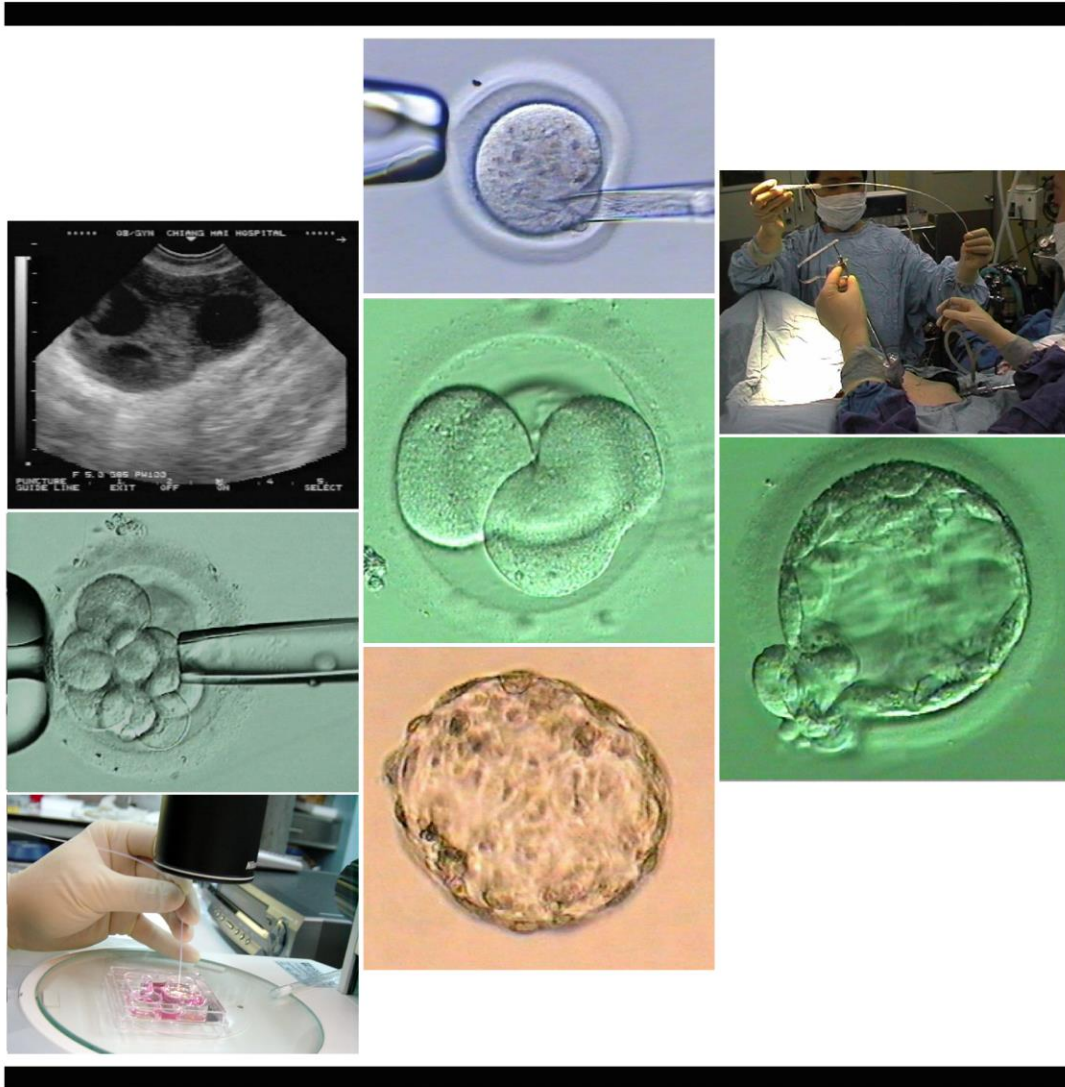


# Annual Report

## 2019



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

# ANNUAL REPORT 2019

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

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	Pannarai Somboonchai BSc.

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Data compiled and reported

Rung-aroon Sreshthaputra MSc.

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# รายงานประจำปี พ.ศ. 2562

หน่วยเวชศาสตร์การเจริญพันธุ์  
ภาควิชาสูติศาสตร์และนรีเวชวิทยา  
คณะแพทยศาสตร์  
มหาวิทยาลัยเชียงใหม่

