Contents

1. Introduction to Midwifery and Obstetrical Nursing 1

Introduction 1
Trends in Midwifery and Obstetrical nursing 2
Historical Perspectives and Current Trends in India 6
National Programme Related to Mother and Child Health 9
  National Programmes Related to Communicable Diseases 9
Maternal and Child Health Programmes 9
The Package of Services Provided Under the RCH Programme 12
  Child Survival and Safe Motherhood 13
Services 13
  Essential Care for All 13
  Early Detection of Complications 13
  Emergency Care for those Who Need it 13
  Women in the Reproductive Age Group 13
  Provision of Clean and Safe Delivery Practices at the Community Level 14
  Infants 14
  Children 14
  Reproductive Tract Infection (RTI)/Sexually Transmitted Infection (STI) 15
Child Welfare Services in India 16
Integrated Child Development Services (ICDS) 16
Nutrition Programmes 17
  ICDS Scheme 17
  Special Nutrition Programme (SNP) 18
  National Nutritional Anaemia Prophylaxis Programme (NNAPP) 18
  National Goitre Control Programme (NGCP) 18
  National Programme for Prophylaxis against Blindness due
    to Vitamin 'A' Deficiency 19
  Balawadi Nutrition Programme 19
  Mid-day Meal Programme (MDMP) 19
  Applied Nutrition Programme (ANP) 20

2. Anatomy and Physiology of Reproductive System 21

Introduction 21
Female Reproductive System 21
  External Structures 21
  Internal Structures 24
Uterine Blood Supply 29
The Bony Pelvis 32
  Structure 32
  The Pelvic Joints 33
  The Pelvic Ligaments 34
  The Pelvis as a Whole 34
  Dimensions of the Pelvis 35
  Pelvic Assessment 36

Different Types of Pelvis 37
Other Types of Pelvic Contraction 40
Diagnosis of Contracted Pelvis and Cephalopelvic Disproportion 40
Female Genital Tract 43
The Vulva External Genitalia 43
The Vagina 43
The Uterus 44
Fallopian Tubes 46
The Ovaries 47
The Pelvic Floor 49
The Breasts 51
Conception and Foetal Growth 52
Cellular Reproduction 53
Oogenesis 53
Spermatogenesis 53
Fertilization 54
Determination of Sex 54
Gestational vs Fertilization Age 55
Anatomy of the Foetus 55
The Foetal Head 55
Physiology of the Foetus Functions of the Placenta 59
Appearance of the Placenta at Birth 60
Abnormalities of the Placenta 61
Diseases of the Placenta 62
The Foetal Circulation 63
Embryonic Period 64
Cleavage 64
Implantation 64
Chorion 65
Amnion 65
Placenta 66
Umbilical Cord 66
Development of the Embryo 66
Embryology 67
Foetal Circulation 68
Respiratory System: Development and Function 69
Cardiovascular System: Development and Function 70
Metabolic Control 70
Integumentary System: Development and Function 71
Gastrointestinal System: Development and Function 72
Genitourinary System 73
Reproductive Development and Function 73
Physiology of Menstrual Cycle 77
Urinary System 83
The Kidney 83
The Right Kidney 83
The Left Kidney 83
The Ureters 85
The Female Bladder 86
Human Sexuality 87
Human Sexual Response 87
Physiologic Response to Sexual Stimulation 87
Psychosocial Aspects of Sexuality 89

Sexual Development 90
Stages of Sexual Development 90
Views of Adolescent Sexual Behaviour 91
Sexually Related Development in Adolescents 92
Early Adolescence 92
Middle Adolescence 93
Late Adolescence 95
Nursing Measures to Promote Sex Education 95
Sexual Response Pattern 96
The Stages of Sexual Response 96

