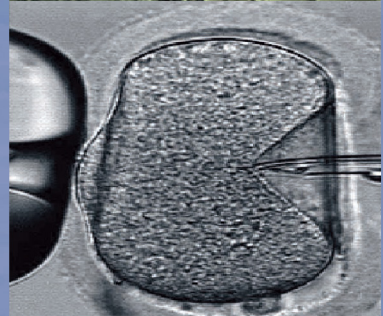




The University of Hong Kong

Clinical Report 2021

Department of Obstetrics and Gynaecology



CONTENTS

List of medical staff	1
OBSTETRICS	6
Comparative statistics	7
Intervention rates & perinatal mortality	8
Statistical summary	9
Patients characteristics	10
Congenital anomaly of genital and urinary tract, cardiac diseases, gestational diabetes & pre-existing diabetes mellitus	11
Blood/renal/liver/respiratory/gastrointestinal/gall bladder diseases, epilepsy and other neurological diseases	12
Psychiatric/immunological/thyroid/surgical/malignant and sexually transmitted diseases	13
Other infection and other associated diseases	14
Hypertension in pregnancy	15
Antepartum haemorrhage	16
Preterm deliveries	17
Multiple gestation	18
Postpartum haemorrhage, manual removal of placenta	19
Postpartum anaemia	20
Puerperal pyrexia and other complications	21
Induction of labour	22
Indications for induction	23
Types of labour	24
Obstetric analgesia during labour	25
Pregnancy following previous caesarean sections	26
Breech presentation	27
Malpresentation other than breech presentation	28
Prolapse and presentation of umbilical cord	29
Mode of operative delivery	30
Indications for assisted delivery and caesarean sections	31
Apgar score at birth versus mode of delivery	32
Perinatal data	33
Summary of fetal loss	34
Fetal loss/survival versus gestational age	35
Fetal loss/survival versus birth weight	36
Outcome of VLBW babies / gestational age and functional maturity	37
Causes of stillbirths	38
Causes of neonatal deaths	39
Birth trauma	40
Congenital malformations	41
Other neonatal complications	42

PRENATAL DIAGNOSTIC & COUNSELLING ACTIVITIES	43
Clinical Activity	
Amniocentesis	44
Chrionic Villus Sampling	45
Special Invasive Procedure	46
Ultrasonography	47
Fetal Down Syndrome Screening	48
Laboratory workload	49
GYNAECOLOGY	50
Outpatient statistics	51
Total admissions and discharges statistics	52
Overall statistical summary	
Diagnosis	
diseases of vulva, perineum,urethra/vagina/uterine cervix	55
diseases of uterine body/fallopian tubes/ ovary	56
diseases of broad ligaments and pelvic peritoneum/genital displacement and urinary problems/disorders of menstruation	57
disorders of pregnancy and reproduction, complications in pregnancy	58
miscellaneous gynaecological/miscellaneous conditions	59
Treatment for general gynaecological conditions	
major abdominal surgery for benign conditions	60
major vaginal/major vulval operations	61
laparoscopic operations for benign conditions (including robotic assisted surgery)	62
hysteroscopic procedures / colposcopy related procedures / minor abdominal operations / other minor operations	63
other forms of treatment	64
GYNAECOLOGY ONCOLOGY	65
Oncology clinic attendance / patient group meeting	66
Statistics for gynaecology malignancies	67
Operation for malignancy / pre-malignancy disease	68
Chemotherapy	69
Colposcopy services	70
REPRODUCTIVE MEDICINE	71
Outpatient statistics	72
Assisted reproduction procedures	73
Intrauterine insemination	
IVF and Frozen embryo transfer	
Operative procedures	74
List of Abbreviations	75

**MEDICAL STAFF OF
DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY,
THE UNIVERSITY OF HONG KONG (2021)**

Obstetrician and Gynaecologist in charge :

Dr. K.K.L. Chan M.B.,B.Chir (Cantab); M.D. (H.K.); F.R.C.O.G.;
F.H.K.A.M. (O&G); F.H.K.C.O.G.;
Cert R.C.O.G.(Gynae Onc)

Associate Professor & Head, Department of Obstetrics & Gynaecology
Chief of Service, Department of Obstetrics & Gynaecology, Queen Mary Hospital
Honorary Consultant Obstetrician & Gynaecologist to the Hospital Authority

Hospital Chief Executive :

Dr. T.T.L. Li M.B.,B.S. (UNSW); F.A.N.Z.C.A.; F.H.K.C.A.,
F.H.K.A.M. (Anaesthesiology); Dip Pain Mgt (HKCA)

Professors, Specialists in Obstetrics & Gynaecology :

Prof. P.C. Ho M.B.,B.S. (H.K.); M.D. (H.K.); F.R.C.O.G.;
F.H.K.A.M. (O&G); F.H.K.C.O.G.

Prof. E.H.Y. Ng M.B.,B.S. (H.K.); M.Phil.(Sheff); M.D. (H.K.);
F.R.C.O.G.; F.H.K.A.M. (O&G); F.H.K.C.O.G.

Prof. H.Y.S. Ngan M.B.,B.S. (H.K.); M.D. (H.K.); F.R.C.O.G.;
F.H.K.A.M. (O&G); F.H.K.C.O.G.;
Cert R.C.O.G. (Gynae Onc)

Associate Professors, Specialists in Obstetrics & Gynaecology :

Dr. V.Y.T. Cheung M.B.,B.S. (H.K.); F.R.C.O.G.;
F.R.C.S.C.(O&G); F.H.K.A.M. (O&G);
F.H.K.C.O.G.

Dr. R.H.W. Li M.B.,B.S. (H.K.); M.MedSc (H.K.); M.D (H.K.);
F.R.C.O.G.; F.H.K.A.M. (O&G); F.H.K.C.O.G.;
Cert R.C.O.G. (Reprod Med);
Cert H.K.C.O.G.(Reprod Med)

Dr. S.F. Ngu M.B.B.S. (Lond); M.R.C.O.G.; F.H.K.C.O.G.;
F.H.K.A.M. (O&G)
(from October 2021)

Dr. M.H.Y. Tang M.B.,B.S. (H.K.); F.R.C.O.G.;
F.H.K.A.M. (O&G); F.H.K.C.O.G.

Dr. K.Y. Tse M.B.,B.S. (H.K.); M.MedSc (H.K.); PhD (H.K.)
F.R.C.O.G.; F.H.K.A.M. (O&G); F.H.K.C.O.G.;
Cert R.C.O.G. (Gynae Onc)

Professor (Non-Clinical)

Prof. K. Liu	BSc (China), PhD (Sweden)
Prof. W.S.B. Yeung	B.Sc., Ph.D. (H.K.); CBiol.; MI Biol

Consultants, Specialists in Obstetrics & Gynaecology :

Dr. K.W. Cheung	M.B.,B.S. (H.K.); M.R.C.O.G. ; F.H.K.C.O.G.; F.H.K.A.M. (O&G); Cert R.C.O.G. (Maternal and Fetal Med)
Dr. M.M.Y. Chu	M.B.,B.S. (H.K.); M.R.C.O.G.; F.H.K.C.O.G.; F.H.K.A.M. (O&G); Cert R.C.O.G. (Gynae Onc)
Dr. P.W. Hui	M.B.,B.S. (H.K.); M.MedSc (H.K.); F.R.C.O.G.; F.H.K.A.M. (O&G); F.H.K.C.O.G.; Cert R.C.O.G. (Maternal and Fetal Med)
Dr. A.S.Y. Kan	M.B.,B.S. (H.K.); MPH (H.K.); M.R.C.O.G.; F.H.K.A.M. (O&G); F.H.K.C.O.G.
Dr. J.K.Y. Ko	M.B.,B.S. (H.K.); M.R.C.O.G. ; F.H.K.C.O.G.; F.H.K.A.M. (O&G); Cert R.C.O.G. (Repro Med) (from October 2021)
Dr. P.W.S. Ma	M.B.,B.S. (H.K.) ; M.R.C.O.G.; F.H.K.C.O.G.; F.H.K.A.M. (O&G); Cert H.K.C.O.G. (Urogynae)
Dr. T.C. Pun	M.B.,B.S. (H.K.); F.R.C.O.G.; F.H.K.A.M. (O&G); F.H.K.C.O.G.
Dr. N.W.M. Shek	M.B.,B.S. (H.K.); M.R.C.O.G.; F.H.K.C.O.G.; F.H.K.A.M. (O&G); Cert R.C.O.G. (Maternal and Fetal Med) (up to 21 st July 2021)

Associate Consultants, Specialists in Obstetrics & Gynaecology :

Dr. D.M.K. Chan	M.B.,B.S. (H.K.); M.R.C.O.G.; F.H.K.C.O.G.; F.H.K.A.M. (O&G)
Dr. H.H.Y. Cheng	M.B.,B.S. (H.K.); M.R.C.O.G.; F.H.K.C.O.G.; F.H.K.A.M. (O&G)
Dr. M.M.C. Cheng	M.B.,B.S. (H.K.); M.R.C.O.G.; F.H.K.C.O.G.; F.H.K.A.M. (O&G)
Dr. C.S.Y. Cheung	M.B.,B.S. (H.K.); M.R.C.O.G. ; F.H.K.C.O.G.; F.H.K.A.M. (O&G)
Dr. J.K.Y. Ko	M.B.,B.S. (H.K.); M.R.C.O.G. ; F.H.K.C.O.G.; F.H.K.A.M. (O&G); Cert R.C.O.G. (Repro Med) (up to September 2021)

Dr. T.K.T. Li	M.B.,Ch.B. (C.U.H.K.); M.R.C.O.G.; F.H.K.C.O.G.; F.H.K.A.M. (O&G)
Dr. E.M.W. Lui	M.B.,B.S. (H.K.) ; M.R.C.O.G. ; F.H.K.C.O.G. ; F.H.K.A.M. (O&G) (up to June 2021)
Dr. S.Y.K. Mok	M.B.,B.S. (H.K.) ; M.R.C.O.G. ; F.H.K.C.O.G. ; F.H.K.A.M. (O&G) (from February 2021)
Dr. M.T.Y. Seto	M.B.,B.S. (H.K.); M.R.C.O.G. ; F.H.K.C.O.G.; F.H.K.A.M. (O&G); Cert R.C.O.G. (Maternal and Fetal Med)
Dr. P.Y.W. Tong	M.B.,B.S. (H.K.); M.R.C.O.G. (from July 2021)
Dr. E. Wong	M.B.,B.S. (H.K.); M.R.C.O.G. (from July 2021)

Associate Professor (Non-Clinical)

Dr. P.C.N. Chiu	B.Sc., MPhil, PhD (H.K.)
Dr. C.K.F. Lee	B.Sc. (H.K.B.U.) ; PhD. (C.U.H.K.)

Assistant Professor (Non-Clinical)

Dr. D.W. Chan	B.Sc. (H.K.B.U.); MPhil (H.K.); PhD (Monash)
---------------	--

Assistant Professors/Residents, Specialists in Obstetrics & Gynaecology :

Dr. H.M.C. Chan	M.B.,B.S. (H.K.); M.R.C.O.G (up to March 2021)
Dr. G.S.T. Kwok	M.B.,B.S. (H.K.); M.R.C.O.G.; F.H.K.C.O.G.
Dr. S.Y.K. Mok	M.B.,B.S. (H.K.) ; M.R.C.O.G. ; F.H.K.C.O.G. ; F.H.K.A.M. (O&G) (up to January 2021)
Dr. S.F. Ngu	M.B.B.S. (Lond); M.R.C.O.G.; F.H.K.C.O.G.; F.H.K.A.M. (O&G) (up to September 2021)
Dr. P.Y.W. Tong	M.B.,B.S. (H.K.); M.R.C.O.G. (from July 2021)
Dr. E. Wong	M.B.,B.S. (H.K.); M.R.C.O.G.
Dr. K. Wong	M.B.,B.S. (H.K.); M.R.C.O.G. (from July 2021)
Dr. S.S.F. Yung	M.B.,B.S. (H.K.); M.R.C.O.G.; F.H.K.C.O.G.; F.H.K.A.M. (O&G)

Assistant Professors/Residents:

Dr. A.H.Y. Chan	M.B.,B.S. (H.K.)
Dr. D.T.Y. Chan	M.B.,B.S. (H.K.)
Dr. S.K.D. Ho	M.B.,B.S. (H.K.)
Dr. F.K.Y. Lai	M.B.,B.S. (H.K.)
Dr. T.H.T. Lai	M.B.,B.S. (H.K.)
Dr. E.Y.F. Leung	M.B.,B.S. (H.K.)
Dr. K.K.W. Ma	M.B.,B.S. (H.K.) (from 1 st July 2021)
Dr. C.S.M. Ng	M.B.,B.S. (H.K.)
Dr. V.W.Y. Ng	M.B.,B.S. (H.K.)
Dr. P.Y.W. Tong	M.B.,B.S. (H.K.); M.R.C.O.G. (up to June 2021)
Dr. J.K.O. Wai	M.B.B.Ch. ; B.A.O. (Ireland)
Dr. K. Wong	M.B.,B.S. (H.K.); M.R.C.O.G. (up to June 2021)