หัวหน้าหน่วย

อาจารย์ประจำหน่วย

รศ.น.พ.โอภาส เศรษฐบุตร

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นุชนาต สุนทรลัมศิริ

วราภรณ์ ภิรมย์เลิศอมร

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อาจารย์พิเศษ

แพทย์หลักสูตรต่อยอด

พยาบาลประจำหน่วย

พยาบาลประจำห้องตรวจ

นักเทคนิคการแพทย์

รวบรวมข้อมูลและจัดทำรายงาน

รุ่งอรุณ เศรษฐบุตร

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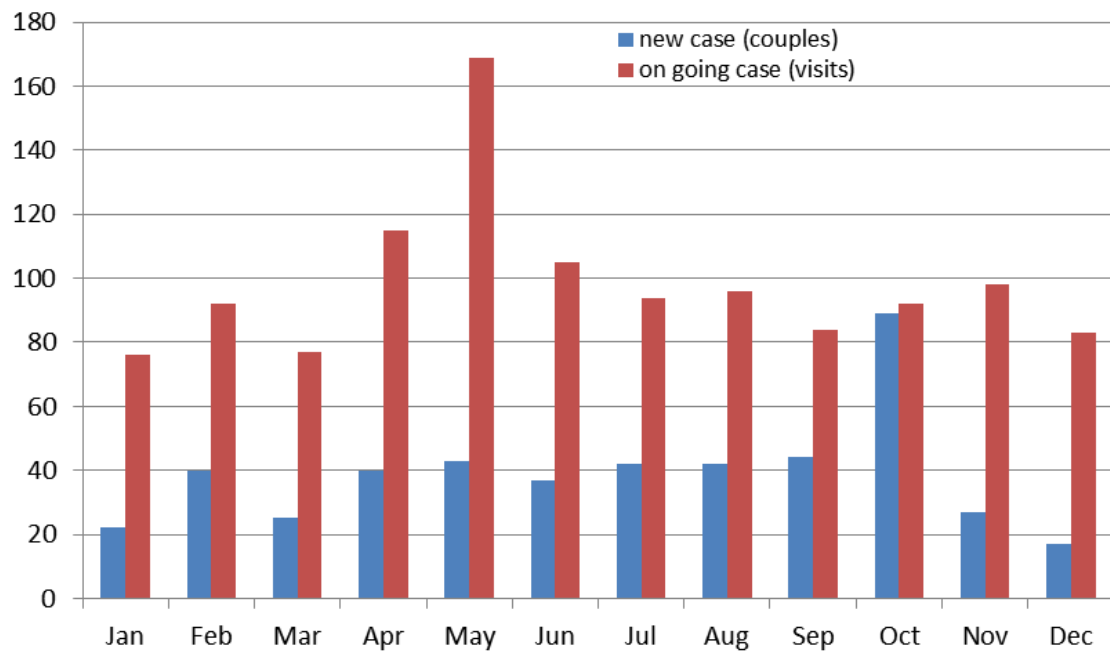
**PART I****NUMBER OF ATTENDED PATIENTS IN 2019**

- Infertile patients
- Gynecologic endocrine patients
- Endometriosis patients

## I. Number of infertile patients

Month	New case (couples)	Ongoing case (couple visits)
January	22	76
February	40	92
March	25	77
April	40	115
May	43	169
June	37	105
July	42	94
August	42	96
September	44	84
October	89	92
November	27	98
December	17	83
<b>Total</b>	<b>468</b>	<b>1181</b>

### Number

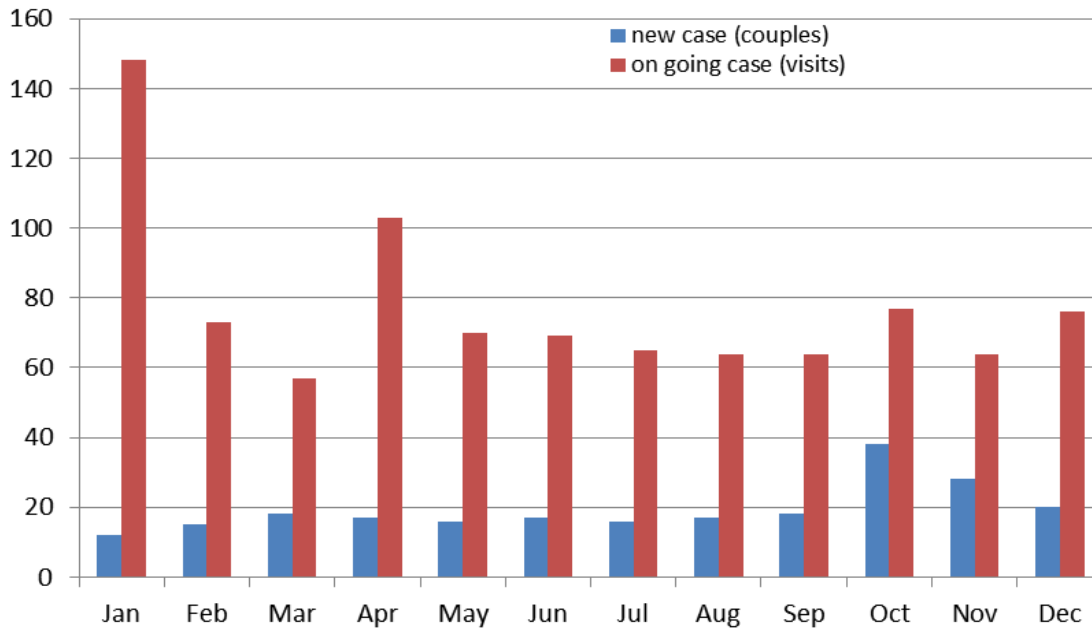


**Figure I.** Number of Infertile couples per month

## II. Number of gynecologic endocrine patients

Month	New case (cases)	Ongoing case (visits)
January	12	148
February	15	73
March	18	57
April	17	103
May	16	70
June	17	69
July	16	65
August	17	64
September	18	64
October	38	77
November	28	64
December	20	76
<b>Total</b>	<b>232</b>	<b>870</b>