3. Review of Genetics and Embryology 98

Introduction 98
Genetics 98
Genes and Chromosomes 98
Cell Division 99
Gametogenesis 100
Oogenesis 101
Chromosomal Abnormalities 101
Autosomal Abnormalities 101
Abnormalities of Chromosome Number 101
Abnormalities of Chromosome Structure 102
Sex Chromosome Abnormalities 102
Patterns of Genetic Transmission 102
Multifactorial Inheritance 103
Unifactorial Inheritance 103
Autosomal Dominant Inheritance 103
Autosomal Recessive Inheritance 103
X-Linked Dominant Inheritance 104
X-Linked Recessive Inheritance 104
Inborn Errors of Metabolism 104
Embryo Formation 105
Ovum 105
Understanding Ovulation 105
Sperm 105
Fertilization 106
Implantation 106
The Embryo and Foetus 106
Development of the Embryo 107
Membranes 107
Amniotic Fluid 110
Yolk Sac 111
Primary Germ Layers 111
Umbilical Cord 111
Placenta Development 111
Foetal Maturation 114
Major Types of Foetal Movements 118
Multifoetal Pregnancy 121
Twins 121
Other Multifoetal Pregnancies 123
Genetic Counselling 123
The Nature and Characteristics of Genetic Counselling 123

Genetic Counselling Process 124
Clients Seeking Genetic Counselling 125
Purposes 125
Counselling Services 125
Management of Genetic Disorders 125
Role of the Nurse in Genetic Counselling 127
Nongenetic Factors Influencing Development 129

4. Assessment and Management of Pregnancy (Antenatal) 130

Introduction 130
Physiological Changes during the Pregnancy Process 130
Cardiovascular System 131
Respiratory System 132
Renal System 133
Gastrointestinal System 134
Integumentary System 135
Musculoskeletal System 136
Calcium Metabolism 136
Pelvic Rock 139
Tailor Stretch 139
Tailor Reach 140
Phase 1: Tension Release in Large Muscles 140
Phase 2: Tension Release in Small Muscles 140
Endocrine System and Metabolism 140
Thyroid Function 140
Adrenals 141
Pancreas 141
Parathyroid 141
Pituitary 141
Reproductive System 141
Hormones 141
Nursing Care Plan 144
Diagnosis of Pregnancy 144
Presumptive Signs and Symptoms 144
Positive Biologic and Immunochemical Pregnancy Tests 147
Sign and Symptoms of Pregnancy 148
Possible Signs and Symptoms 149
Assessment of Physiological Changes in Pregnancy 157
Signs and Symptoms of Pregnancy 158
Leopold's Manoeuvres 164
Nursing Management of First Trimester 166
Assessment 166
Nursing Management of Second Trimester 187
Signs of Potential Complications 189
Nursing Management in Third Trimester 198
Adaptation to Pregnancy 214
Developmental Tasks during Pregnancy 215
Coping during Pregnancy 220
Nursing Management 220
Sexual Responses during Pregnancy 221
Woman's Responses 221
Partner's Responses 221

Changes during Phases of the Sexual Response 221
Nursing Management 222
Increased Psychosocial Risk 223
Mature Gravidas 223
Developmental Stage 223
Genetic Concerns 224
Issues of Control 224
Reassurance 224
Adolescent Gravida 224
Incidence of Adolescent Pregnancy 224
Developmental Stage 224
Need for Sex Education 225
Need for Family Planning 225
Denial of Pregnancy 225
Adolescent Fathers 226
Problems with Economic Support 226
Nursing Management 227
Attachment and Bonding 228
Background of Bonding Theory 228
Encouraging Attachment and Bonding during Pregnancy 228
Cultural Diversity 230

5. Assessment and Management of Intranatal Period 231

Introduction 231
Factors Affecting Labour 231
The Powers 231
The Passage Way 233
The Passengers 234
Position 234
Mechanism of Labour 240
Process of Labour/Physiology of Labour 241
Signs Preceding Labour/Signs of Impending Labour 241
Onset of Labour 242
Stages of Labour 242
Management of Normal Labour 246
Pain Management 246
Methods of Pain Relief 247
Key Vocabulary 248
Special Considerations 249
Epidural Anaesthesia Techniques 251
Local Anaesthesia and Nerve Blocks 252
Nursing Care during Labour and Birth 254
First Stage of Labour 254
Rupture of the Membranes (Spontaneous) 259
Evaluation of Progress 259
Second Stage of Labour 260
The Latent Phase 261
The Descent Phase 261
The Transition Phase 261
Care of the Second Stage of Labour 261