Consultant Anaesthesiologist :

Dr. F. Lui	M.B.Ch.B.; F.H.K.C.A.; F.H.K.A.M. (Anaesthesiology); F.A.N.Z.C.A.; D.P.M. (HKCA)
------------	---

Consultant Dermatologist :

Dr. C.S.M. Wong	M.B.B.S.; M.R.C.P.; M.R.C.S.; F.H.K.C.P.; F.H.K.A.M. F.R.C.P. (Edin); MSc Clin.Derm; D.C.H.(London)
-----------------	--

Consultant Oncologist:

Dr. K.K. Yuen	M.B.Ch.B. (CUHK); F.R.C.R.; F.H.K.C.R.; F.H.K.A.M. (Radiology); MSc in Palliative Medicine
---------------	---

Consultant Paediatricians :

Prof. W.H. Leung	M.B.B.S. (HK); Ph.D.(Johns Hopkins)
Dr. M.S.C Wong	MBBS (HK); MRCP (UK); MRCPCH; FHKAM(Paediatrics); FHKCPaed

Consultant Pathologists :

Prof. S.Y. Leung	M.B.,B.S.(HK); M.D. (HK); F.H.K.A.M. (Pathology), FHKCPath, FRCPath (UK), FRCPA
Prof. A.N.Y. Cheung	M.B.,B.S.(H.K.); M.D.(H.K.); F.R.C.(Path); F.H.K.C.P.(Path); F.I.A.C.; F.H.K.A.M.(Pathology)

Consultant Physician :

Prof. C.S. Lau	MBChB MD (Hons); FRCP (Edin, Glasg, Lond); FHKCP FHKAM (Medicine)
----------------	---

Consultant Psychiatrist :

Dr. W. C. Chan	M.B.Ch.B. (CUHK); MIntMH (Melb); M.R.C.Psych.; F.H.K.A.M. (Psychiatry)
----------------	--

Consultant Radiologist :

Dr. T.P.W. Lam	M.B.B.S. (HK); F.R.C.R.; F.H.K.A.M. (Radiology)
----------------	---

Consultant Surgeon :

Prof. S.W.K. Cheng	MBBS(HK), MS(HK), FRCSEd, FRCS(Eng), FCSHK, FHKAM
--------------------	---

Nursing Staff:**Department Operations Manager:**

Ms. K.C. Chan	RN; RM; ADHSM; BHSc (N); MN
---------------	-----------------------------

Midwife Consultant:

Ms. L.M. Yeung	RN; RM; IBCLC; BNURS(HONS); MPH
----------------	---------------------------------

Ward Managers:

Ms. H.K. Chan	RN, RM, BHSc(Nsg), MHM
---------------	------------------------

Ms. P.P.Y. Ho	RN; RM; PD in Health Counselling; BSc in Nursing; PgD in Nursing; MSc in HSM
---------------	--

Ms. P.S.Y. Kwok	RN, RM, IBCLC, BNURS (HONS), MSM
-----------------	----------------------------------

Ms. S.H. Lau	RN, RM, MSc in Nursing, BSN (Hons)
--------------	------------------------------------

Ms. M.K. Yip	RN; RM; BN; MS; IBCLC; Trainer of WHO/UNICEF BF Counselling course
--------------	--

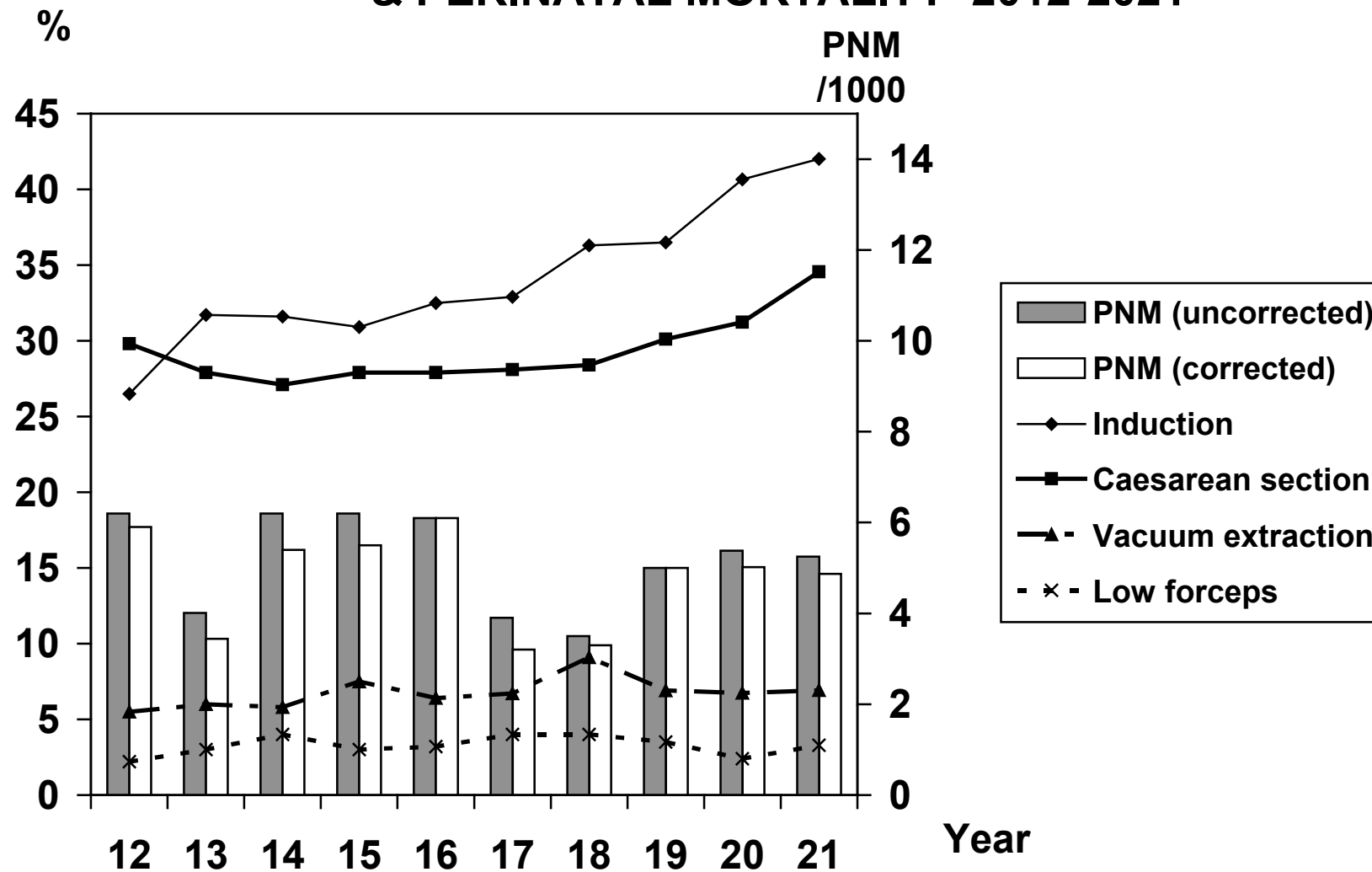
OBSTETRICS

COMPARATIVE STATISTICS (2012 - 2021)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total patients delivered	4390	3367	3752	3724	3842	3679	3585	3528	2715	2604
Primiparae	2488	1975	2145	2174	2227	2149	2016	1979	1473	1425
Multiparae	1902	1392	1607	1550	1615	1530	1569	1549	1242	1179
Pregnancy induced hypertension	205	187	226	162	196	144	138	108	113	128
Eclampsia	2	2	2	1	0	0	3	2	3	1
Accidental haemorrhage	20	8	13	5	5	11	10	5	4	5
Placenta praevia	45	31	39	22	40	35	36	25	27	30
Postpartum haemorrhage	100	87	119	126	140	152	137	124	105	104
Induction of labour(%)	26.5	31.7	31.6	30.93	32.5	32.9	36.3	36.5	40.66	42.01
Vacuum extraction(%)	5.5	6.0	5.8	7.50	6.4	6.7	9.1	6.9	6.74	6.93
Forceps delivery(%)	2.2	3.0	4.0	3.0	3.2	4.0	4.0	3.5	2.4	3.30
Caesarean section(%)	29.8	27.9	27.1	27.9	27.9	28.1	28.4	30.1	31.22	34.56
Maternal deaths*	0	0	1	1	0	0	0	0	0	0
Infants born in hospital	4545	3483	3862	3843	3956	3790	3668	3629	2784	2661
Infants born before admission	11	10	11	10	10	13	8	3	6	7
Total infants born	4556	3493	3873	3853	3966	3803	3676	3632	2790	2668
Stillbirth rate (per 1000 total deliveries)	4.4	3.4	4.9	3.6	3.8	2.1	3.0	2.5	3.58	4.12
Neonatal death rate (per 1000 livebirths)	2.0	1.2	1.6	3.7	3.2	2.6	0.6	3.0	2.16	1.13
Perinatal death rate (per 1000 livebirths)	6.2	4.0	6.2	6.2	6.1	3.9	3.5	5.0	5.38	5.25
Corrected perinatal death rate (excluding non-booked cases with IUD on admission)	5.9	3.4	5.4	5.5	6.1	3.2	3.3	5.0	5.02	4.87

*Within 42 days post-delivery

INTERVENTION RATES & PERINATAL MORTALITY 2012-2021



STATISTICAL SUMMARY

	Tsan Yuk Hospital	Queen Mary Hospital
Obstetric Clinic Attendance		
Antenatal new cases	3872	70
Antenatal follow-up cases	33	9247
Postnatal cases*	0	965
Combined diabetic clinic	-	1501
Combined medical clinic	-	379
Private	-	76
Cardiotocogram	0	177
Oral glucose tolerance test	0	5650
Day Centre Attendance		
Removal of stitches	-	292
Wound assessment	-	196
Breastfeeding supervision	-	414
Miscellaneous	-	51

* Patients without complications were referred to Maternal Child Health Centres for follow up

PATIENTS CHARACTERISTICS

Ethnic origin:	Chinese	Number	%
	Non-Chinese	2060	79.11
Average Age (yr.):	Primiparous	544	20.89
	Multiparous	32.93	
	Total	34.48	
Parity at booking:	Primiparous	Number	%
	Multiparous	1425	54.72
Average height(cm):		1179	45.28
Average pre-pregnant weight(kg):		159	
Education level:	None	Number	%
	Primary	45	1.73
	Secondary	17	0.65
	Tertiary	743	28.53
Smoking habit:	Nonsmokers	1786	68.59
	=<20 per day	2593	99.58
	>20 per day	12	0.46
Non-entitled person:		0	0.00
		7	0.27

CONGENITAL ANOMALY OF GENITAL AND URINARY TRACT

Total number of cases	1
Incidence (%)	0.04

CARDIAC DISEASES

Total number of cases	37
Incidence (%)	1.39

	Number	%
Rheumatic heart disease	1	0.04
Congenital heart disease	19	0.73
Mitral valve prolapse	1	0.04
Arrhythmia	5	0.19
Others	11	0.42

GESTATIONAL DIABETES & PRE-EXISTING DIABETES MELLITUS

	Gestational DM#	Pre-existing DM
Total number of cases	345	11
Incidence(%)	13.25	0.42
Total no of babies	357	12
Incidence of CS	143	4
Incidence of CS (%)	41.45	36.36
Stillbirth	2	0
Neonatal death	0	0
Perinatal death	2	0
Large for date babies	36	2
(%)	10.08	16.67
Small for date babies	53	1
(%)	14.85	8.33

#According to WHO criteria

Previous categories of IGT and GDM are combined according to WHO recommendation

BLOOD DISORDERS

	Number	%
Anaemia	260	9.98
Iron deficiency	191	7.33
Alpha-thalassaemias	64	2.46
Beta-thalassaemias	44	1.69
Iron deficiency and thalasseмии	27	1.04
Others	33	1.27