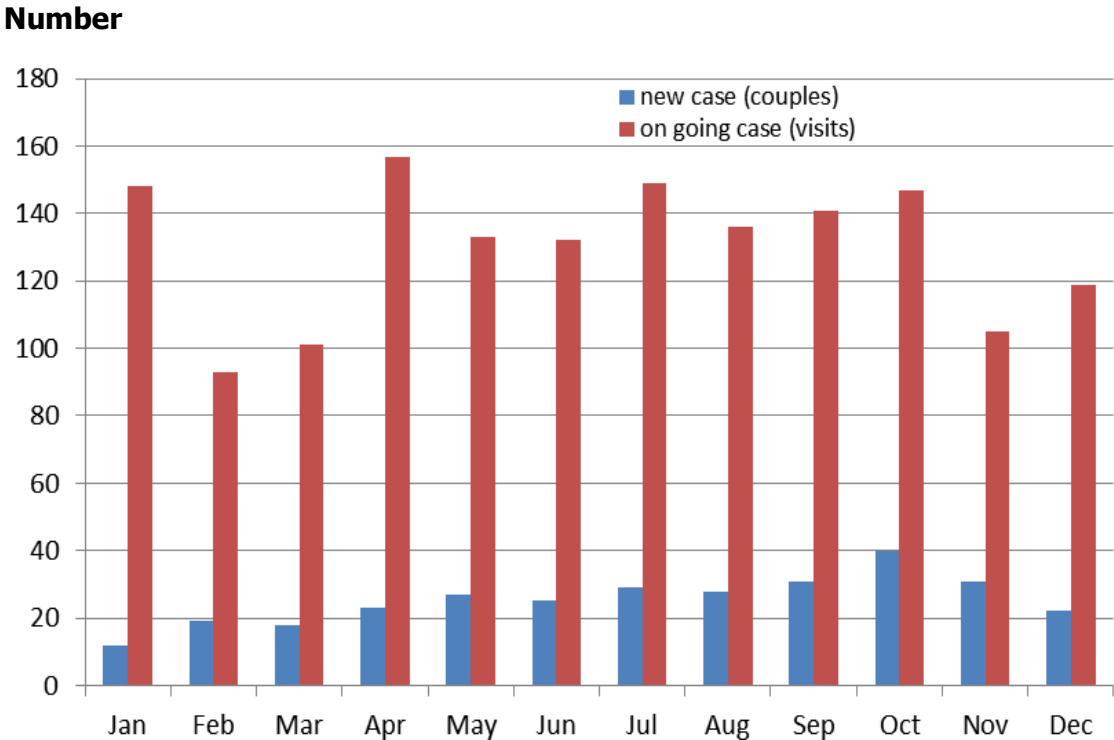
### Number



**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	12	148
February	19	93
March	18	101
April	23	157
May	27	133
June	25	132
July	29	149
August	28	136
September	31	141
October	40	147
November	31	105
December	22	119
<b>Total</b>	<b>305</b>	<b>1561</b>



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



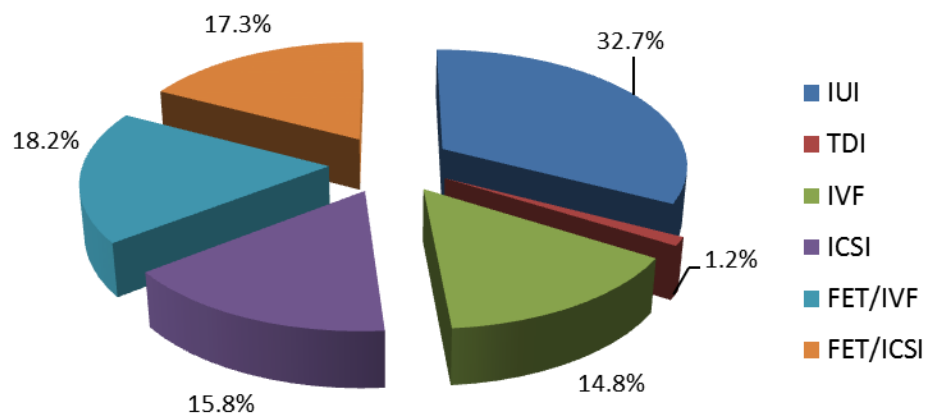
**IV. Number of patients with history of endometriosis or pelvic mass distributed by diagnosis**

	<b>New case (cases)</b>	<b>Ongoing case (visits)</b>
Ovarian cyst	28	121
Dermoid cyst	15	48
Endometrioma	49	328
Endometriosis	33	335
Hydrosalpinx	12	65
Dysmenorrhea	15	49
chronic Pelvic pain	9	85
Adenomyosis	27	149
Myoma uteri	61	215
Submucous myoma	17	75
Edometrial polyp	18	55
catamomial pneumothorax	1	5
Orthers	20	31
<b>Total</b>	<b>305</b>	<b>1561</b>

**PART II****TREATMENT OF INFERTILE COUPLES IN 2019**

## I. Distribution of overall treatments of infertility

Treatment	Number (cycles)	Percent
Intrauterine insemination (IUI)	108	32.7
Therapeutic insemination using frozen donor sperm (TDI)	4	1.2
In vitro fertilization and embryo transfer (IVF & ET)	49	14.8
Intracytoplasmic sperm injection (ICSI)	52	15.8
In vitro maturation (IVM)	-	-
Frozen-thawed embryos transfer (FET) / IVF	60	18.2
Frozen-thawed embryos transfer (FET) / ICSI	57	17.3
<b>Total cycles of treatment</b>	<b>330</b>	<b>100</b>



**Figure VI.** Percent of infertility treatments

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

<b>Month</b>	<b>IUI</b>	<b>TDI</b>	<b>IVF</b>	<b>ICSI</b>	<b>FET /IVF</b>	<b>FET /ICSI</b>
January	5	1	4	0	10	7
February	9	1	4	4	9	7
March	6	-	6	5	3	3
April	4	1	1	1	2	3
May	15	-	16	10	6	8
June	8	-	1	5	6	3
July	9	-	5	8	5	4
August	9	1	2	8	6	8
September	4	-	2	1	4	3
October	15	-	4	4	3	7
November	8	-	3	4	2	6
December	16	-	1	2	1	1
<b>Total</b>	<b>108</b>	<b>4</b>	<b>49</b>	<b>52</b>	<b>57</b>	<b>60</b>
<b>Fertilization rate</b>			<b>55.8 %</b>	<b>72.6 %</b>		
<b>Survival rate after thawing</b>					<b>65.6 %</b>	<b>58.6 %</b>
<b>Embryo transfer</b>			<b>20</b>	<b>20</b>	<b>57</b>	<b>60</b>
<b>Chemical pregnancy</b>	<b>1</b>	-	-	-	<b>1</b>	<b>2</b>
<b>Clinical pregnancy</b>	<b>7</b>	-	<b>4</b>	<b>4</b>	<b>25</b>	<b>17</b>
<b>Abortion</b>	<b>1</b>	-	<b>1</b>	-	<b>7</b>	<b>2</b>
<b>Ectopic pregnancy</b>	-	-	-	-	-	-
<b>Singleton pregnancy</b>	<b>5</b>	-	<b>4</b>	<b>4</b>	<b>10</b>	<b>12</b>
<b>Twin pregnancy</b>	<b>1</b>	-	-	-	<b>8</b>	<b>3</b>
<b>Triplet pregnancy</b>	-	-	-	-	-	-
<b>Clinical pregnancy rate (percent)</b>	<b>6.5%<sup>a</sup></b>	-	<b>20.0 %<sup>b</sup></b>	<b>20.0 %<sup>b</sup></b>	<b>43.9 %<sup>b</sup></b>	<b>28.3 %<sup>b</sup></b>