Summary of Nursing Responsibilities 264
Transfer and Immediate Predelivery Care 265
Positioning 265
Sterile Perineal Preparation 268
Draping 268
Delivery 269
The Baby 270
Apgar Evaluation 271
Third Stage of Labour 272
Delivery of Placenta 272
Immediate Postpartum Care 273
Observation 274
Alternative Childbirth Arrangements 275
LDR (Labour, Delivery, Recovery) 275
LDRP (Labour, Delivery, Recovery, Postpartum) 276
Special Situations 276
Precipitate Delivery 276
Birth of the Head 276
External Rotation and Expulsion 276
Immediate Care of the Baby 277
Induction of Labour 277
Methods and Care 277
Caesarean Birth 278
Breech Presentation 279
Twins or Multiple Births 279
Fourth Stage of Labour 280
Foetal Heart Rate (FHR) Monitoring 281
Nurses Role in FHR Monitoring 284
Uteroplacental Insufficiency (UPI) 288
Variable Decelerations 289
Interventions for Variable Decelerations 290
Summary of Patterns 291
Reassuring Patterns 291
Questionable Patterns 291
Increased Baseline Variability 291
Nursing Responsibilities during Foetal Monitoring 292
Documentation to Avoid Liability 292
Nursing Diagnoses 293
Objectives 293
Nursing Interventions 293
Procedures Used during Labour and Birth 293
Auscultating Foetal Heart Rate during Labour 298
Vaginal Examination during Labour 298
Identifying the Newborn 300
Maternal-Foetal Transport 307
Assisting With Amniotomy 307
Induction of Labour by Oxytocin Infusion 307
Preparation for Caesarean Birth 307
External Electronic Foetal Monitoring 307
Administration of Rho (D) Immune Globulin (RhoGAM or Mic-RhoGAM) and Other Blood Products 308

6. Assessment and Management of Postnatal Period 309

Introduction 309
Physiological Changes in Postnatal Involution of Reproductive Organs 309
Cardiovascular Function 311
Respiratory Function 312
Renal Function 313
Gastrointestinal Function 313
Integumentary Function 314
Musculoskeletal Function 314
Endocrine Function 314
Psychosocial Adjustments 315
Bonding 315
Maternal Developmental Tasks 315
Self-esteem Needs 316
Potential for Mood Changes 316
Implications of Early Discharge 317
Nursing Management Postnatal Mother (Normal) 317
Nursing Interventions 319
Procedure for Assessing and Massaging the Uterine Fundus 328
Materials 328
Method 328
Guidelines for Postpartum Exercise 336
Continuing Care in Postpartum 339
Perineal Care 339
Ambulation 340
Bathing and Breast Care 340
Learning Infant Feeding 342
Variations for Multiple Births 346
Supportive Care and Educational Opportunities 348
Education Resources 349

7. Assessment and Management of Normal Neonate 359

Introduction 359
Neonatal Assessment 359
General Examination 360
Cardiorespiratory Assessment 366
Respiratory 366
Cardiovascular 366
Metabolic Control Assessment 368
Integumentary System 371
Gastrointestinal System 373
Genitourinary System 374
Haematologic Systems 375
Immunologic System 378
Neuromuscular System 381
Developmental Reflexes 383
Care of the Normal Neonate 388
Clear Airway 388
Established Respiration 389
Warmth 389
Protection from Haemorrhage 389

Protection from Infection 390
Identification and Observation 393
Admission Bath 393
Daily Inspection Bath 396
Nourishment 398
Special Needs 408
Circumcision 408
Nursing Management of Normal Newborn 411