RENAL DISEASES

Total number of cases	5
Incidence (%)	0.19

LIVER DISEASES

Total number of cases	13
Incidence (%)	0.50

RESPIRATORY DISEASES

Total number of cases	19
Incidence (%)	0.73

GASTROINTESTINAL/GALL BLADDER DISEASES

Total number of cases	0
Incidence (%)	0.00

EPILEPSY

Total number of cases	7
Incidence (%)	0.27

OTHER NEUROLOGICAL DISEASES

Total number of cases	16
Incidence (%)	0.61

PSYCHIATRIC DISEASES

Total number of cases	54
Incidence (%)	2.07

AUTOIMMUNE DISEASES

Total number of cases	16
Incidence (%)	0.61

THYROID DISEASES

Total number of cases	89
Incidence (%)	3.42

SURGICAL DISEASES

Total number of cases	4
Incidence (%)	0.15

MALIGNANT DISEASES

Total number of cases	2
Incidence (%)	0.08

SEXUALLY TRANSMITTED DISEASES

Total number of cases	5
Incidence (%)	0.19

Types	Cases
Syphilis	1
Gonorrhoea	0
Herpes	4
Condyloma acuminata	0
Chlamydia	1
Combination of above/others	0

OTHER INFESTATIONS/INFECTIONS

Total number of cases	438
Incidence (%)	16.82

Types	Cases
Moniliasis	2
Trichomoniasis	0
Combination/others	436

OTHER ASSOCIATED CONDITIONS

	Cases	%
Hyperemesis gravidarum	0	0.00
Skin diseases	4	0.15
Kyphoscoliosis	9	0.35
Incompetent os	4	0.15
Drug addiction	5	0.19
Rhesus negative mothers	45	1.73
Others	4	0.15

HYPERTENSION IN PREGNANCY*

Total number of cases 159
Incidence (%) 6.11

Primiparous 106
Multiparous 53

Type	Cases	Induced labour	Caesarean# section	SB#	NND#	PND#
Gestational HT	64	38	35	0	0	0
G. Proteinuria	9	6	1	0	0	0
G. P. HT	60	29	42	0	1	1
Chronic HT	9	4	5	0	0	0
C. HT with PET	5	2	5	0	0	0
Unclassifid HT/P	28	12	21	0	1	1
Eclampsia	1	0	1	0	0	0

Perinatal Mortality = 12/1000 total births

*according to Davey & MacGillivray(1988)

#No. of babies

ANTEPARTUM HAEMORRHAGE

Total number of cases	84
Incidence (%)	3.23

Mode of delivery of fetus versus types of antepartum haemorrhage*

Mode of Delivery	Placenta Praevia	Accidental haemorrhage	APH of ? origin	Extra Placental
Spontaneous	1	1	20	1
Vac. extract.	1	0	3	1
Low forceps	0	2	0	0
Vag. Breech	0	0	0	0
Elective CS	14	0	4	1
Emergency CS & oth	14	3	26	1
Total	30	6	53	4

* There may be more than one cause for antepartum haemorrhage in a patient

Outcome of fetus versus causes of antepartum haemorrhage*

Outcome	Placenta Praevia	Accidental haemorrhage	APH of ? origin	Extra placental
Stillbirth	0	0	0	0
NN death	0	0	0	0
PN death	0	0	0	0

*No of babies

PRETERM DELIVERIES

Total number of cases			187
Incidence (%)			7.01
Parity	Total	Cases	%
Primiparous	1472	120	8.15
Multiparous	1196	67	5.60
Outcome		Cases	Rate (per 1000)
Stillbirth-anteartum		7	37.43
Stillbirth-intrapartum		0	0.00
Stillbirth-undetermined		1	5.35
Neonatal death		3	16.04
Perinatal death		11	58.82
Mode of delivery		Cases	%
Spontaneous vaginal delivery		65	34.76
Vacuum extraction		2	1.07
Low forceps		4	2.14
Vaginal breech delivery		9	4.81
Elective caesarean section		8	4.28
Emergency CS & others		99	52.94
Birth weight		Cases	%
<2500 g		107	57.22
<1500 g		40	21.39
<1000 g		20	10.70
Number of pregnancies	Total	Cases	%
Singleton	2543	138	5.43
Multiple pregnancies	125	49	39.20

MULTIPLE GESTATION

Total cases	61
Incidence (%)	2.34
Primiparous	44
Multiparous	17
Twins	58
Triplets	3
Quadruplets & higher order	0
Total number of babies	125
Preterm < 37 weeks	49
> = 37 weeks	76
Induced labour	8
Incidence of induced labour (%)	13.11

Mode of delivery versus number of babies

	1st baby	2nd baby	3rd baby
Spontaneous vaginal	9	4	0
Vacuum extraction	1	0	0
Low forceps	0	2	0
Vaginal breech delivery	0	4	0
Other vaginal delivery	0	0	0
Caesarean section & others	51	51	3

Outcome of fetus versus number of babies

	1st baby	2nd baby	3rd baby
Livebirths	61	60	3
Stillbirth - antepartum	0	0	0
Stillbirth – intrapartum	0	0	0
Stillbirth – undetermined	0	1	0
Neonatal death	1	1	0
Perinatal death	1	2	0

POSTPARTUM HAEMORRHAGE

Total number of cases	104
Incidence (%)	3.99
Primiparous	63
Multiparous	41

Types	Cases	%
Primary PPH	104	3.99
Secondary PPH	1	0.04

Causes of Primary PPH

Causes	Cases
Uterine atony	67
Retained gestational product	15
Ruptured uterus	0
Cervical tear	4
Vaginal tear	3
Perineal wound	21
Genital haematoma	0
Uterine inversion	0
Consumptive coagulopathy	0
Others	9

Causes of Secondary PPH

Causes	Cases
Retained gestational product	1
Genital tract infection	0
Others	0

MANUAL REMOVAL OF PLACENTA

Total number of cases	18
Incidence (%)	0.69

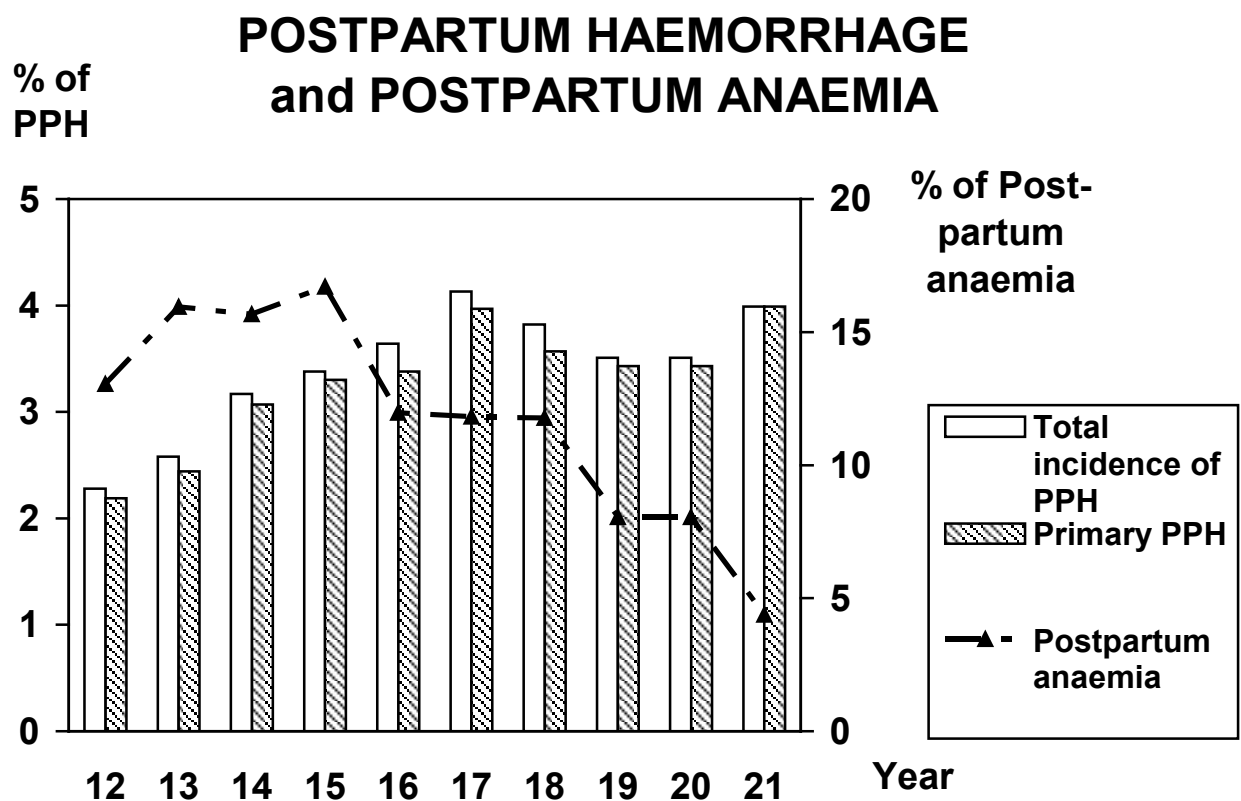
POSTPARTUM ANAEMIA*

	Total	Cases	Incidence(%)
Primiparous	1425	99	6.95
Multiparous	1179	48	4.07
Total	2604	147	5.65

Mode of delivery#	Total	Cases	Incidence(%)
Spontaneous vaginal	1460	55	3.77
Vacuum extraction	185	19	10.27
Low forceps	88	9	10.23
Vaginal breech	13	1	7.69
Elective CS	333	21	6.31
Emergency CS & others	589	46	7.81

*Patients with normal haemoglobin level (>10g%) before delivery but found to be anaemic (<10g%) after delivery.

#No of babies



PUERPERAL PYREXIA

Total number of cases	25
Incidence (%)	0.96
Primiparous	16
Multiparous	9

Causes	Cases
Reactionary	8
Breast problem	0
Urinary tract infection	1
Genital tract infection	3
Wound infection	2
Other causes	2
Unknown	9

Mode of delivery	Total*	Cases*	Incidence(%)
Spontaneous vaginal	1460	9	0.62
Vacuum extraction	185	2	1.08
Low forceps	88	2	2.27
Vaginal breech	13	0	0.00
Elective caesarean section	333	3	0.90
Emergency CS and others	589	10	1.70

*No of babies

OTHER COMPLICATIONS

	Cases	%
Third degree tear	9	0.35
Other genital tract trauma	81	3.11
Ruptured uterus without PPH	0	0.00
Hysterectomy	1	0.04

INDUCTION OF LABOUR

Total number of cases 1094
 Incidence (%) 42.01

Parity	Total	Cases	Incidence(%)
Primiparous	1425	786	55.16
Multiparous	1179	308	26.12

Outcome of babies	Cases
Stillbirth - antepartum	6
Stillbirth - intrapartum	0
Stillbirth - undetermined	0
Neonatal deaths	0
Perinatal deaths	6

Mode of delivery	Cases	%
Spontaneous vaginal	575	52.18
Vacuum extraction	126	11.43
Low forceps	51	4.63
Vaginal breech	6	0.54
Caesarean section	344	31.22
Total*	1102	

Outcome of Induction#	Cases	%
Successful	785	71.76
Failure	309	28.24

*No of babies

#Failure of induction is defined as absence of progressive cervical dilatation resulting from uterine contractions.

Indications for induction*

Indications	Primiparae	Multiparae
Diabetes/impaired glucose tolerance	11	15
Maternal disease	7	4
Bad obstetric history	4	2
Past term	72	28
Hypertension ass. with pregnancy	28	10
Prelabour rupture of membranes	332	110
Antepartum haemorrhage	17	3
Multiple pregnancy	2	2
Suspected IUGR	45	21
Intrauterine death	5	1
Fetal anomaly	5	1
Suboptimal Cardiotocogram	77	21
Social reason	0	0
Others	152	90

*There may be more than 1 indication for the induction of labour in a patient

Induction delivery interval (mean) 8.97 hours

Induction delivery interval in whole group	Number	%
1-10 hours	655	59.44
11-20 hours	438	39.75
>20 hours	9	0.82

TYPES OF LABOUR

Outcome of fetus versus types of labour

Type	not in labour	spon. onset	augmented labour	induced labour	total
Total births	540	979	47	1102	2668
Stillbirth rate/1000	1 1.85	4 4.09	0 0.00	6 5.44	11 4.12
NN death rate/1000	1 1.85	2 2.04	0 0.00	0 0.00	3 1.12
PN death rate/1000	2 3.70	6 6.13	0 0.00	6 5.44	14 5.25

Mode of delivery versus types of labour

Mode of delivery	not in labour	spon. onset	augmented labour	induced labour	total
Total births	540	979	47	1102	2668
Spontaneous vaginal (%)	0 0.00	860 87.84	25 53.19	575 52.18	1460 54.72
Vacuum extract (%)	0 0.00	46 4.70	13 27.66	126 11.43	185 6.93
Low forceps (%)	0 0.00	33 3.37	4 8.51	51 4.63	88 3.30
Vaginal breech (%)	0 0.00	6 0.61	1 2.13	6 0.54	13 0.49
CS & others (%)	540 100.00	34 3.47	4 8.51	344 31.22	922 34.56