*Remark: <sup>a</sup> pregnancy rate per cycle  
<sup>b</sup> 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)	34.6 $\pm$ 4.7	23 - 45	52 cycles
BMI of patients (kg/m <sup>2</sup> )	20.9 $\pm$ 3.2	16 - 29	
Number of oocyte retrieved	13.8 $\pm$ 9.8	1 - 44	662 oocytes
Number of normal fertilization	7.6 $\pm$ 6.2	0 - 31	366 oocytes
Normal fertilization rate			55.3 %
Number of cleavage stage embryo	7.5 $\pm$ 6.1	0 - 31	358 embryos
Cleavage rate			97.8 %
Number of embryo transfer	40	1 - 3	40 embryos
Number of embryo freezing	275	0 - 20	275 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	21 – 47	49 cycles
BMI of patients (kg/m <sup>2</sup> )	22.6 $\pm$ 3.7	15.8 – 36	
Number of oocyte retrieved	12.1 $\pm$ 7.4	1 - 31	628 oocytes
Number of M II oocytes retrieved	9.1 $\pm$ 5.3	1 - 25	471 oocytes
Number of normal fertilized embryos	6.5 $\pm$ 4.4	1 - 22	340 oocytes
Fertilization rate			72.2 %
Number of cleavage stage embryo	6.4 $\pm$ 4.5	1 - 22	334 embryos
Cleavage rate			98.2 %
Number of embryo transfer	1.7 $\pm$ 0.6	1 - 3	36 embryos
Number of embryo freezing	5.1 $\pm$ 4.2	0 - 17	266

### III. 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)	34.8 $\pm$ 4.7	24 - 45	57
Number of embryo thawing	3.7 $\pm$ 1.6	1 - 9	216
Number of embryo survived	2.4 $\pm$ 1.1	1 - 5	137
Number of embryo transfer	1.9 $\pm$ 0.5	1 - 3	107
Number of embryo freezing back	0.5 $\pm$ 0.9	0 - 4	30
Survival rate of thawed embryos			65.6 %

### IV. 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)	35.8 $\pm$ 5.1	21 - 47	60
Number of embryo thawing	3.5 $\pm$ 1.4	1 - 7	210
Number of embryo survived	2.1 $\pm$ 0.6	1 - 3	123
Number of embryo transfer	1.9 $\pm$ 0.6	1 - 3	115
Number of embryo freezing back	0.1 $\pm$ 0.4	0 - 2	8
Survival rate of thawed embryos			58.6 %



## 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	Abortion
<34	18	8	-	1	-
≥34-39	23	7	-	1	1
≥40	8	5	-	2	-
<b>total</b>	<b>49</b>	<b>20</b>	<b>-</b>	<b>4</b>	<b>1</b>

### 5.2 Fresh embryos transfer cycle (ICSI cycle)

Age (years)	Number of OPU cycle	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	Abortion
<34	12	5	-	1	-
≥34-39	30	9	-	2	-
≥40	10	6	-	1	-
<b>total</b>	<b>51</b>	<b>20</b>	<b>-</b>	<b>4</b>	<b>-</b>

### 5.3 Frozen embryos transfer cycle (IVF embryo)

Age (years)	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	abortion
<34	19	-	11	3
≥34-39	27	1	13	3
≥40	11	-	1	1
<b>total</b>	<b>57</b>	<b>1</b>	<b>25</b>	<b>7</b>

### 5.4 Frozen embryos transfer cycle (ICSI embryo)

Age (years)	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	abortion
<34	15	1	6	0
≥34-39	31	1	9	1
≥40	14	0	1	0
<b>total</b>	<b>60</b>	<b>2</b>	<b>16</b>	<b>1</b>

