Index

Page numbers in "Italics" refer to figures; page numbers in "bold" refer to tables.

2SLGBTQIA+ populations, 122, 130 Aboriginal peoples, 129 acetazolamide, 144 active epilepsy, 216 hyperprolactinemia and, 159 statistics on, 1 acute insomnia, role of pharmacotherapy in treating, 54 acute seizures effects of, 160 management of, 224 acute symptomatic seizures, 101 adolescents bullying and violence, 126 caring for young, 130 compliance with taking medications, 124 development of, 123 inheritance and genetics, 7-8 lifestyle changes due to epilepsy, 123 quality of life for, 125 seizure triggers and, 124 self-image and, 124-5 sex differences in epilepsies, 8 sexual awakening and, 124-5 stigma of epilepsy for, 122 transitional care for, 126-8 aging and epilepsy, 316 Aicardi syndrome, 114-15 airway management, 257-8 allopregnanolone, 66, 70-1 anticonvulsant effects of, 70 as a mediator in stress response, 26 effect of, 29 progesterone and, 137 alternative medicine, 40 amenorrhea, 86 contraceptions and, 173 hyperprolactinemia and, 159 hypothalamic, 10, 159 322

intramuscular injection and, 172 premature menopause and, 159 progesterone therapies and, 143 temporal lobe epilepsy and, 158 American Academy of Neurology (AAN), 11, 209, 210, 284 2009 Practice Parameter, 181 American Association of Clinical Endocrinology and American College of Endocrinology **Clinical Practice** Guidelines, 314 American College of Obstetricians and Gynecologists, 242 American Epilepsy Society (AES), 11, 210 AMPA receptor upregulation, 72 analgesics, opioid, 262 androgenization, 41 anesthesia/anesthetics anesthetic induction agents, 260 - 1antiseizure medications (ASMs) and, 258-9 local, 259-60 neuromuscular blocking agents, 261-2 obstetric, 257 opioid analgesics, 262 volatile anesthetics, 261 aneuploidy screening, 236 anhedonia, 26, 87 antenatal management, of epilepsy, 236 antepartum hemorrhage, 220, 235 anterior temporal lobectomy (ATL), 161 anticholinesterases, 262

anticonvulsants, 41, 259, 262 progesterone as, 70-1 antidiuretic hormone, 93-4 AntiEpileptic drug Monitoring in PREgnancy (EMPIRE) study, 223 antiepileptic drugs, 174 effects of on reproductive hormones, 174-6 effects on cognition, 180 risk of use in pregnancy, 178-82 risks of, 183 antiseizure medications (ASMs), 221 adverse effects on behavioral outcome, 208 antidiuretic hormonerelated hyponatremia and, 93-4 benefits of breastfeeding for infants exposed to, 281 bidirectional interactions of hormonal contraceptives and, 174-6 breastfeeding and, 183, 290 breastfeeding safety and, 284 - 7by psychiatric effects, 34 childbearing-age women and, 279-80 congenital malformations and, 180 dosage during pregnancy, 266 effect of exposure to breastfed infants, 284 effect of pharmacokinetics on 217 effect of on bone health/ metabolism, 89, 90, 311 - 13effect of on cognitive development, 206-7 effect on sleep, 50 endocrine-related side effects, 84

Index	323

epidemiological data on use of, 194-8 fertility/infertility and, 149, 163 fetal malformations risks from using, 12-15, 181, 198 - 204hazardous ASMs and breastfeeding, 287-8 hepatic enzyme inducing, 85-6 hormonal control of glucose metabolism and weight, 90-2 hormone interaction and, 138 management of, 271 monotherapy, 9 neuropsychiatric effects of, 34 new generation of, 218, 266-8 non-enzyme-inducing, 86-8 older generation of, 268-9 psychiatric and behavioral adverse effects, 35 recommendations during lactation, 284-7 reproductive and endocrine effects of, 85 reproductive disturbances and, 161-3 risks from using, 204 sedating, 50 sexual dysfunction and, 9, 219 sleep disorders and, 46 thyroid hormones and, 92-3 treatment in pregnancy, 219 with limited data, 288-9 withdraw of sedating, 50 withdrawal from using, 222-3 WWE and taking, 279-80 anxiety/anxiety disorders, 6, 29, 52, 273 antiseizure medications (ASMs) and, 88 during pregnancy, 215 gabapentin and pregabalin as treatment of, 34 maternal mental illness and, 235 mothers with epilepsy and, 281 PNES patients and, 33 premenstrual syndrome and, 27-8 risk of developing epilepsy and, 3, 25 seizures and, 221

sleep loss and, 50, 54 treatment of, 41 assessment, long-term followup, 300 Atkins diet, modified, 289 atracurium, 261 attention deficit hyperactivity disorder (ADHD), 31, 122, 130 NEAD study and, 208 Australian Pregnancy Register (APR), 13, 194, 200, 205, 222 for WWE and Allied Disorders, 15 major congenital malformation rates and, 204, 209 study of ASM-treated pregnancies, 15 autism spectrum disorder (ASD), 32, 113, 122–3, 130, 180, 208, 236 maternal use of VPA and risk of, 15 reduced rates of, 209 risk of, 301 West and Lennox-Gastaut syndromes and, 32 Axial FLAIR sequences, 246, 250 barbiturates, 50, 55, 275 sedating effect of, 225 behavioral problems, 31-2, 110, 208, 301 of youth, 127 benzodiazepines, 41, 55, 85, 89, 144, 204, 225, 263, 275, 297, 307 as an anesthetic induction agent, 260 catamenial epilepsy and, 144 sedating effect of, 50, 225