OBSTETRIC ANALGESIA DURING LABOUR

Patients with Intrapartum Epidural	439	
Primiparous	373	
Multiparous	66	
Epidural Rate	16.86	
	Number	%
Number with induction of labour	372	84.74
	Number	%
Mode of delivery		
Normal spontaneous	171	38.34
Vacuum extraction	76	17.04
Forceps delivery	32	7.17
Vaginal breech delivery	1	0.22
Caesarean section	166	37.22
	First	Second
Duration of first and second stages (in minutes)		
Without epidural	71	15
With epidural	157	45

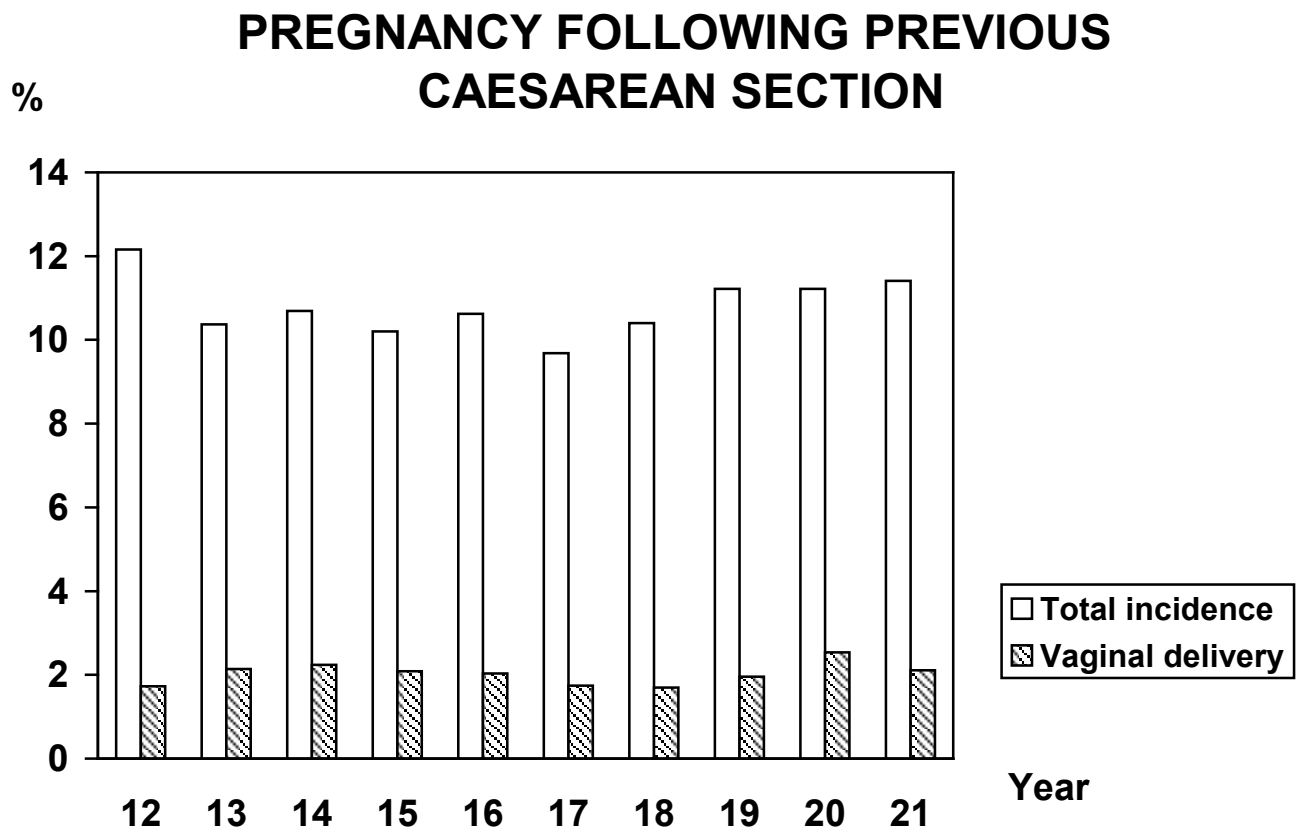
PREGNANCY FOLLOWING PREVIOUS CAESAREAN SECTION

Total number of cases	297
Incidence (%)	11.41

Outcome of fetus	Cases*	Rate
Stillbirth	3	9.84
Neonatal death	0	0.00
Perinatal death	3	9.84

Mode of delivery	Cases*	%
Spontaneous vaginal delivery	25	8.42
Vacuum extraction	8	2.69
Low forceps	1	0.34
Vaginal breech delivery	1	0.34
Elective caesarean section	198	66.67
Emergency CS & others	72	24.24

*No of babies



BREECH PRESENTATION

At delivery

Total number of cases	169
Incidence (%)	6.33

Parity	Total	Cases	%
Primiparous	1472	121	8.22
Multiparous	1196	48	4.01

Outcome	Cases	Rate (per 1000)
Stillbirth-ante partum	4	23.67
Stillbirth-intrapartum	0	0.00
Stillbirth-undetermined	0	0.00
Neonatal death	1	5.92
Perinatal death	5	29.59

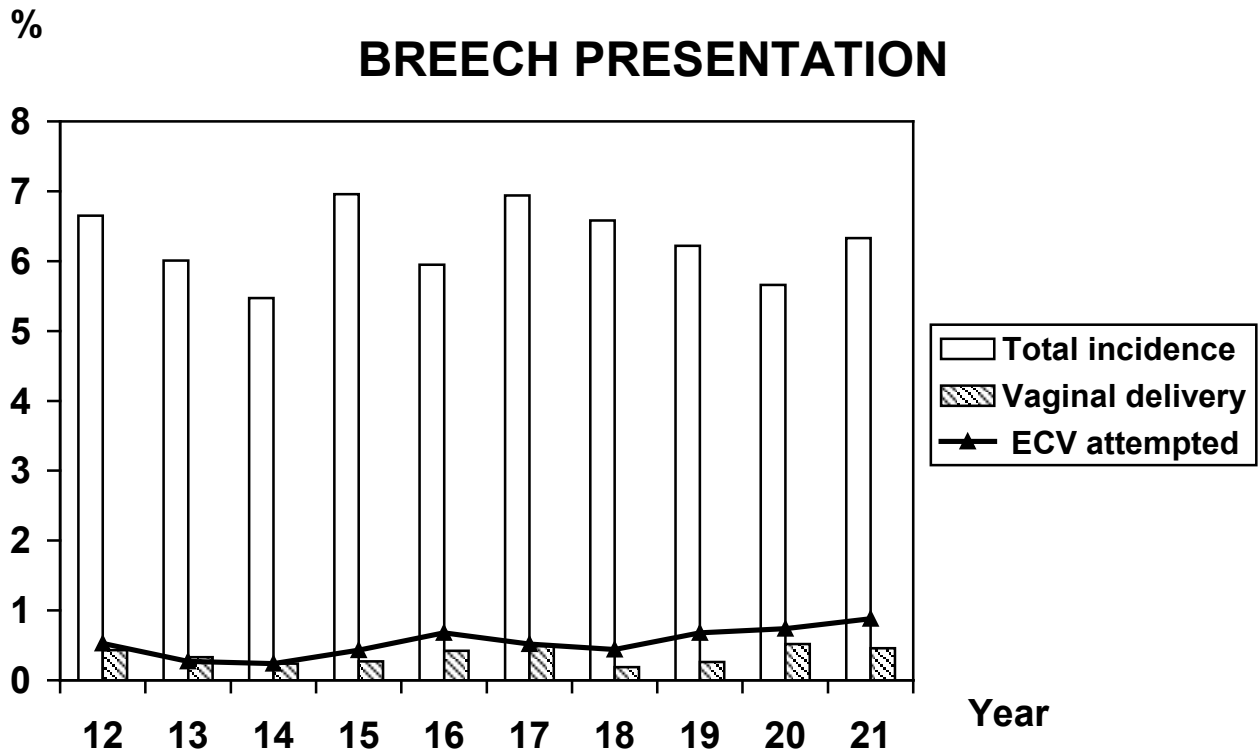
Mode of delivery	Cases	%
Assisted breech delivery	11	6.51
Other vaginal breech delivery	1	0.59
Elective caesarean section	81	47.93
Emergency CS & others	76	44.97

Gestational age at delivery	Total	Cases	%
<37 weeks	187	44	23.53
37-40 weeks	2290	125	5.46
>40 weeks	191	0	0.00

Number of pregnancies	Total	Cases	%
Singleton	2543	131	5.15
Multiple pregnancies	125	38	30.40

External Cephalic Version (ECV)

Parity	Cases	Successful	Successful %
Primiparous	18	6	33.33
Multiparous	5	1	20.00
Total	23	7	30.43



MALPRESENTATION OTHER THAN BREECH PRESENTATION*

Total number of cases	9
Incidence (%)	0.34

Mode of delivery	Face/brow	Compound	Transverse
Spontaneous vaginal	1	0	0
Vacuum extraction	0	0	0
Low forceps	0	0	0
Vaginal breech	0	0	0
Elective CS	0	0	5
CS & others	1	0	2
Total	2	0	7

Outcome of fetus	Face/brow	Compound	Transverse
Stillbirth-ante partum	0	0	0
Stillbirth-intrapartum	0	0	0
SB-undetermined	0	0	0
Neonatal death	0	0	0
Perinatal death	0	0	0

*Excluding malposition of occiput.

PROLAPSE & PRESENTATION OF UMBILICAL CORD

Total number of cases			1
Incidence (%)			0.04
Outcome of fetus		Cases	%
Stillbirth - antepartum		0	0.00
Stillbirth - intrapartum		0	0.00
Stillbirth - undetermined		0	0.00
Neonatal death		0	0.00
Perinatal death		0	0.00
Mode of presentation	Total	Cases	%
Vertex	2474	1	100.00
Breech : extended leg(s)	68	0	0.00
flexed legs	93	0	0.00
footling	8	0	0.00
Face/brow	2	0	0.00
Compound	0	0	0.00
Transverse/oblique	7	0	0.00
Others	14	0	0.00
Mode of delivery		Cases	%
Spontaneous vaginal		0	0.00
Vacuum extraction		0	0.00
Low forceps		0	0.00
Assisted breech delivery		0	0.00
Other breech delivery		0	0.00
Caesarean section		1	100.00

MODE OF OPERATIVE DELIVERY

Total number of cases	1195
Incidence (%)	44.79

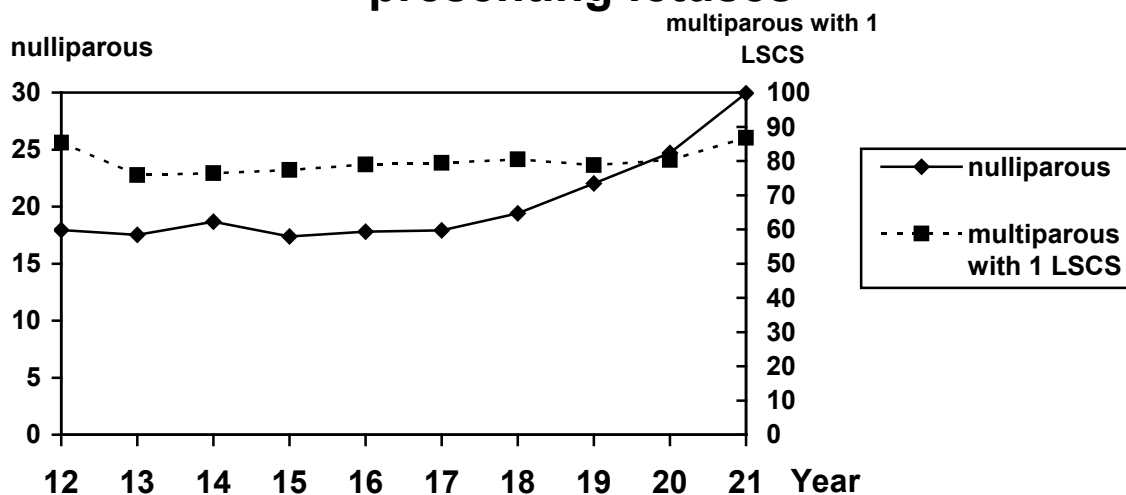
Parity	VE	Forceps	CS
Primiparous	164	74	563
Multiparous	21	14	359
Total	185	88	922
Incidence (%)	6.93	3.30	34.56

Types of abdominal delivery	Number
Elective LSCS	332
Elective classical CS	1
Emergency LSCS	577
Emergency Classical CS	12
Caesarean hysterectomy	0
Others (laparotomy etc.)	0

LSCS in term, singleton, vertex presenting fetuses	Number	CS	%
Nulliparous parturients	1223	366	29.93
Multiparous parturients with 1 previous LSCS	219	190	86.76

Outcome of fetus	VE	LF	Elective CS	Emergency CS & others
Livebirths	185	88	333	588
Stillbirths	0	0	0	1
Neonatal death	0	0	0	1
Perinatal death	0	0	0	2

LSCS rate in term, singleton, vertex presenting fetuses



INDICATIONS FOR ASSISTED DELIVERY*

Indication	VE	LF
Maternal disease	0	0
Maternal distress	5	1
Previous caesarean section	0	0
Obstetric complications	0	0
Fetal distress	53	37
Cord prolapse	0	0
Prolonged second stage	75	29
Others	4	3

INDICATIONS FOR CAESAREAN SECTIONS

Indication	CS
GDM/DM	3
Maternal disease	7
Previous uterine scar	273
Bad obstetric history	0
Antepartum haemorrhage	0
Hypertension	35
Multiple pregnancy	105
Fetal distress	175
Cord prolapse	3
Intrauterine growth retardation	34
Malpresentation/lie	129
No progress	27
Cephalopelvic disproportion	13
Contracted/unfavourable pelvis	0
Failed instrumental delivery	4
Tumour/anomaly	21
Failed induction	207
Elderly/Infertility	0
Suspected macrosomia	2
Social reason	0
Others	29

*There may be more than 1 indication for assisted delivery.

