection	1	1.3
Atropic endometrial	1	1.3
Segmental agenesis of cervix	1	1.3
IUD removal / Retained IUD in endometrium	1	1.3
	79	100

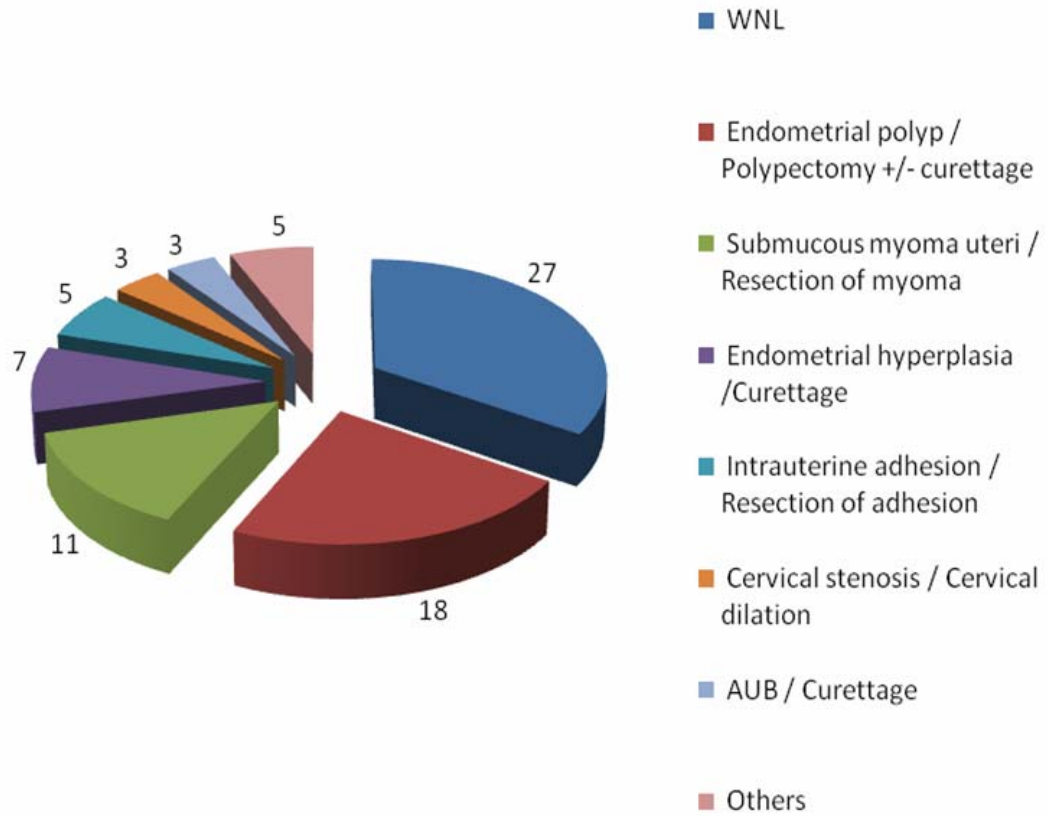


Figure X. Hysteroscopic finding and procedure in all patients

IV. Laparoscopic surgery procedure of infertile & gynecologic patients

Procedure	Diagnosis / finding	Number	Percent
Unilateral ovarian cystectomy	Ovarian cyst	22	16.3
Unilateral ovarian cystectomy with salpingectomy +/- fimbrioplasty with dye test	Ovarian cyst with hydrosalpinx	2	1.5
Unilateral ovarian cystectomy with lysis adhesion and dye test	Ovarian cyst with pelvic adhesion	2	1.5
Unilateral ovarian cystectomy with myomectomy	Ovarian cyst with Myoma uteri	5	3.7
Bilateral ovarian cystectomy with / without lysis adhesion	Bilateral ovarian cyst / endometrioma	15	11.1
Lysis adhesion +/- Cauterization of endometriotic spot with dye test and vaginoplasty	Chronic pelvic pain	3	2.2
	Infertility with pelvic adhesion	11	8.1
	Endometriosis with Incomplete vaginal	1	0.7
Salpingectomy / Salpingostomy / Remove conceptive product	Tubal pregnancy / Hydrosalpinx	10	7.4
Total laparoscopic hysterectomy (TLH) +/- BSO	Myoma uteri	19	14.1
	Mental retardation	1	0.7
Single incision TLH +/- BSO	Myoma uteri	16	11.9
Conventional laparoscopic hysterectomy	Myoma uteri	2	1.5
Unilateral / Bilateral Salpingo-oophorectomy	Dermoid cyst	3	2.2
	Recurrent of CA.breast	1	0.7
Cystovaginoscopy with drainage of Pyocalpos and vaginoplasty	Vaginal stenosis with hematocolpos	1	0.7
Laparoscopic tubal resection	Nullipara	19	14.1
Bilateral fimbrioplasty with dye test	Bilateral tubal obstruction	2	1.5
Total		135	100