treatment for insomnia, 54

epilepticus (SE), 74

treatment of psychosis and, 41

psychiatric disorders and, 39

bipolar disorders, 26, 28-9, 31,

treatment for restless leg

syndrome, 55

disorders, 293

treatment for status

biological antagonism

neuropsychiatric

201, 293

family history of, 37 treatment of, 34, 41 bone health, 17-18 antiseizure medications (ASMs) effect on, 89 fractures and, 311-13 in perimenopausal women, 309-10 mechanisms of osteoporosis, 310-11 recommendations for, 91 screening of at risk individuals, 313-14 treatment, 314 bone metabolism, 316 abnormal, 89 ASM monotherapy and, 89 effects of antiseizure medications on, 90 bone mineral density (BMD), 310 bone physiology, 310, See also bone health brain maturation, 300 brain tumors, 250-1 other primary, 251 breakthrough seizures, 224, 237, 266, 269, 272, 281 dose optimization for, 268 during pregnancy, 224 postpartum period and, 265, 274 breastfeeding. See lactation (breastfeeding) benefits for infants of WWE taking ASMs, 281 benefits of, 280-1 epilepsy and during the postpartum period, 274 - 6hazardous antiseizure medications (ASMs) and, 287–8 level of infant's drug exposure via breast milk, 282 neurodevelopmental benefits, 183 safe antiseizure medications (ASMs) during, 284-7 sleep recommendations for WWE and, 289 women with epilepsy and, 281 breathing, sleep-disordered, 52, 54-5, 57

bright light therapy, 40

brivaracetam, 218, 220, 288

Cambridge University Press & Assessment 978-1-009-00907-2 — Women with Epilepsy Esther Bui , P. Emanuela Voinescu Index More Information

324 Index

bromide, 114 calcium supplementation, 90 Canadian health survey, 4 CANMAT/ISBD guidelines, 41 carbamazepine (CBZ), 85, 93, 218, 268, 287 effect on neurocognitive development, 207 malformations with the use of monotherapy, 198 - 200psychotropic medications, 35 treatment, 314 with St. John's wort, 40 catamenial epilepsy, 8, 65-6, 134, 146 animal studies and, 66-70 definition and prevalence of, 138 - 9definition of catamenial, 134 diagnosis, 139 hormonal strategies for managing, 142-4 management strategies for, 140 - 1menopause and, 145 nonhormonal strategies for, 144 - 5pathophysiology of, 135 pregnancy and, 145 progesterone therapies for, 142 - 4catheter angiography, 246, 249, 252 CDKL5 deficiency disorder (CDD), 74, 107, 109-10 Centers for Disease Control and Prevention (CDC), 11, 202 breastfeeding report card, 281 Medical Eligibility Criteria for Contraception, 175 report card, 281 cerebral lateralization, 300 cerebral venous thrombosis, 228 pregnancy and, 247-9 risk factors for, 247 Child Behavior Checklist, 208 childbearing age, 65, 177, 186, 201, 221

counseling and, 12 counseling and evaluating women with epilepsy, 164 folic acid supplementation and women of, 181, 210, 222 levetiracetam (LEV) for women of, 202 prepregnancy counseling and, 11 risks of topiramate and phenobarbital for, 180 valproate and, 116 with drug-resistant focal epilepsy, 161 women of, 194 childhood compliance with taking medications, 124 psychiatric comorbidities in, 122 - 3childhood absence epilepsy (CAE), 116 sex differences and, 8 children. See also adolescents inheritance and genetics, 7-8 maladaptive behavior and exposure to ASMs, 208 sex differences in epilepsies, 8 sleep problems and, 7 with ADHD and development of epilepsy, 31 chronic epilepsy, 30, 316 effects of, 160 circadian influences, 46, See also sleep on epilepsy, 47-8 on physiology and behavior, 51 problems and, 109 Cleveland Clinic, 7 clobazam, 114, 144-5, 218, 285, 288 clonazepam, 288 cognitive behavioral therapy (CBT), 37, 53 treatment of perimenopausal insomnia, 59 cognitive development, 180, 209, 301 effect of antiseizure medications (ASMs) on, 206-7, 208