APGAR SCORE AT BIRTH VERSUS MODE OF DELIVERY*

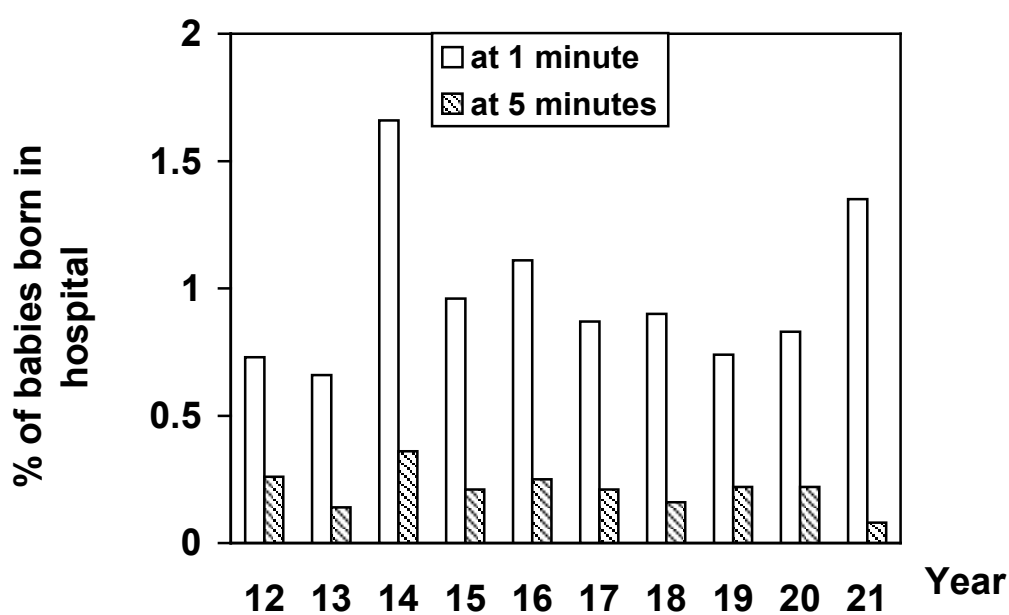
Apgar score at 1 minute

Method of delivery	AS <4	AS 4-6	AS >6	Subtotal
Spontaneous vaginal	3	26	1424	1453
Vacuum extraction	4	7	174	185
Low forceps	4	6	78	88
Vaginal breech	1	3	9	13
Elective CS	5	15	313	333
Emergency CS & others	19	46	524	589
Total	36	103	2522	2661
%	1.35	3.87	94.78	

Apgar score at 5 minute

Method of delivery	AS <4	AS 4-6	AS >6	Subtotal
Spontaneous vaginal	0	3	1450	1453
Vacuum extraction	0	1	184	185
Low forceps	0	1	87	88
Vaginal breech	1	1	11	13
Elective CS	0	5	328	333
Emergency CS & others	1	9	579	589
Total	2	20	2639	2661
%	0.08	0.75	99.17	

NEONATAL ASPHYXIA* (APGAR SCORES LESS THAN 4)



*Excluding babies born before arrival

PERINATAL DATA

Total livebirths & stillbirths	2668
Primiparous	1472
Multiparous	1196
Born before arrival	7
Total livebirths	2657
Primiparous	1465
Multiparous	1192

BASIC INFORMATION

Total birth \geq 500 g	2666
Average birthweight(kg)	3058 (sd=575)
Stillbirth \geq 500 g	10
Early (1st week) neonatal deaths	2
Late (2nd-4th wk) neonatal deaths	0
Total birth \geq 1 kg	2648
Stillbirth \geq 1 kg	7
Early (1st week) neonatal deaths	0
Late (2nd-4th wk) neonatal deaths	0
Stillbirths with lethal malformations	0
Neonatal deaths with lethal malformations	1
Perinatal deaths with lethal malformations	1
Lethal malformation rate per 1000 births	0.37

EXCLUDING LETHAL MALFORMATION (including < 1 kg)

Stillbirth rate per 1000 total births(n=11)	4.12
Neonatal mortality rate /1000 livebirths(n=2)	0.75
Perinatal mortality rate /1000 total births(n=13)	4.87

EXCLUDING BIRTH < 1 kg (including malformation)

Stillbirth rate per 1000 total births(n=7)	2.62
Neonatal mortality rate /1000 livebirths(n=0)	0.00
Perinatal mortality rate /1000 total births(n=7)	2.62

EXCLUDING BIRTH < 1 kg and babies with lethal malformation

Stillbirth rate per 1000 total births(n=7)	2.62
Neonatal mortality rate /1000 livebirths(n=0)	0.00
Perinatal mortality rate /1000 total births(n=7)	2.62

SUMMARY OF FETAL LOSS

		Stillbirths	
	Total	No of	Rate(per 1000)
Total	2668	11	4.12
Booked	2604	10	3.84
Non-booked	64	1	15.63
Primiparous	1472	7	4.76
Multiparous	1196	4	3.34

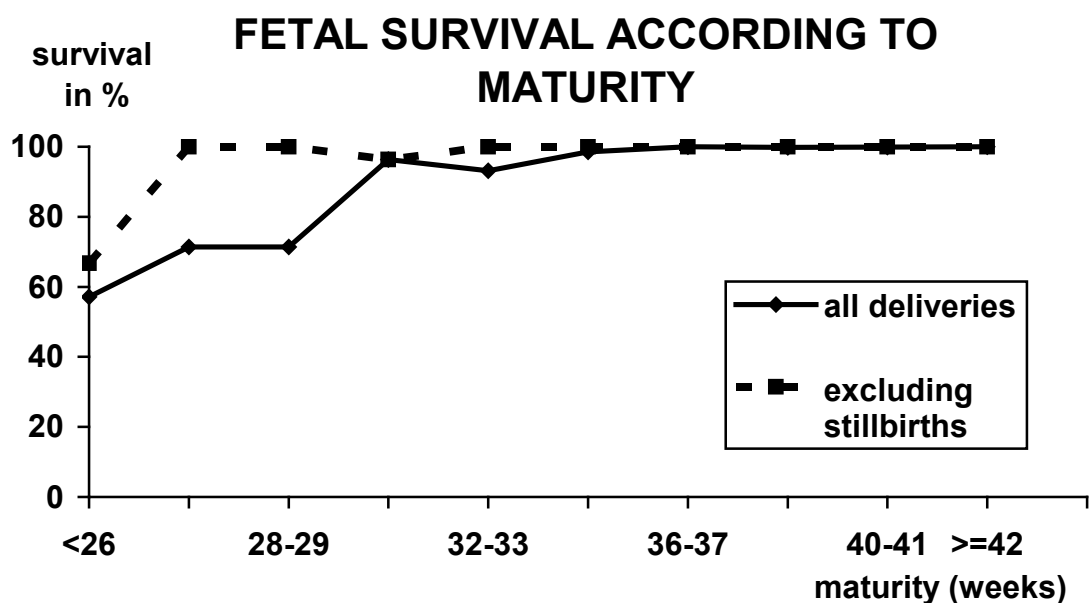
		Neonatal deaths	
	Livebirths	No of	Rate(per 1000)
Total	2657	3	1.13
Booked	2594	2	0.77
Non-booked	63	1	15.87
Primiparous	1465	3	2.05
Multiparous	1192	0	0.00

		Perinatal deaths	
	Total	No of	Rate(per 1000)
Total	2668	14	5.25
Booked	2604	12	4.61
Non-booked	64	2	31.25
Primiparous	1472	10	6.79
Multiparous	1196	4	3.34

FETAL LOSS VERSUS GESTATIONAL AGE*

Gestational age (weeks)	Total births	Live Births	Stillbirth	Neonatal deaths	Perinatal deaths
<26	7	6	1	2	3
rate /1000			142.86	333.33	428.57
26-27	7	5	2	0	2
rate /1000			285.71	0.00	285.71
28-29	7	5	2	0	2
rate /1000			285.71	0.00	285.71
30-31	27	27	0	1	1
rate /1000			0.00	37.04	37.04
32-33	29	27	2	0	2
rate /1000			68.97	0.00	68.97
34-35	65	64	1	0	1
rate /1000			15.38	0.00	15.38
36-37	150	150	0	0	0
rate /1000			0.00	0.00	0.00
38-39	1009	1007	2	0	2
rate /1000			1.98	0.00	1.98
40-41	1365	1364	1	0	1
rate /1000			0.73	0.00	0.73
>=42	2	2	0	0	0
rate /1000			0.00	0.00	0.00
Total	2668	2657	11	3	14

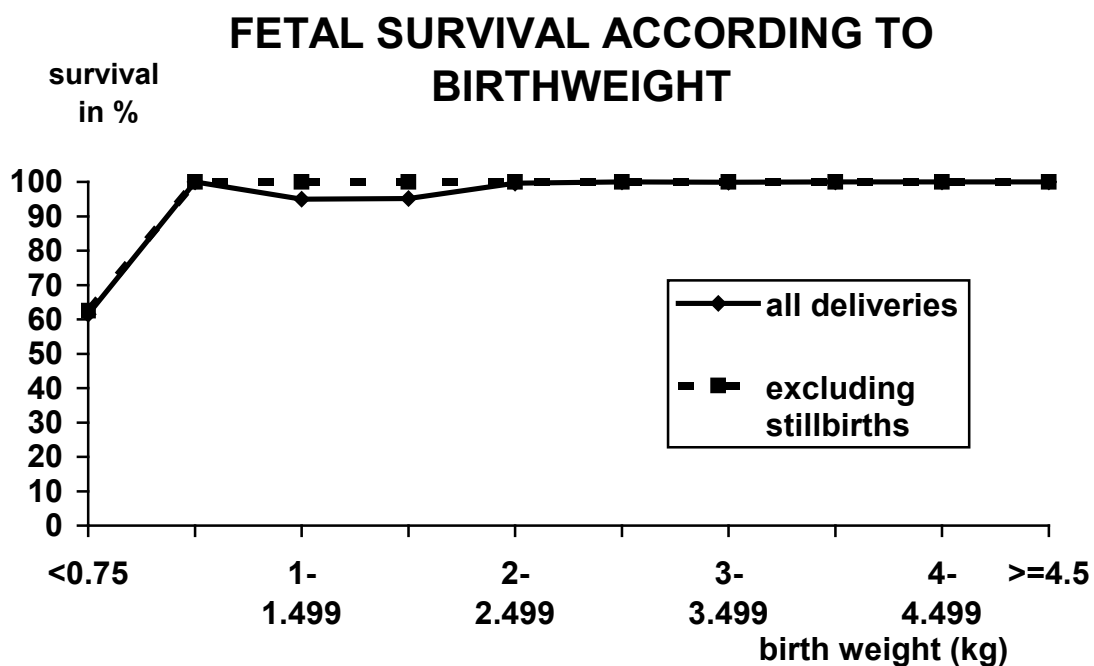
* For this analysis, the gestational age was calculated to the nearest week basing on either a reliable L.M.P. or when this was not available, an early ultrasound dating scan or the postnatal assessment of the newborn with Dubowitz score. Babies with inadequate assessment are excluded.