**PART V****ENDOSCOPIC PROCEDURES  
&  
OTHER SURGERIES**

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

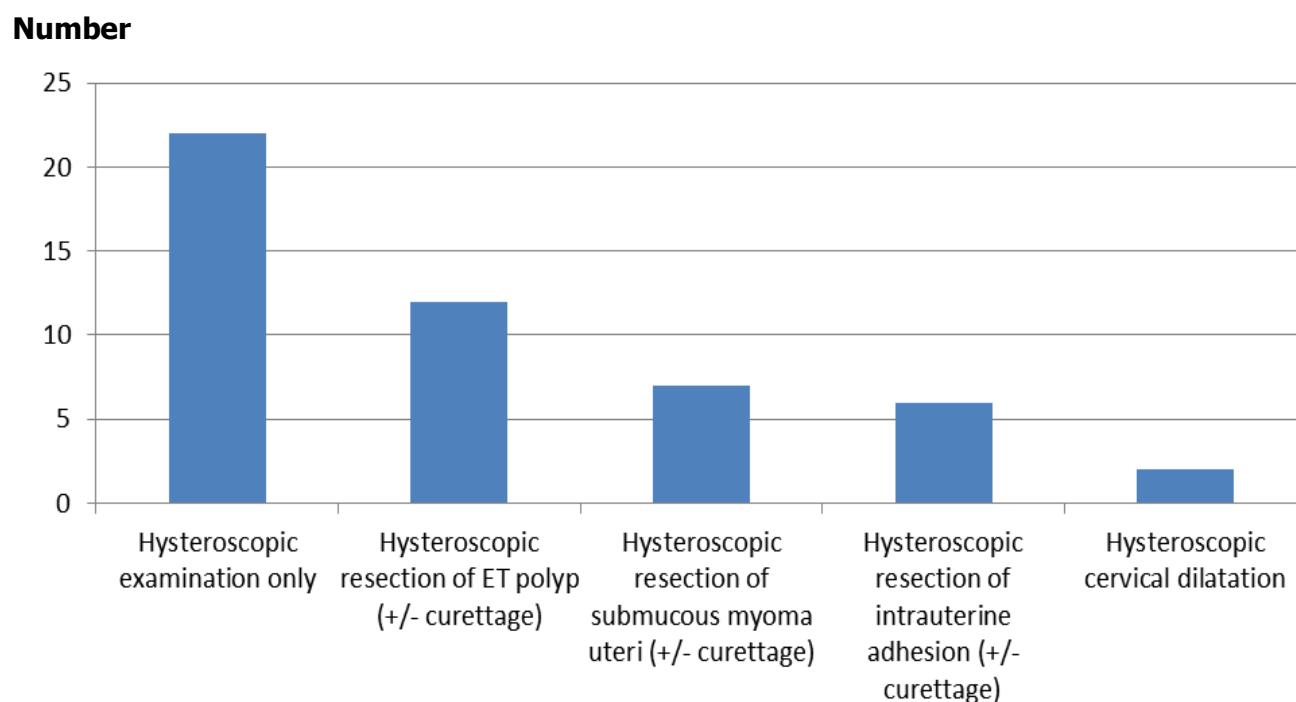
<b>Procedure ; Finding</b>	<b>Number</b>
Laparoscopic examination with dye test ; Normal finding with patent of both tubes	3
patent of one tube	-
bilateral tubal obstruction	1
Laparoscopic cauterization of endometriotic spot and/or lysis adhesion and dye test ; patent of both tubes	6
patent of one tube	-
bilateral tubal obstruction	-
<b>Total</b>	<b>10</b>

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

<b>Procedure ; Finding</b>	<b>Number</b>
Laparoscopic examination & cauterization of endometriotic spot ; Endometriosis	1
Laparoscopic examination ; angular pregnancy with corpus luteum cyst	1
Laparoscopic examination ; Mullerian agenesis	1
Laparoscopic tubal resection	2
<b>Total</b>	<b>5</b>

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

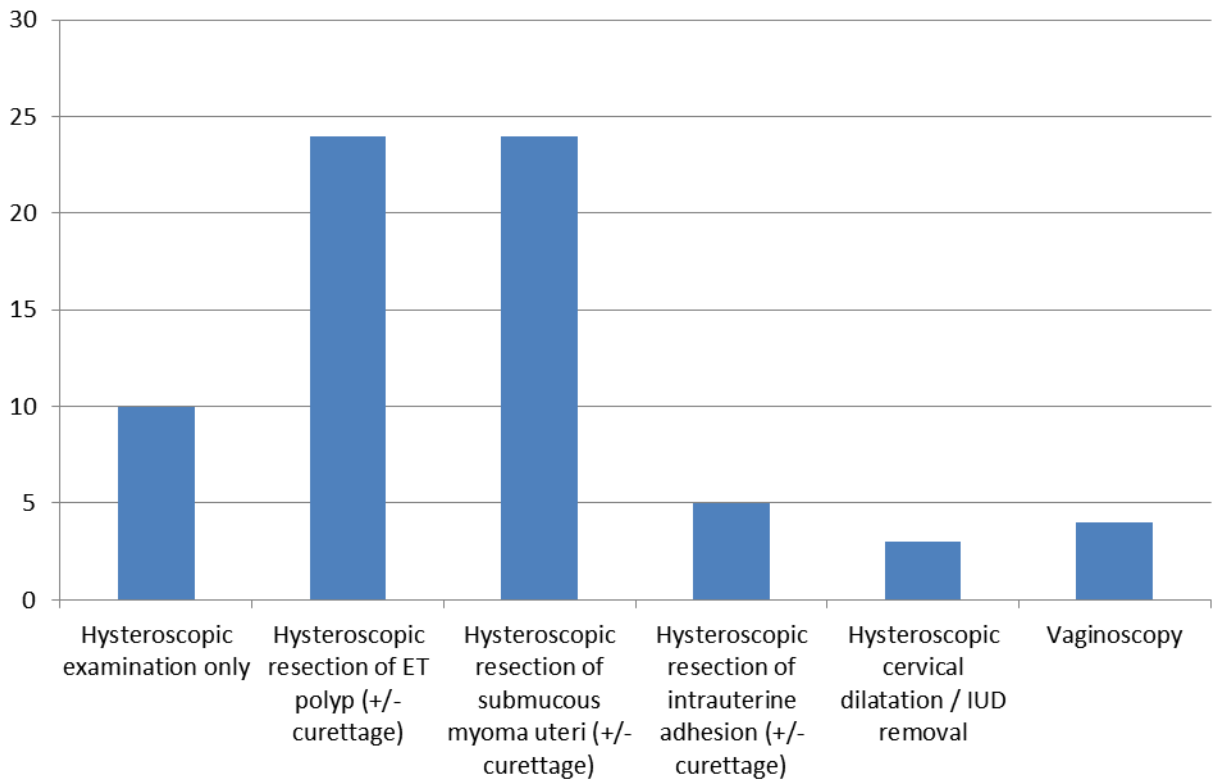
Hysteroscopic procedure (; finding)	Number
Hysteroscopic examination ; WNL in patient with history of infertility only	11
WNL in patient had history of habitual abortion & Infertility	6
WNL in patient with history of recurrent implantation failure	5
Hysteroscopic resection of endometrial polyp (+/- Curettage)	12
Hysteroscopic resection of submucous myoma (+/- Curettage)	7
Hysteroscopic resection of intrauterine septum / adhesion	6
Cervical dilation of cervical stenosis	2
<b>Total</b>	<b>49</b>