8. Assessment and Management of High-Risk Pregnancy 420

Introduction 420
Early Complications 420
Hyperemesis Gravidarum 420
Early Haemorrhagic Complications 421
Vaginal Bleeding 421
Aetiology of Early Pregnancy Bleeding 421
Abortion or Miscarriage 422
Spontaneous Miscarriage 422
Types of Miscarriages and their Management 423
Therapeutic Miscarriage/Induced Abortion 428
Criminal Abortions 429
Ectopic Pregnancy 431
Hydatidiform Mole (Molar Pregnancy) 433
Choriocarcinoma (Chorioepithelioma) 434
Management 435
Antepartum Haemorrhage (APH) 435
Classification of APH 435
Placenta Praevia (PP) 436
Abruptio Placentae/Accidental Haemorrhage 439
Management 441
Management of Patient with Unclassified Bleeding 442
Medical Aid 442
Management in the Hospital 442
Severe Antepartum Haemorrhage 443
Slight Antepartum Haemorrhage 443
Anaemia in Pregnancy 444
Clinical Manifestation of Anaemia 444
Effects of Anaemia on Pregnancy 444
Management 444
Pulmonary Disorders in Pregnancy 445
Asthma 445
Cystic Fibrosis (CF) 446
Pulmonary Tuberculosis 447
Metabolic Disorders in Pregnancy 448
Diabetes Mellitus 448
Self-testing of Blood Glucose Level 450
Cardiac Diseases in Pregnancy 452
Rheumatic Heart Disease (RHD) 452
Congenital Heart Diseases 452
Clinical Manifestation 453
Management 453
Nursing Intervention 456

Hypertension in Pregnancy 457
Classification 457
Effects of Hypertension on Pregnancy 458
Pre-eclamptic Toxaemia (Pre-eclampsia) 459
Eclampsia 464
Infections in Pregnancy 467
Diarrhoeal Diseases in Pregnancy 467
Viral Diseases in Pregnancy 468
Rubella 468
Measles (Morbilli) 469
Smallpox (Variola) 469
Chickenpox (Varicella) 469
Jaundice in Pregnancy 470
Infective Hepatitis 470
Herpes Hominis 471
Other Infections 471
Nursing Management of HIV in Pregnancy 473
Common Cold and Influenza 474
Other Urinary Complications in Pregnancy 475
Thyroid Dysfunction in Pregnancy 475
Management 476
Acute Renal Failure 476
Causes of Acute Renal Failure in Obstetrics 476
Clinical Features of Acute Renal Failure 476
Management of Acute Renal Failure 476
Ellis Type I Nephritis: Acute Nephritis 477
Ellis Type II Nephritis: Chronic Nephritis 477
Management of Nephritis 478
Prognosis in Renal Disease 478
Malaria in Pregnancy 479
Effect of Pregnancy on Malaria 479
Effects of Malaria on Pregnancy 479
Prevention of Malaria 479
Treatment of Malaria 479
Nursing Interventions 479

9. Abnormal Labour: Assessment and Management 481

Introduction 481
Risk Factors Associated with Labour 481
Obstetric Factors 481
Medical Factors 481
The Elderly Primigravida 481
The Grand Multipara 482
High-Risk Women 482
The Management of Labour in High-Risk Cases 484
Use of a Partograph 484
Illustration of Plotting of a Partograph 484
Special Tests for Assessing High-Risk Preganancies 487
Trial of Labour (TOL) 489
The Nurse's Responsibilities during a Trial of Labour 489
Advantages of Trial of Labour 490
Disadvantages of Trial of Labour 490

Factors which Influence the Prognosis in Trial of Labour 491
Contraindications of Trial of Labour 491
Outcome of Trial of Labour 491
Medical Induction of Labour 491
Prostaglandin 491
PGE_2 Dinoprostone (Cervidi) Insert 492
Pitocin Administration 493
Quinine Hydrochloride 494
Oestrogens 494
Surgical Induction of Labour 494
Other Methods of Induction 494
Preparation of the Patient 494
The Risks of Induction 495
Patient/Family Teaching 495
Administration 495
Maintain Dose 495
Maternal Foetal Assessment 496
Reportable Condition 496
Emergency Measures 496
Documentation 496
Obstructed Labour 496
Effects of Obstructed Labour 496
Causes of Obstructed Labour 496
Clinical Features of Obstructed Labour 497
Management of Obstructed Labour 497
Management after Delivery 497
Rupture of the Uterus 498
Causes of Rupture of the Uterus 498
Clinical Features of Ruptured Uterus 498
Management of Ruptured Uterus 499
Nursing Interventions 499
Prolapse of the Umbilical Cord 500
Causes of Cord Prolapse 500
Diagnosis of Cord Presentation and Prolapse 501
Treatment 501
Prognosis 502
Nursing Management 502
Dystocia/Prolonged Labour 502
Abnormal Uterine Action/Dysfunctional Labour 503
Hypotonia (Uterine Inertia) 503
Effects of Hypotonic Uterine Action 503
Management of Hypotonia 503
Incoordinate Uterine Action 503
General Description 504
Management of Incoordinate Uterine Action 504
Cervical Dystocia 505
Factors which Predispose to Abnormal Uterine Action 505
The Course of Prolonged Labour 505
Management of Prolonged Labour 505
Nursing Interventions 506
Complications of Prolonged Labour 506
Foetal Distress 506
Conditions which Predispose to Foetal Distress 507
Management of Foetal Distress 507