NUMBER OF FETAL LOSS VERSUS BIRTH WEIGHT*

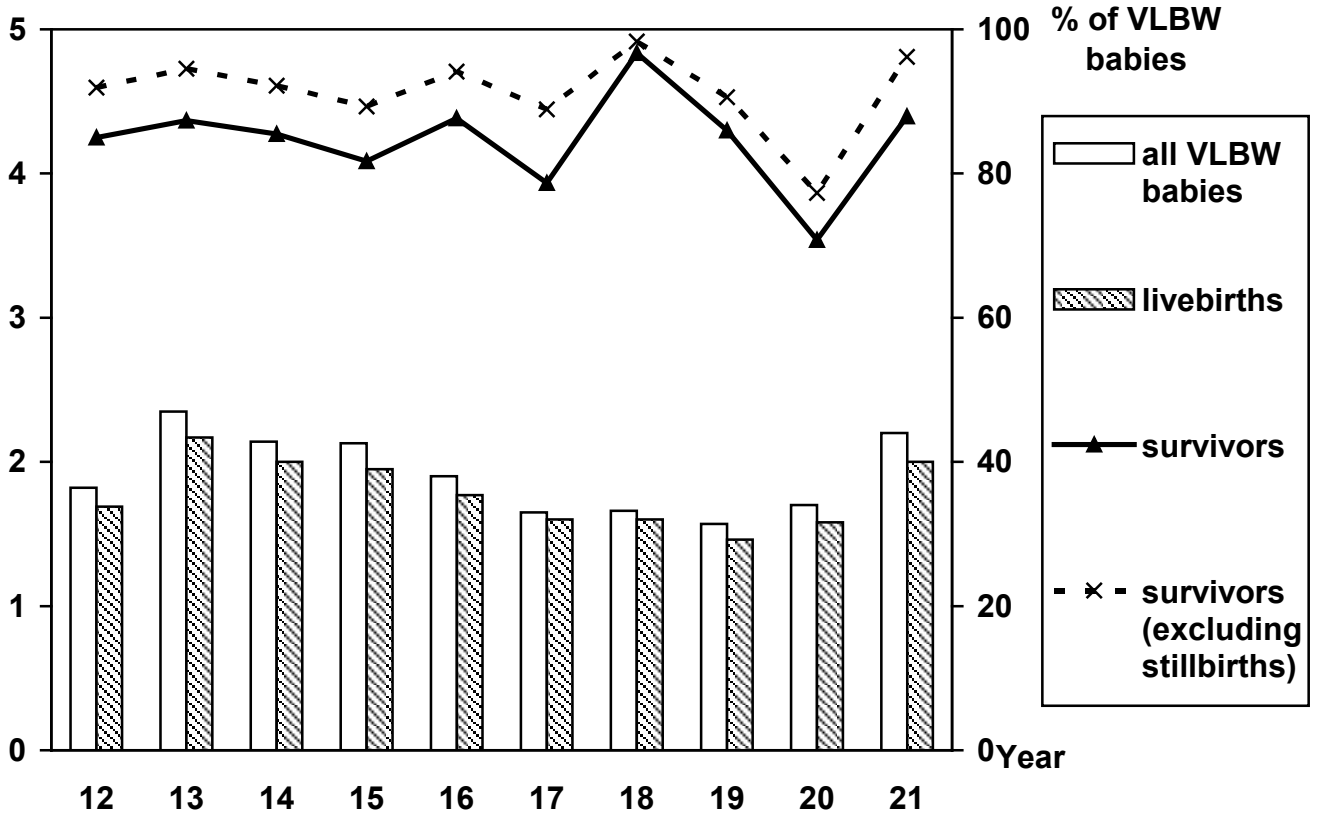
Birth weight in grammes	Total births	Live Births	Still births	Neonatal deaths	Perinatal deaths
500-749	13	10	3	2	5
rate /1000			230.77	200.00	384.62
750-999	5	5	0	0	0
rate /1000			0.00	0.00	0.00
1000-1499	40	38	2	0	2
rate /1000			50.00	0.00	50.00
1500-1999	62	59	3	0	3
rate /1000			48.39	0.00	48.39
2000-2499	240	239	1	0	1
rate /1000			4.17	0.00	4.17
2500-2999	694	694	0	0	0
rate /1000			0.00	0.00	0.00
3000-3499	1074	1073	1	0	1
Rate /1000			0.93	0.00	0.93
3500-3999	470	470	0	0	0
rate /1000			0.00	0.00	0.00
4000-4499	63	63	0	0	0
rate /1000			0.00	0.00	0.00
>=4500	5	5	0	0	0
rate /1000			0.00	0.00	0.00
Total	2666	2656	10	2	12

*Babies with unknown birth weight excluded.



OUTCOME OF VLBW BABY (Birthweight <=1500g)

% of total deliveries



GESTATIONAL AGE AND FUNCTIONAL MATURITY

	S.G.A.	A.G.A.	L.G.A.	Total
Preterm	40	146	1	187
Term	349	1924	206	2479
Postterm	0	2	0	2
Total	389	2072	207	2668
(%)	14.58	77.66	7.76	

Definition: S.G.A. less than 10th percentile for gestational age
 L.G.A. more than 90th percentile for gestational age
 A.G.A. appropriate for gestational age

CAUSE FOR STILLBIRTHS

1. Congenital anomaly	0
2. Isoimmunization	0
3. Pregnancy induced hypertension	0
4. Antepartum haemorrhage	0
5. Mechanical	0
6. Maternal disorder	1
7. Unclassifiable	0
8. Unexplained	4
9. Miscellaneous	6
Total	11

OBSTETRICAL CAUSES OF NEONATAL DEATHS

1. Congenital anomaly	1
2. Isoimmunization	0
3. Pregnancy induced hypertension	0
4. Antepartum haemorrhage	0
5. Mechanical	0
6. Maternal disorder	0
7. Unclassifiable	1
8. Unexplained	0
9. Miscellaneous	1
Total	3

PAEDIATRIC CLASSIFICATION OF CAUSE OF NEONATAL DEATHS

Cause	Major	Attributory
Congenital anomaly	0	0
Haemolytic disease of newborn	0	0
Hypoxia	0	0
Birth trauma	0	0
Respiratory distress syndrome	1	0
Intracranial haemorrhage	0	0
Infection	0	0
Others	1	0
Miscellaneous	1	0

BIRTH TRAUMA

Total cases	49
Incidence (%)	1.84

TYPES OF BIRTH TRAUMA*

	Number	%
Cephalhaematoma/Scalp injury	34	1.27
Fractures	13	0.49
Intracranial haemorrhage	1	0.04
Nerve injury	1	0.04

*Each baby may have more than 1 type of trauma

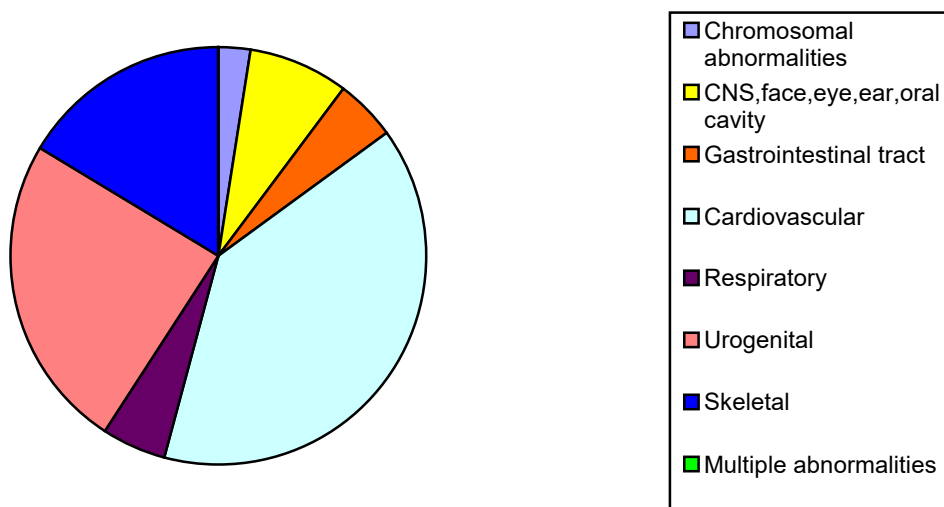
CONGENITAL MALFORMATION

Total number	167
Incidence (%)	6.26

TYPES OF MALFORMATIONS

	Number	%
Chromosomal abnormalities	1	0.60
CNS,face, eye, ear, oral cavity	14	8.38
Gastrointestinal tract	8	4.79
Cardiovascular system	78	46.71
Respiratory system	9	5.39
Urogenital system	32	19.16
Skeletal system	24	14.37
Multiple abnormalities	1	0.00
Others	0	0.00
Fetal mortality		
Stillbirth	0	
Neonatal deaths	1	
Perinatal deaths	0	
Incidence (%)		
among livebirths		6.26
among stillbirths		0.00
among neonatal deaths		33.33

TYPES OF CONGENITAL MALFORMATIONS



OTHER NEONATAL COMPLICATIONS

	Cases	%
Admission To Intensive Care Unit	177	6.63
Respiratory Distress Syndrome	45	1.69
Intraventricular Haemorrhage	45	1.69
Necrotising Enterocolitis	9	0.34
Congenital infection	57	2.14
Pneumonia	41	1.54
Meningitis	0	0.00
Septicaemia	38	1.42

**PRENATAL DIAGNOSTIC AND
COUNSELLING SERVICE**

CLINICAL ACTIVITY

The total number of referrals seen at the Prenatal Diagnostic and Counselling Division in 2021 was 910 (Table 1). During this period, there were 2760 ultrasound attendance and 159 invasive procedures (123 amniocentesis, 19 chorionic villus sampling and 17 special invasive procedures). 51 women (5.6%) were non-TYH booked cases. 859 women were booked at TYH.

Table 1 Number of referrals, invasive procedures and ultrasound attendance at TYH

Year	Non TYH	Booked at TYH	Total referrals	Invasive procedure	Total ultrasound attendance
2021	51 (5.6%)	859	910	159	2760

AMNIOCENTESIS

A total of 123 women underwent amniocentesis in 2021.

Table 2 Indications for and number of amniocentesis in 2021

Year	Fetal abnormality	Chromosome study	Genetic disease	Total
2021	54	55	14	123

Table 3 Outcome of pregnancies following amniocentesis (amnio)

Outcome	Amnio for fetal abnormality	Amnio for chromosome study	Amnio for genetic disease	Number (%)
Livebirth	43	50	13	106 (86%)
TOP	11	5	0	16 (13%)
Fetal loss (after procedure)	0	0	0	0
Miscarriage/IUD/NND	0	0	1	1(1%)
Unknown	0	0	0	0
Total	54	55	14	123

CHRIONIC VILLUS SAMPLING

A total of 19 women underwent chorionic villus sampling (CVS) in 2021.

Table 4 Indications for and number of chorionic villus sampling in 2021.

Year	Fetal abnormality	Chromosome study	Genetic disease	Total
2021	11	4	4	19

Table 5 Outcome of pregnancies following chorionic villus sampling (CVS)

Outcome	CVS for fetal abnormality	CVS for chromosome study	CVS for genetic disease	Number (%)
Livebirth	4	0	1	5 (26%)
TOP	5	4	3	12(63%)
Fetal loss (after procedure)	0	0	0	0
Miscarriage/IUD/NND	2	0	0	2(11%)
Unknown	0	0	0	0
Total	11	4	4	19

SPECIAL INVASIVE PROCEDURES

17 special invasive procedures were performed in 2021.

Table 6 Special invasive procedures

Procedure	Indication	Number	Outcome
Fetoscopic laser photocoagulation of placental vessels	TTTS stage 2	1	Livebirth
	TTTS stage 3	1	IUD
		2	Livebirth
Cordocentesis	Suspected fetal anaemia	1	TOP - Barts
		1	Hb 1
Intrauterine transfusion	MCDA twin with selective IUGR one twin with fetal anaemia	1	IUD
		1	1
RFA	MCDA twin with selective IUGR for selective fetal reduction	1	selective fetal reduction & livebirth of the remaining fetus
	TRAP sequence	1	Livebirth
		2	1
Interstitial laser	TRAP sequence of Acardiac twin	1	Livebirth
	Fetal reduction of DCTA triplet	1	selective fetal reduction & livebirth of the remaining fetuses
		2	2
Laser ablation of fetal vessel	Left bronchopulmonary sequestration with mediastinal shift + left pleural effusion	1	Livebirth
		1	1
Selective fetal reduction	TCTA triplet pregnancy	2	selective fetal reduction & livebirth of the remaining fetuses
		2	4
Fetocide	Prior to TOP for fetal abnormalities because of advanced gestation	6	TOP
		6	6
Total		17	Livebirth IUD TOP Selective fetal reduction
			13 2 7 4

ULTRASONOGRAPHY

Table 7 Number of ultrasound scan in 2021

Year	Number of women offered ultrasound	Number of women with sonographic abnormalities detected by ultrasound	Number (%)
2021	888	361	40.6

Table 8 Types of sonographic abnormalities

Sonographic abnormality	Number (%)
CNS	33 (9.1%)
Cardiac	50 (13.8%)
Chest	10 (2.7%)
Renal	70 (19.3%)
Abdominal wall	10 (2.7%)
Gastrointestinal tract	28 (7.7%)
Genitourinary tract	2 (0.5%)
Skeletal	12 (3.3%)
Limbs	9 (2.4%)
Facial	14 (3.8%)
Neck	14 (3.8%)
Genitalia	4 (1.1%)
Umbilical cord	9 (2.4%)
Multiple congenital abnormalities	5 (1.3%)
Hydrops	1 (0.2%)
Intrauterine growth retardation	109 (30.1%)
Liquor volume	10 (2.7%)
Twin abnormality	10 (2.7%)
Others	4 (1.1%)
Total	404

Table 8 showed the total number of types of sonographic abnormalities are greater than the number of women with sonographic abnormalities detected by ultrasound because some women could have more than one sonographic abnormalities.