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

**IV. Number of hysteroscopic /vagoscopic procedures in gynecologic patients**

<b>Hysteroscopic procedure (; finding)</b>	<b>Number</b>
Hysteroscopic examination in patient with history of Recurrent pregnancy loss (; Normal finding)	5
Secondary amenorrhea (; Normal finding)	1
S/P myomectomy	1
R/O vaginal tear	1
Hysteroscopic examination ; bicornuate uterus case	1
uterine didelphys case	1
Hysteroscopic resection of endometrial polyp	24
Hysteroscopic resection of submucous myoma uteri / intrauterine mass	24
Hysteroscopic resection of intrauterine adhesion in patient with history of recurrent pregnancy loss	5
Hysteroscopy for IUD removal	2
Hysteroscopic examination and dilatation of cervical stenosis	1
Vagoscopic examination ; S/P vaginoplasty	3
Vagoscopy with drainage of obstructed fallopian tube	1
<b>Total</b>	<b>70</b>

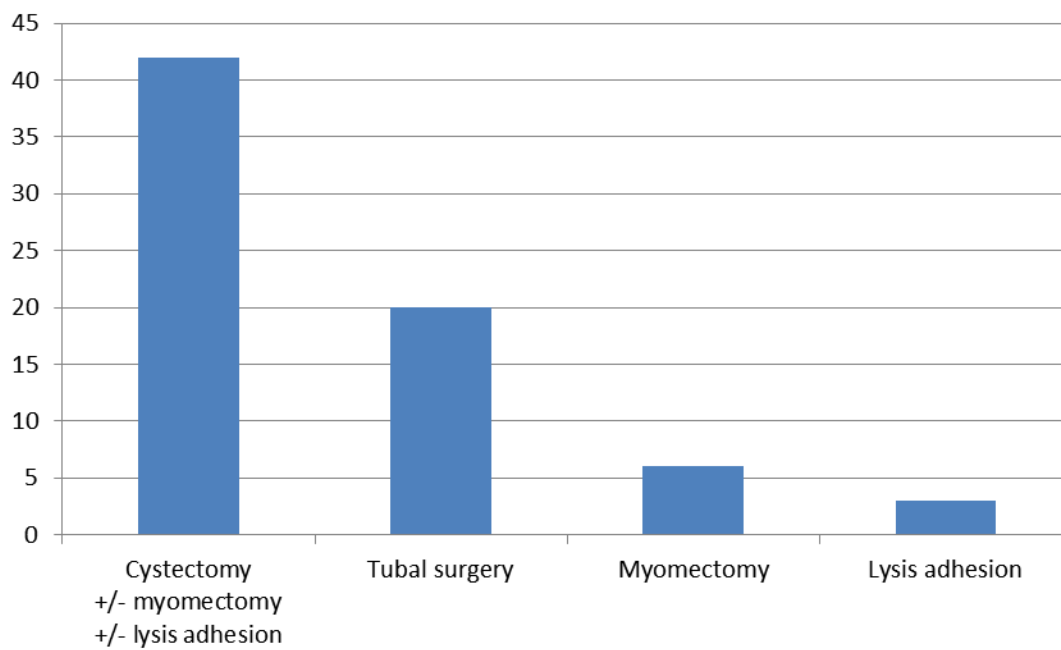
**Number**

**Figure VIII.** 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	11
Cystectomy & myomectomy	Ovarian cyst with myoma uteri	9
Cystectomy & lysis adhesion with dye test	Ovarian cyst / endometrioma with pelvic adhesion	18
Cystectomy & salpingectomy or fimbrioplasty with dye test	Ovarian cyst / endometrioma with hydrosalpinx	4
Salpingectomy & Lysis adhesion & dye test	Hydrosalpinx & Pelvic adhesion	5
Fimbrioplasty with lysis adhesion and dye test	Hydrosalpinx	5
Salpingectomy	Hydrosalpinx	8
Salpingo-oophorectomy with dye test	Dermoid cyst / endometrium / TOA	2
Myomectomy with salpingectomy	Submucous myoma uteri with hydrosalpinx	6
Lysis pelvic adhesion & cauterization of endometiotic spot & dye test	Pelvic adhesion & endometriosis	3
<b>Total</b>		<b>71</b>