Maternal Distress 508
Signs of Maternal Distress 508
Management 508
Termination of Labour 508
Multiple Pregnancy 508
Causes of Multiple Pregnancy 509
Clinical Manifestation 509
Diagnosis 510
Complication of Multiple Pregnancy 510
Management of Multiple Pregnancy 511
Management of the Puerperium 512
Hydramnios (Polyhydramnios) 513
Cause of Hydramnios 513
Clinical Features of Hydramnios 513
Management 513
Oligohydramnios 514
Malpositions of the Foetus 514
Occipitoposterior Position 514
Management of Malpositions of the Foetus 517
Complications of Occipitoposterior Position 518
Malpresentations of the Foetus 519
Face Presentation 519
Management of Face Presentation 520
Brow Presentation 521
Progress in Labour 521
Transverse Lie and Shoulder Presentation 521
Causes of Transverse Lie 521
Diagnosis 522
Course of Labour 522
Treatment 522
Prognosis for Mother and Baby 523
Breech Presentation 523
Varieties of Breech 523
Factors Accounting for Breech Presentation 523
Diagnosis of Breech Presentation 523
Management of Breech Presentation 524
Complicated Breech Delivery 528
Lovsett's Manoeuvre 528
The Extended Head 528
Hazards of Breech Presentation 529
Obstetric Operations 529
Caesarean Section/Caesarean Birth 529
Types of Caesarean Section 533
Indications for Caesarean Section 534
Forceps Assisted Birth/Forceps Delivery 537
Types of Forceps Delivery 537
Indications for Forceps Delivery 539
Preparation for Forceps Delivery 539
Symphysiotomy 540
Nursing Management of the Patient Following Symphysiotomy 540
Subsequent Pregnancy and Labour 540
The Ventouse or Vacuum Extractor 541
Indications for the Ventouse 541
Hazards of Complications in the Use of the Ventouse 541

Destructive Operations 541
Craniotomy 541
Decapitation 541
Evisceration 541
Cleidotomy 542
Hazards of Destructive Operations 542
Perineal Lacerations 542
Signs that the Perineum is Liable to Tear 542
Prevention 542
Repair of Perineal Laceration 543
Management of Repaired Perineal Wound 543
Management of a Repaired Third Degree Perineal Laceration 543

10. Assessment and Management of Abnormalities during Postnatal Period 544

Introduction 544
Postpartum Haemorrhage 544
Types of Postpartum Haemorrhage 544
Causes of Primary Postpartum Haemorrhage 544
Clinical Manifestations 545
Prevention of Postpartum Haemorrhage 545
Active Treatment of Postpartum Haemorrhage 545
Further Treatment if the Placenta is Retained 546
Method of Manual Removal of Placenta 546
Atonic Postpartum Haemorrhage after Expulsion of the Placenta 546
Bimanual Compression of the Uterus 546
Traumatic Postpartum Haemorrhage 547
Vulval Haematoma 547
Hypofibrinogenaemia 547
Dangers of Postpartum Haemorrhage 548
Retained Placenta 548
The Hazards of Blood Transfusion 549
Complications of Blood Transfusion 549
Inversion of the Uterus 549
Breast Engorgement 552
Thrombolytic Condition 553
Secondary Postpartum Haemorrhage 554
The Causes 554
Management 554
Subinvolution 554
Puerperal Psychosis 555
Causes and Manifestations of Puerperal Psychosis 555
Signs and Symptoms 555
Management of Puerperal Psychosis 555
Prognosis 556
Puerperal Sepsis 556
The Organisms Causing Puerperal Sepsis 556
The Source of Infection 556
Predisposing Factors to Genital Tract Infection 557
Classification of Puerperal Sepsis 557
Treatment 558
Nursing Interventions 558
Prevention of Puerperal Sepsis 558