FETAL DOWN SYNDROME SCREENING

There were total 1913 cases screened for Down syndrome screening and 138 cases screened positive. Estimated false positive rate was 6.9 %.

One new born baby with Down syndrome screening negative was diagnosed with Down Syndrome after birth.

Table 9 Results of Nuchal & Biochemical screening in 2021

DS result	No.	Private NIPT	HA NIPT	CVS	Amnio	Scan only	Abnormal karyotype/ CMA	Outcome
Positive nuchal screening	1	0	0	0	0	1	0	Livebirth 1
Positive first trimester combined screening	127	53	62	4	7	1	Trisomy 21- 5 Trisomy 18 -4 Trisomy 13 3	Livebirth 115 TOP 12 Trisomy 21 5 Trisomy 18 4 Trisomy 13 3
Positive second trimester serum screening	10	0	7	0	3	0	0	Livebirth 10
Total	138	53	69	4	10	2	12	Livebirth 126 TOP 12

*No fetal loss post procedure

LABORATORY WORKLOAD

Down syndrome screening

Biochemical studies	Total number of tests
2nd trimester quadruple screening test (Serum AFP + fb-hCG + uE3 + Inhibin A)	547
1st trimester combined test (PAPP-A + fb-hCG)	11587
Serum AFP	41
Amniotic AFP	2
Total	12177
NT only	44

Karyotyping: AF, CV, tissue, blood, others

Chromosome studies	Total number of tests
Amniotic Fluid	182
Chorionic Villi	73
Placental tissue	117
Blood	927
Total	1299

Chromosomal microarray

	Total number of tests
Prenatal samples	851
Inheritance study for prenatal samples	110
Postnatal samples	569
Inheritance study for postnatal samples	50
Total	1580

Whole exome sequencing

	Total number of trio tests
Prenatal whole exome sequencing	20

Thalassaemia and other molecular tests

Thalassaemia	Total number of tests
Alpha thalassaemia	259
Beta thalassaemia	162
Other molecular tests	
Uniparental disomy	34
Sanger sequencing	37
Methylation specific PCR (MS-PCR)	4
Multiplex Ligation-dependent Probe Amplification (MLPA)	4
Fluorescence in situ hybridization (FISH)	44
Fragile X	42
Y microdeletion	94
22q11.2 microdeletion	31

GYNAECOLOGY

OUTPATIENTS STATISTICS

	New	Follow-up
<u>GENERAL GYNAECOLOGY CLINICS</u>		
General Gynaecology Specialist Clinic	3085	9098
Endometriosis Clinic	1	490
Early Pregnancy Assessment Clinic	576	407
Paediatric and Adolescent Gynaecology Clinic	52	118
Preadmission Clinic	772	
Termination of Pregnancy Clinic	36	0
Vulval Clinic	50	166
<u>SUBSPECIALTY CLINICS</u>		
Colposcopy		
Colposcopy Clinic	465	1341
Large loop excision of transformation zone	114	
Cryotherapy	3	
Urogynaecology		
Urogynaecology Clinic	242	1657
Pessary Replacement Clinic		196
Pelvic Floor Exercise Clinic		98
Urodynamic study	8	6

For fertility, reproductive endocrine subspecialty clinics and oncology clinics, please refer to respective annual reports.

TOTAL ADMISSIONS AND DISCHARGES STATISTICS

Total number of admissions 9412
 Total number of admitted patients 4087

6155 valid forms

Status at admission

	Number	%
Emergency	988	16.1
Scheduled	633	10.3
Transfer in	4	0.1
Day case*	4333	70.4
Unplanned readmission	197	3.2

Status at discharge

	Number	%
Discharge home	6141	99.8
Death	3	0.1
Transfer	9	0.2
DAMA	2	0.0
Transfer to convalescence	0	0
Walked away	0	0

*Among all admissions

OVERALL STATISTICAL SUMMARY

Diagnosis

	admissions		patients	
	number	%	number	%
Disease of vulva, perineum and urethra	122	1.3	99	2.4
Disease of vagina	145	1.5	87	2.1
Disease of uterine cervix	561	6.0	182	4.5
Disease of uterine body	2087	22.2	1133	27.8
Disease of fallopian tube	206	2.2	156	3.8
Disease of ovary	1896	20.1	620	15.2
Disease of broad ligament and pelvic peritoneum	257	2.7	94	2.3
Disease of genital displacement/ urinary incontinence	62	0.7	53	1.3
Disease of menstruation	548	5.8	478	11.7
Disease of pregnancy and reproduction	2948	31.3	1829	44.8
Complications in pregnancy	36	0.4	35	0.9
Miscellaneous gynaecological condition	183	1.9	167	4.1
Miscellaneous non-gynaecological condition	4697	49.9	1564	38.3

*per total number of admissions

Treatment

	Number	% (per total number of admissions)
Major abdominal surgery*#	604	6.4
Major vaginal operation*	136	1.4
Major vulval operation	11	0.1
Endoscopic procedures	681	7.2
Colposcopic related procedures	31	0.3
Assisted reproduction procedures	2039	21.7
Minor abdominal operations	9	0.1
Other minor operations	637	6.7
Radiotherapy	5	0.1
Other forms of treatment	4071	43.3

#Statistics for major abdominal surgery for benign and malignant conditions were combined

* excluding laparoscopic surgery

Complications

	Number	% (per total number of admissions)
Bowel injury	0	0.00
Urinary tract injury	1	0.02
Perforation of uterus	2	0.03
Major vascular complication	0	0.00
Deep vein thrombosis	2	0.03
Other intraoperative complications	2	0.03
Cardiopulmonary arrest (peri-operative)	2	0.03
Fever	1	0.01
Chest Infection	0	0.00
Urinary tract infection	3	0.05
Excessive operative blood loss	13	0.21
Wound complication	1	0.02
Post-operative haemorrhage	8	0.13
Unplanned operation before discharge	0	0.00
Other postoperative complications	9	0.15

DIAGNOSIS

Diseases of Vulva, Perineum and Urethra

	Admissions	Patients
Total	91	88
Congenital anomaly	0	0
Trauma	4	4
Infection (including Bartholin's abscess)	47	44
Benign neoplasm	0	0
Malignant neoplasm	(refer to oncology statistics)	
Retention cyst	13	13
Vulval dystrophy	8	8
Urethral lesions	6	6
Miscellaneous	13	13

Diseases of Vagina

	Admissions	Patients
Total	81	73
Congenital anomaly	1	1
Trauma	0	0
Infection	7	7
Benign neoplasm	3	3
Malignant neoplasm	(refer to oncology statistics)	
Retention cyst	0	0
Fistula	4	3
Vaginal intraepithelial neoplasia	10	9
Atrophic vaginitis	16	15
Miscellaneous	40	36

Diseases of Uterine Cervix

	Admissions	Patients
Total	99	84
Congenital anomaly	1	1
Trauma	0	0
Infection	0	0
Benign neoplasm (including polyp)	42	41
Carcinoma of cervix	(refer to oncology statistics)	
Other malignancy	0	0
Cervical intraepithelial neoplasia	32	27
Miscellaneous	24	15

Diseases of Uterine Body

	Admissions	Patients
Total	1038	889
Congenital anomaly	14	13
Trauma	5	5
Infection	29	27
Fibromyoma	255	210
Carcinoma of corpus	(refer to oncology statistics)	
Other malignancy	0	0
Myohyperplasia	0	0
Endometrial polyp	478	409
Adenomyosis	65	52
Endometrial hyperplasia	50	41
Atrophic endometritis	4	4
Miscellaneous	138	128

Diseases of Fallopian Tubes

	Admissions	Patients
Total	156	147
Acute pelvic inflammatory disease	107	99
Chronic pelvic inflammatory disease	33	32
Tuberculous salpingitis	0	0
Benign neoplasm	8	8
Malignant neoplasm	(refer to oncology statistics)	
Miscellaneous	8	8

Diseases of Ovary

	Admissions	Patients
Total	484	383
Retention/functional cyst	4	4
Endometriotic cyst	94	92
Benign tumour/cyst	197	180
Primary malignant epithelial tumour	(refer to oncology statistics)	
Primary malignant non-epithelial tumour	(refer to oncology statistics)	
Secondary malignant tumour	(refer to oncology statistics)	
Borderline malignant tumour	(refer to oncology statistics)	
Miscellaneous	189	107

Diseases of Broad Ligaments and Pelvic Peritoneum

	Admissions	Patients
Total	58	58
Pelvic endometriosis	14	14
Parovarian cyst	0	0
Peritoneal carcinoma	(refer to oncology statistics)	
Miscellaneous	44	44

Genital Displacements / Urinary Problems

	Admissions	Patients
Total	62	53
Uterine prolapse	21	16
Anterior vaginal wall prolapse (cystocele/urethrocele/paravaginal defect)	12	12
Posterior vaginal wall prolapse (enterocele/rectocele/perineal deficiency)	9	9
Stress incontinence	0	0
Detrusor instability	0	0
Vault prolapse	2	2
Sensory urgency	0	0
Voiding difficulty	0	0
Other urinary disorders	18	14
Miscellaneous	0	0

Disorders of Menstruation

	Admissions	Patients
Total	548	478
Primary amenorrhoea	0	0
Secondary amenorrhoea	2	2
Dysfunctional uterine bleeding	100	97
Postmenopausal bleeding	95	83
Dysmenorrhoea	32	26
Menorrhagia	314	265
Miscellaneous	5	5

Disorders of Pregnancy and Reproduction

	Admissions	Patients
Total	764	692
Infertility	(refer to reproduction statistics)	
Hyperemesis gravidarum	29	23
Threatened miscarriage	218	200
Spontaneous/silent miscarriage	345	323
Complete mole	26	12
Partial mole	2	2
Gestational trophoblastic neoplasia	(refer to oncology statistics)	
Secondary postpartum haemorrhage	11	11
Other puerperal problems	4	4
Ectopic pregnancy	65	58
First trimester termination of pregnancy	9	9
Second trimester termination of pregnancy	15	15
Tubal occlusion	1	1
Pregnancy after Sterilization/tubal occlusion	0	0
Ovarian hyperstimulation syndrome	6	5
Miscellaneous	33	29

Complications in Pregnancy

	Admissions	Patients
Total	36	35
Benign tumour of genital tract	7	7
Malignant tumour of genital tract	2	2
Medical diseases	11	10
Surgical diseases	1	1
Non-specific abdominal pain	15	15

Miscellaneous Gynaecological Conditions

	Admissions	Patients
Total	183	167
Retained IUCD	23	23
Abdominal pain of unknown cause	137	125
Complication of treatment in the same unit	3	2
Complication of treatment in other unit	6	3
Translocated IUCD	2	2
Miscellaneous	12	12

Miscellaneous Non-gynaecological Conditions

	Admissions	Patients
Total	4697	1564
Breast disease	20	12
Urinary tract disease	117	95
Gastrointestinal tract disease	589	173
Cardiovascular disease	110	95
Respiratory tract disease	221	45
Central nervous system disease	30	17
Endocrine disease	80	46
Blood disease	414	310
Dermatological/musculoskeletal disease	144	83
No disease identified	61	60
Miscellaneous	2911	628

TREATMENT FOR GENERAL GYNAECOLOGICAL CONDITIONS

Major Abdominal Surgery* for benign conditions

Total	221
Total hysterectomy	48
Subtotal hysterectomy	0
Extended hysterectomy	0
Myomectomy	26
Adenomyomectomy	0
Ovarian cystectomy / excision of ovarian lesions	28
Oophorectomy	0
Salpingo-oophorectomy	54
Salpingectomy	45
Salpingotomy / Salpingostomy	2
Excision of para-ovarian / paratubal / fimbrial cysts	0
Adhesiolysis	14
Drainage of pelvic abscess	0
Ablation of endometriosis	0
Resection of pelvic endometriosis	0
Resection of bowel endometriosis	0
Surgery for genital prolapse	0
Surgery for stress incontinence	1
Repair of urinary fistulae	0
Laparotomy alone +/- biopsy	2
Miscellaneous	1