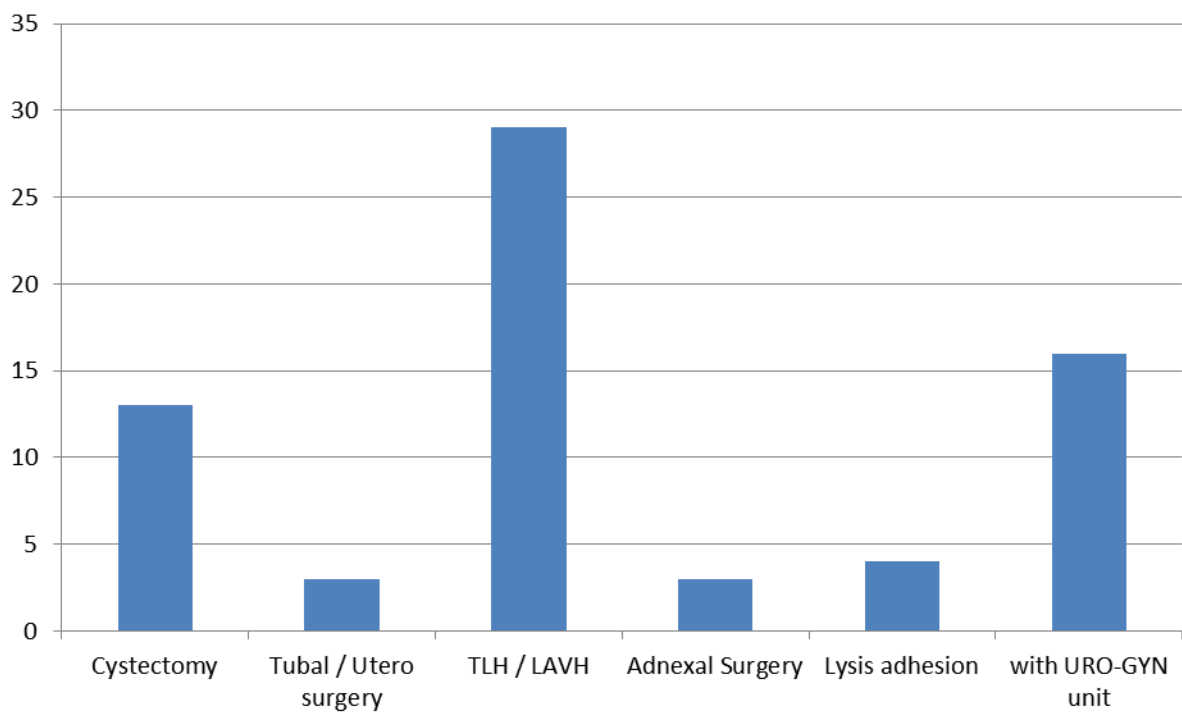


**Number**

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

## VI. Number of laparoscopic procedures in gynecologic patients

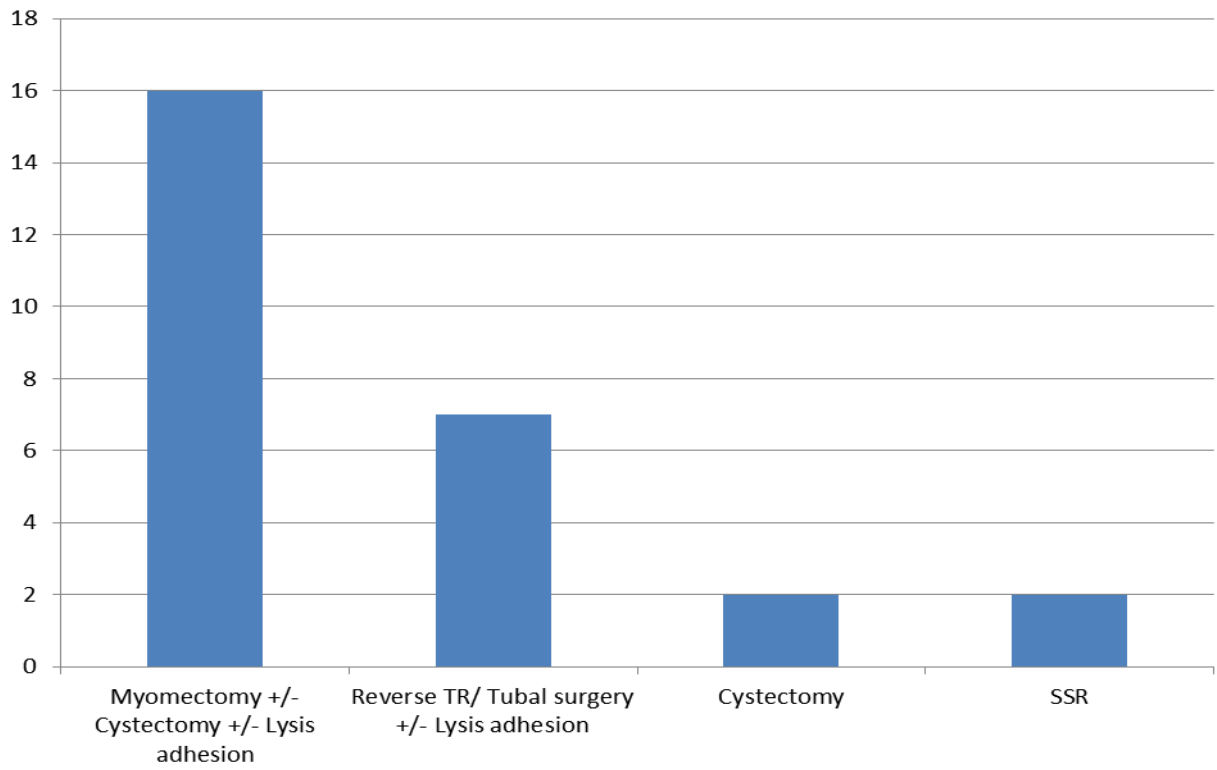
Procedure	Diagnosis / finding	Number
Unilateral / bilateral Cystectomy with or without lysis adhesion	Endometrioma / dermoid cyst	13
Salpingectomy	Tubal pregnancy	1
Salpingostomy	Tubal pregnancy	1
Resection of rudimentary horn	Rudimentary horn pregnancy	1
TLH & Unilateral / bilateral salpingo-oophorectomy	Ovarian cyst / Myoma uteri / Endometrium hyperplasia	1
TLH & Bilateral aterosarcral ligament excision	Deep infiltrating endometriosis	1
TLH & Bilateral salpingectomy	Myoma uteri / Adenomyosis / Hypermenorrhea / Autism	8
LAVH & lap. lysis adhesion	Myoma uteri & Pelvic adhesion	1
TLH +/- BSO (Cooperation with Uro-Gyn unit)	Myoma uteri / Adenomyoma / Endometrioma	18
Salpingo-Oophorectomy with / without lysis adhesion	Ovarian cyst	3
Lysis adhesion	Severe pelvic adhesion	4
Uro-gynecology & pelvic reconstruction surgery (Cooperation with Uro-Gyn unit)	Uro-gynecologic problem	16
<b>Total</b>		<b>68</b>