11. Assessment and Management of High-Risk Newborn 565

Preterm Neonate 565
Premature Labour 565
Diagnosis of Premature Labour 565
Causes of Premature Labour 565
Prevention of Premature Labour 567
Pharmaceutical Inhibition of Premature Labour 567
Drugs Used to Inhibit Preterm Labour 567
The Beta-Adrenergic Receptor Stimulants 567
Contraindications to the Inhibition of Preterm Labour 568
Tests for Foetal Maturity 568
Low Birth Weight Infants 568
Problem of Low Birth Weight 569
Management of Premature Infant 570
Immediate Care of an Infant 570
Later Care of Premature Infant 571
Complications of Prematurity 574
Trauma to Deep Structures 576
Asphyxia Neonatorum 577
Congenital Abnormalities 579
Neonatal Jaundice 583
Haemorrhagic Disease of the Neonate 584
Haemolytic Disease of the Neonate 585
Neonatal Infections 587
Serious Infections 590
Nursing Management of Neonate at Risk 592

12. Pharmacotherapeutics in Obstetrics 599

Introduction 599
Pharmacology in Midwifery and Obstetrical Nursing 600
Oxytocics 600
Therapeutic Oxytocic Administration 601
Oxytocin 601
Ergot Derivatives 601
Prostaglandins (PGs) 602
Antihypertensive Drugs 603
Methyldopa 603
Labetalol 603
Propranolol (Inderal) 604
Hydralazine 604
Nifedipine 605
Diazoxide 605
Sodium Nitroprusside 605
Diuretics 606
Common Preparations 606
Furosemide (Lasix) 606
Hydrochlorothiazide 607
Spironolactone (Aldactone) 607
Tocolytic Agents 607
Isoxsuprine (Duadilan) 607
Ritodrine Hydrochloride (Yutopar) 608

Anticonvulsants 608
Magnesium Sulphate 608
Diazepam (Valium) 609
Phenytoin (Dilantin) 610
Phenobarbitone (Luminal) 610
Anticoagulants 610
Heparin Sodium 610
Analgesia and Anaesthesia in Obstetrics 611
Methods to Relief of Pain 611
Undesirable Side Effects of Spinal or Epidural Anaesthesia 613
Psychophrophylaxis 613
Pethidine (Meperidine) 613
Fentanyl 614
Promethazine (Phenergan) 614
Anesthesia for Caesarean Section 615
Effects of Maternal Medications on Fetus and Breastfeeding Infants 615
Maternal Medications with Established Teratogenic Properties and their Effects 616
Possible Teratogens 616
Fetotoxic Drugs 616
Maternal Drug Intake and Breastfeeding 616
Lactation Suppressants 617
Drugs Acting on the Uterus 617
Uterine Depressants 617
Uterine Stimulants 617

13. Family Welfare Programme 618

Introduction 618
Evolution of Fertility Regulations Methods (Contraceptions) 618
Methods of Fertility Regulation (Contraceptions) 619
The Intrauterine Contraceptive Device (IUCD or IUD) 625

14. Legal and Ethical Aspects of Midwifery and Obstetrical Nursing 634

Introduction 634
Reason for Lawsuits 634
Reason for Increase in Lawsuit against Nurses 635
The Reasons for High-Risk Practice area—Perinatal Nursing 635
Theories of Liability 636
Negligence 636
Malpractice and Nursing Profession 636
Consent 637
Right to Refuse Treatment 639
Abortion 639
Malpractice Prevention 639
Ethical Decision-Making 642
Utilitarianism 646
Natural Law 647
Ethical Pluralism 647

Index 651