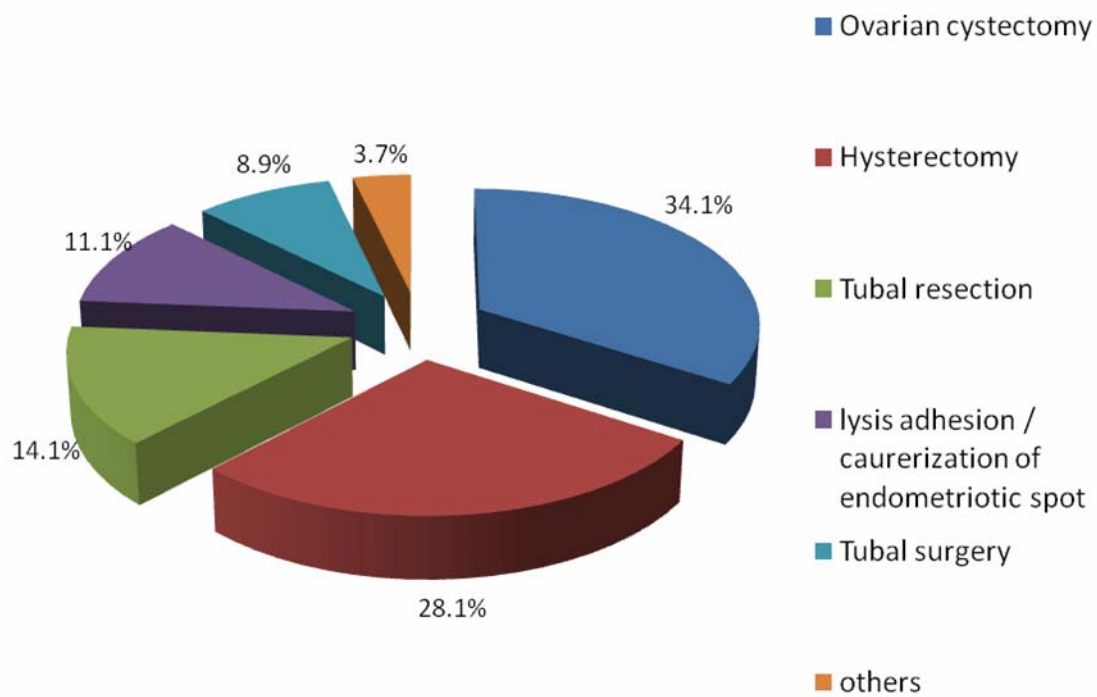


Figure XI Percent of laparoscopic surgery procedure

VI. Explor laparotomy and other surgery of infertile & gynecologic Patients

Procedure	Diagnosis / finding	Number
TAH	Chronic pelvic pain / Adenomyosis / Myoma uteri	13
TAH+BSO or SO	Severe endometriosis / Myoma uteri	11
TAH + Salpingectomy	Myoma uteri / adenomyosis with hydrosalpinx	3
Reverse TR	S/P post TR	11
Lysis pelvic adhesion +/- Salpingectomy	Severe pelvic adhesion +/- hydrosalpinx	3
Unilateral / Bilateral ovarian cystectomy *	Endometrioma / Dermoid cyst	3
Salpingo-oophorectomy *	Ovarian cyst	2
Vaginoplasty	hemivaginal obstruction	1
	Lower vaginal stenosis	1
	CAH with clitoromegaly	1
Resection of uterus	Uterine didelphis with Hemivaginal obstruction	1
Excision fistula tract at skin With lysis adhesion	Skin endometriosis	1
Excision abdominal wall mass	Abdominal wall endometriosis	1
Surgical sperm recovery	Azoospermia	5
Total		57