**Number**

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

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

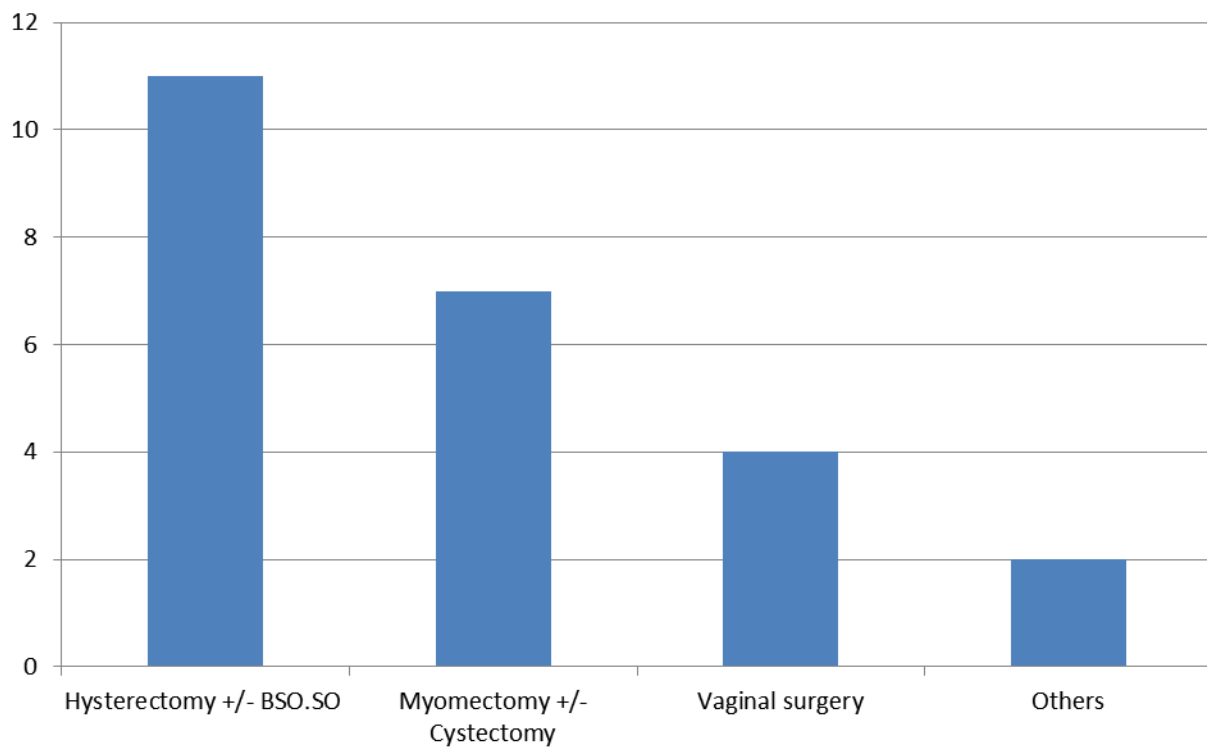
Procedure	Diagnosis / finding	Number
Myomectomy and dye test	Myoma uteri	9
Myomectomy and cystectomy and dye test (with/without lysis adhesion)	Myoma uteri with ovarian cyst	4
Myomectomy and lysis adhesion and dye test	Myoma uterin and pelvic adhesion	3
Reversal tubal sterilization	S/P Tubal resection	5
Salpingectomy and lysis adhesion	Severe adhesion and bilateral hydrosalpinx	1
Salpingo-Oophorectomy + lysis adhesion + dye test	Endometrioma	1
Bilateral ovarian cystectomy and lysis adhesion and dye test	Bilateral ovarian cyst and pelvic adhesion	2
Surgical sperm recovery	Azoospermia	2
Ovum pick up	Infertility	101
<b>Total</b>		<b>128</b>

**Number**

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

**VIII. Number of explore laparotomy procedures in gynecologic patients**

Procedure	Diagnosis / finding	Number
TAH + BSO or SO	Myoma uteri / Adenomyosis	6
	Endometrioma	1
TAH + BSO + Appendectomy	Trans-gender	1
TAH + Salpingectomy	Myoma uteri	2
Sub-total hysterectomy	Submucous myoma uteri	1
Myomectomy	Myoma uteri	5
Myomectomy & cystectomy	Myoma uteri & ovarian cyst	1
Vaginal myomectomy	Prolapse submucous myoma uteri	1
Vaginoplasty	Mullerian agenesis / Vaginal stricture	2
Vaginal dilatation	S/P Vaginoplasty	1
Vaginal drainage	Pelvic mass	1
Salpingo-Oophorectomy	Huge ovarian cyst	1
Incision and drain	Uterine didelphys with pyohematocolpos	1
<b>Total</b>		<b>24</b>

**Number**

**Figure XII.** 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 Microadenoma of pituitary gland / Prolactinoma / Pituitary adenoma	22	65
PCOS	49	151
Anovulation / irregular menstruation	3	28
Primary amenorrhea	0	12
Secondary amenorrhea	23	48
oligomenorrhea	5	3
Mullerian agenesis	4	10
Recurrent pregnancy loss	16	29
Premature ovarian failure	4	61
Congenital adrenal hyperplasia	0	13
AUB / Hypermenorrhea	27	48
Gonadal dysgenesis	1	14
Turner's syndrome	4	41
Pituitary disorder	5	40
Uterine didelphys / Septate uterus	4	21
Precocious puberty	1	1
Asherman syndrome	4	22
Mccune Albright syndrome	0	2
Labial agglutination	9	26
Hypogonadotrophic hypogonadism	2	28
Trans-gender	18	33
Perimenopuase / Surgical menopause	6	43
Hirsutism	2	8
Others	23	123
<b>Total</b>	<b>232</b>	<b>870</b>