*excluding laparoscopic surgery

* Please refer to the Gynaecological Oncology Annual Report for details on surgical procedures performed for malignant conditions

** Also refer the Reproductive Medicine Annual Report for details on fertility procedures performed

Major Vaginal Operations

Total	179
Surgery for urinary incontinence (including TVT)	0
Vaginal hysterectomy for non-prolapsed uterus	39
Vaginal hysterectomy for genital prolapse	25
Pelvic floor repair (Repair of prolapse + vault-prolapse)	27
Repair of urinary fistula	0
Vaginal myomectomy	10
Vaginal stripping/vaginectomy	0
Miscellaneous (including adnexal procedures)	78

Major Vulval Operations

Total	7
Simple vulvectomy	0
Wide local excision	1
Miscellaneous	6

Laparoscopic Operations for benign conditions (including robotic assisted surgery)

Total	406
Robotic surgery (the exact procedures are coded as well)	0
Total hysterectomy	0
a. Total laparoscopic hysterectomy	2
b. Laparoscopic-assisted vaginal hysterectomy	3
Subtotal hysterectomy	0
Myomectomy	3
Adenomyomectomy	0
Ovarian cystectomy / excision of ovarian lesions	152
Oophorectomy	1
Salpingo-oophorectomy	109
Salpingectomy	33
Salpingotomy / Salpingostomy	9
Neo-salpingostomy	0
Tubal re-anastomosis	0
Excision of para-ovarian / paratubal / fimbrial cysts	9
Adhesiolysis	60
Drainage of pelvic abscess	3
Ablation of endometriosis	2
Resection of pelvic endometriosis	0
Resection of bowel endometriosis	0
Surgery for genital prolapse	0
Surgery for stress incontinence	0
Repair of urinary fistulae	0
Ureteric repair / reimplantation	0
Bowel resection /anastomosis / stoma	0
Diagnostic laparoscopy +/- biopsy	19
Laparoscopic ovarian drilling	0
Laparoscopic tubal occlusion/sterilization	0
Retrieval of IUCD	1
Miscellaneous	0

Hysteroscopic procedures

Total	955
Diagnostic hysteroscopy	606
Endometrial resection / ablation	1
Hysteroscopic polypectomy	288
Hysteroscopic myomectomy	54
Hysteroscopic division of uterine septum	0
Hysteroscopic division of adhesion	6
Miscellaneous	0

Colposcopy Related Procedures* (please refer to Colposcopy Services)

Minor Abdominal Operations

Total	0
Tubal ligation / occlusion	0
Resuture of abdominal wound	0
Removal of abdominal / pelvic translocated IUCD	0
Miscellaneous	0

Other Minor Operations

Total	644
Examination under anaesthesia	10
Endometrial sampling (biopsy / curettage) / polypectomy	419
Suction termination of pregnancy	16
Evacuation of retained products of conception	30
Marsupialization	14
Cystoscopy	43
Other minor vulval surgery	42
Insertion/Removal of IUCD	64
Miscellaneous	6

Other Forms of Treatment

Total	1748
Observation and investigations	1653
Medical treatment for ectopic pregnancy	5
a. Systemic	2
b. Intralesional	3
Uterine artery embolisation	4
High intensity / focused ultrasound therapy	8
Miscellaneous	78

GYNAECOLOGICAL ONCOLOGY

ONCOLOGY CLINICS**ATTENDANCES**

	2017	2018	2019	2020	2021
Cancer Follow-up Clinic	4183	4322	4207	3918	3318
Trophoblastic Clinic	856	726	667	531	573
Chemotherapy Clinic	1758	2044	2219	2633	2577
Preadmission Clinic	-	95	174	162	139
Research Clinic			15	0	0

PATIENT GROUP MEETING

We have Oncology patients support group and Stoma patients support group which are led by our nursing staff for our gynae-oncology patients.

Oncology patient support group: withheld due to COVID

Total no. of sessions: 0

Total no. of attendance: 0

Stoma patient support group: withheld due to COVID

Total no. of sessions: 0

Total no. of attendance: 0

Annual patient group party: withheld due to COVID

STATISTICS FOR GYNAECOLOGICAL MALIGNANCIES

Patients with gynaecological malignancy (Total: 424)	
Cancer of ovary	83
Borderline ovarian tumour	21
Cancer of peritoneum	9
Cancer of fallopian tube	5
Germ cell tumour	3
Sex cord stromal tumour	4
Other ovarian malignancies	5
Cancer of cervix	77
Cancer of corpus	155
Leiomyosarcoma/Endometrial stroma sarcoma	9
Malignant mixed mullerian tumor	11
Other uterine malignancies	6
Cancer of vulva	4
Cancer of vagina	10
Gestational trophoblastic neoplasm	11
Paget's disease	2
Mutliple primary malignancies	9

OPERATION FOR MALIGNANT/PRE-MALIGNANT DISEASE

Laparotomy (all cases with open abdominal surgery)	124
Radical hysterectomy +/- unilateral / bilateral salpingo-ophorectomy (U/BSO)	9
Laparoscopic radical hysterectomy +/- U/BSO	0
Laparoscopic radical hysterectomy +/- U/BSO (Da Vinci)	2
Modified radical hysterectomy +/- U/BSO	6
Laparoscopic modified radical hysterectomy +/- U/BSO (Da Vinci)	1
Total abdominal hysterectomy +/- U/BSO	82
Total laparoscopic hysterectomy +/- U/BSO	43
Total laparoscopic hysterectomy +/- U/BSO (Da Vinci)	39
VNOTEs	9
Laparoscopic Radical tracheletomy	0
Laparoscopic radical trachelectomy (Da Vinci)	0
Pelvic lymphadenectomy (one side)	47 (3)
Laparoscopic pelvic lymphadenectomy (one side)	3 (1)
Laparoscopic pelvic lymphadenectomy (one side) (Da Vinci)	37
Paraaortic lymphadenectomy	35
Laparoscopic paraaortic lymphadenctomy	1
Laparoscopic paraaortic lymphadenctomy (Da Vinci)	29
Laparoscopic sentinel lymph node (Da Vinci)	11
Omentectomy	49
Laparoscopic omentectomy	7
Laparoscopic omentectomy (Da Vinci)	13
Adhesiolysis	21
Laparoscopic adhesiolysis	12
Laparoscopic adhesiolysis (Da Vinci)	4
BSO / USO / ovarian cystectomy	7
Laparoscopic BSO / USO / ovarian cystectomy	5
Laparoscopic BSO / USO / ovarian cystectomy (Da Vinci)	0
Appendicectomy	10
Laparoscopic appendicectomy	1
Laparoscopic appendicectomy (Da Vinci)	0
Debulking surgery	29
HIPEC	6

Bowel resection and re-anastomosis	2
Colostomy / ileostomy	3
Closure of stoma	0
Repair of bowel	0
Repair of bladder	0
Repair of vessels	0
Repair of vagina / perineum	0
Vault stripping / vaginectomy	6
Wide local excision of vulva	8
Radical vulvectomy	0
Groin node dissection (one side)	4
Cone biopsy	0
Large loop excision of transformation zone	2
Brachytherapy	12
Removal or insertion of central line insertion	0
Diagnostic hysteroscopy	11
Hysteroscopic polypectomy	0
Suction evacuation	1
Laparoscopic biopsy	16
Diagnostic laparoscopy	17
Examination under anaesthesia	0
Cystoscopy	2
Total exenteration	1

CHEMOTHERAPY

Total number of patients receiving in-patient chemotherapy: 229

Total number of patients receiving out-patient chemotherapy: 301

Total number of patients receiving oral chemotherapy: 15

Total number of patients receiving PARP inhibitors: 52

Total 603 and 1704 courses of inpatient and outpatient chemotherapy were given respectively.

COLPOSCOPY SERVICES

Statistics

New Cases	465
Follow-up	1341

Diagnosis (based on worst histology)	Cervix	Vagina	Vulva
Normal	81	4	
Inflammation	29	1	
Warts/HPV	1	0	
Low grade squamous intraepithelial lesion	208	15	
High grade squamous intraepithelial lesion	60	4	
Microinvasive carcinoma	3		
Squamous cell carcinoma	3		
Adenocarcinoma	2		
Adenocarcinoma in-situ	2		
No histology	5	10	
Unsatisfactory for assessment	10		
Others	5		
Atrophy			
Atypical cells	2		
Endocervical polyp	2		
Gastric metaplasia	1		
Glandular dysplasia	1		

Procedures

Cone biopsy	3
Cryotherapy	3
Large loop excision of transformation zone	124
Under local anaesthesia	114
Under general / spinal anaesthesia	10

REPRODUCTIVE MEDICINE

OUTPATIENT STATISTICS

	New	Follow-up
Infertility Clinics	547	504
Nurse Triage Clinic	251	0
Male Infertility Clinic	10	13
Reproductive Genetic Clinic	68	54
Recurrent Miscarriage Clinic	67	63
Sexual Counselling	39	29
Fertility Preservation Clinic	46	0
Private Clinic – Reproductive Medicine	261	147

*Only those cases seen under Department of Obstetrics and Gynaecology were counted here (mainly cases requiring counselling or treatment on male endocrine problems). Those requiring assessment and management by urologists were seen in the Department of Surgery and were not counted here.

ASSISTED REPRODUCTION PROCEDURES

Intrauterine Insemination

Natural Cycle Intrauterine Insemination

Twenty four patients underwent 58 cycles of intrauterine insemination during natural cycles because of coital problems.

The mean age of patients was 36.9 years. Seven pregnancies were achieved and the **pregnancy rate** was 12.1% per cycle initiated. There were six ongoing singleton pregnancies.

Ovarian Stimulation & Intrauterine Insemination

Seventy-five women underwent 161 cycles of ovarian stimulation by gonadotrophins, letrozole or clomiphene citrate in conjunction with intrauterine insemination. Thirteen cycles were cancelled: 11 cycles for excessive response and 2 for other reasons.

The mean age of patients was 33.6 years. Thirteen pregnancies were achieved and the **pregnancy rate** was 8.1% per cycle initiated.

IVF and Frozen embryo transfer

Oocyte retrieval (ultrasound guided)	864
Embryo transfer*	1293

* including fresh and frozen embryo transfer cycles

	No. of cycles
Started ovarian stimulation	890
Oocyte retrieval	864
Fresh embryo transfer	297
Single embryo transfer	295
Freezing of all embryos	466

Ongoing pregnancy rate per transfer in stimulated cycle : 61 (20.5%)

Multiple pregnancy: 3 (1%)

Ectopic pregnancy : 1 (0.3%)

No. of moderate/severe OHSS : 4 (0.5%)

No. of frozen embryo transfer cycles : 996

No. of single embryo transfer : 994 (99.8%)

Ongoing pregnancy rate per transfer : 352 (35.3%)

Multiple pregnancy : 6 (1.3%)

Ectopic pregnancy : 4 (0.9%)

OPERATIVE PROCEDURES

	Number
Diagnostic laparoscopy +/- chromotubation	33
Laparoscopic ovarian cystectomy	11
Laparoscopic salpingostomy	4
Laparoscopic adhesiolysis	14
Laparoscopic salpingectomy	11
Laparoscopic segmental resection	5
Laparoscopic ovarian drilling	0
Laparoscopic ablation of endometriosis	3
Laparoscopic salpingo-oophorectomy	0
Myomectomy	4
Diagnostic hysteroscopy	52
Hysteroscopic polypectomy	54
Hysteroscopic adhesiolysis	6
Hysteroscopic lysis of uterine septum	1
Hysteroscopic myomectomy	4
Hysteroscopic proximal tubal cannulation	5
Uterine curettage and insertion of Mirena	4
Others	3

LIST OF ABBREVIATIONS

AFP	Alpha-fetoprotein
AGA	Appropriate for gestational age
APH	Antepartum haemorrhage
BSO	Bilateral salpingo-oophorectomy
Chronic HT	Chronic hypertension
C. HT with PET	Chronic hypertension with superimposed preeclampsia
CS	Caesarean section
GDM	Gestational diabetes mellitus
Gestational HT	Gestational hypertension
G. Proteinuria	Gestational proteinuria
G. P. HT	Gestational proteinuric hypertension
IGT	Impaired glucose tolerance
IUD	Intrauterine death
IUGR	Intrauterine growth retardation
LF	Low forceps
LGA	Large for gestational age
LSCS	Lower Segment Caesarean
NND	Neonatal death
PND	Perinatal death
PNM	Perinatal mortality
PPH	Postpartum haemorrhage
RFA	Radiofrequency ablation
SB	Stillbirth
SGA	Small for gestational age
TOP	Termination of pregnancy
TVT	Tension free vaginal tape

USO	Unilateral salpingo-oophorectomy
Unclassified HT/P	Unclassified hypertension/proteinuria
VE	Vacuum extraction
VLBW	Very low birthweight