* failed laparoscopic surgery

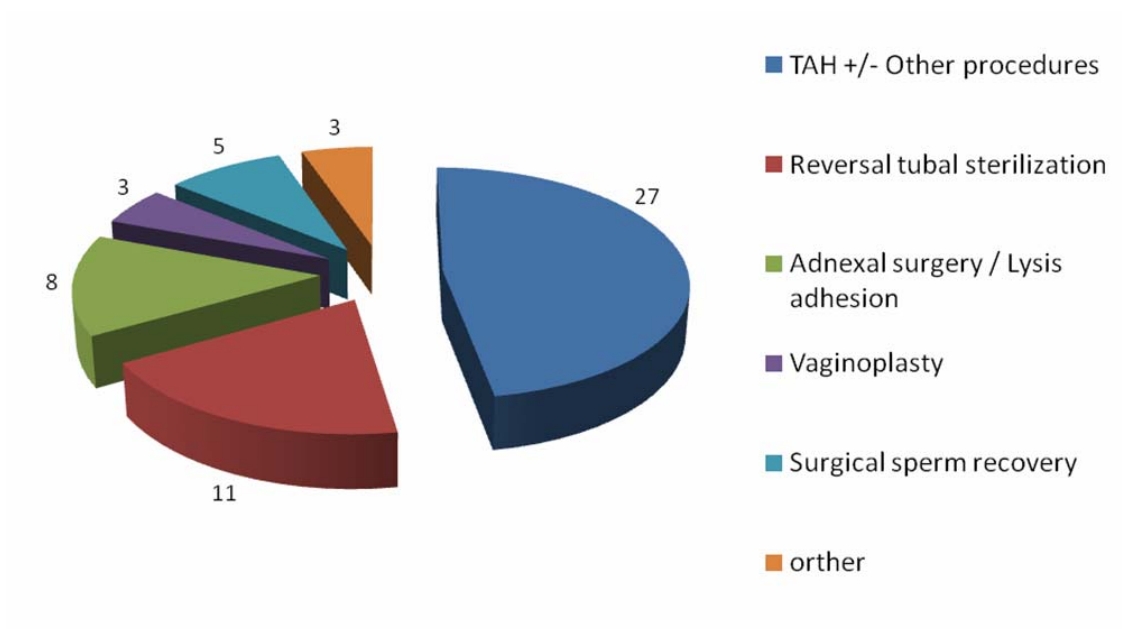


Figure XII Number of Explor laparotomy surgery and others procedure

PART V**GYNECOLOGIC ENDOCRINE PATIENTS 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	15	122
PCOs / Chronic anovulation / oligo-ovulation	20	144
Primary / Secondary amenorrhea	26	36
Mullerian agenesis	3	3
Premature ovarian failure	10	46
Precocious puberty	5	1
Recurrent pregnancy loss	14	24
AUB / DUB	12	58
Perimenopause / Surgical menopause	2	45
Gonadal dysgenesis	1	16
Turner's syndrome	10	28
Hypogonadotropic hypogonadism	1	13
Congenital adrenal hyperplasia	1	12
Panhypopituitarism	-	6
Asherman's syndrome	3	7
Testicular feminization	-	4
AVM at uterus	1	4
Ambiguous genitalia	1	1
Hirsutism	-	2
Mccune Albright syndrome	-	10
Kallman syndrome	-	7
Bicornuate uterus	1	1
Septate uterus	-	2
Uterine didelphis	-	4
Transverse vaginal septum	1	2
Agenesis of vaginal orifice / vaginal stenosis	1 / 1	1 / 1
Clitoromegaly	1	-
Delayed puberty	1	-
Decreased Libido	1	-
Total	122	600