effect of levetiracetam (LEV) on, 207 folic acid for, 181 tonic-clonic seizures in pregnancy and, 182 cognitive dysfunction, 112 combination therapy, 285 comorbid neurodevelopmental disorders, 31, See also neurodevelopmental disorders complementary and alternative medicine, 40 computed tomography (CT), 241 - 2and radiation exposure. See also fetus; unborn child radiation exposure and, 242 congenital malformations. 193-4, 301, See also teratogenesis antiepileptic drugs and major, 178-82 effects of antiseizure medications dosage on, 180 major, 144, 220, 228, 233, 279 continuous positive airway pressure (CPAP), 52, 55 contraception combination methods, 173 contraceptive implant, 172 dual method, 173 hormonal, 11 hormonal contraceptives and antiseizure medications, 174-6 implant, 172 intramuscular injection, 172 intrauterine device (IUD), 170 - 2long-acting reversible, 170-3 methods of, 170 oral contraceptives, 172-3 preconception planning and, 185 - 6selecting for women with epilepsy (WWE), 169-73 use in women with epilepsy, 169-70 contraceptives. See also contraception as a therapeutic tool, 176-7

available in the United

with epilepsy

about postpartum safety,

preconception, 11-12, 177,

(estradiol), 130

Cytochrome P450 (CYP450)-

enzyme system, 17, 283

ASMs and, 209, 235, 310-11

CT venogram (CTV), 247

hepatic, 85, 138, 174

St. John's wort and, 40

isoenzymes, 310

Danish health registers, 200

Registry, 207

Danish Twin Registry, 8

disorders

excessive, 6, 48, 52

and, 59

cesarean, 57, 247

delayed eclampsia

after, 245

medication and, 228

risk for preterm, 294

224, 237

in. 2

risk, 312

in, 235

risk of seizures during,

age and gender-specific

antiseizure medications

incidence of epilepsy

maternal death and epilepsy

(ASMs) use and fracture

delivery

Denmark

pregnancy and, 56

hormone replacement

breastfeeding after, 285

complications related to

epilepsy, 15-16

Danish National Prescription

daytime sleepiness, 54, 56, 57,

See also sleep; sleep

185-6, 221, 228, 236

(WWE), 11

cortex syndrome, 110

and infertility, 163

counseling, 18, 314

269

cross-sex steroids

CYP2C19, 218

cytochrome p450

management of for women

States, 171

hormonal, 52

phenobarbital (PB) exposure during early development, 207 statistics on childhood autism in, 301 study on utero exposure to newer-generation ASM, 13 Department of Health Clinical Standards Advisory Group of the United Kingdom, 269 depot medroxyprogesterone acetate (DMPA), 172 depression, 28-9, 52 anxiety and, 88, 235, 273 neurovegetative symptoms of, 27 perinatal, 27, 40 peripartum, 273 risk of developing, 25 desvenlafaxine, 40 direct biological effects, infertility and, 156 driving adolescents with epilepsy and, 124 limitations to, 316 safety during the postpartum period, 276 sleep disruption and safe, 61 drug exposure, via breastmilk, 282 drugs indices of infant's exposure to, 282-3 infant's metabolism and clearance and, 283-4 physiochemical properties of, 282 Dutch outpatients, prevalence of sleep disturbances in, 6 early pregnancy bleeding in, 16 counseling and, 236 eclampsia, 241, 244-7 seizures secondary to, 225-5 education, impact of epilepsy on, 128 electrical status epilepticus during sleep (ESES), 108 electroconvulsive therapy (ECT), 39

electromyography, 47

electrooculography, 47 enzyme-inducing antiseizure medications (ASMs), 85, 89, 310-11 replacing, 90 enzyme isomers, 283 epilepsies. See epilepsy epilepsy active, 159, 216 antenatal management of, 236 bimodal distribution of, 2 catamenial, 8 chronic, 30, 316 comorbidities and, 3-4 diopathic generalized, 178 education status of persons with, 128 effects of chronic, 160 effects of pregnancy on, 231 - 3fertility rates in women with, 150, 151 fetal and neonatal outcomes associated with, 233-4 focal, 29, 31 generalized, 7, 216 genetic forms of, 117 genetic generalized, 116, 139 heritability of, 178 identifying psychiatric comorbidities, 122 idiopathic generalized, 124 incidence of, 1-2, 101 Indigenous girls and adolescent women, 129 - 30juvenile myoclonic, 115-16, 124 lesional, 101 lifetime risk of, 2 marriage rate among persons with, 128-9 maternal, 169, 194, 293, 301 maternal outcomes and, 234, 235 - 6median lifetime prevalence of, 1 new onset epilepsy during pregnancy, 293 non-catamenial, 216 overall incidence rate of, 2 PCDH19, 113-14 pharmacoresistant, 102-6 potential causes of sex differences, 2-3

Index

325

© in this web service Cambridge University Press & Assessment

326 Index		
-----------	--	--

epilepsy (cont.) preconception management of, 221-2 pregnancy and delivery complications related to, 15-16 prevalence of, 1-3 psychiatric disorders and, 4-6 psychiatric phenomena linkage and, 25 psychosocial and cultural considerations when caring for patients, 128 - 30role of inheritance and genetics in, 7-8 seizures secondary to, 224-5 self-limited focal, 47 sex difference in prevalence, 1 sex differences in children and adolescents, 8 sleep disorders and, 46, 61 sleep-related, 49 statistics on, 1 temporal lobe, 29 type and etiology of epilepsy, 156 - 8X-linked, 113 Epilepsy Birth Control Registry (EBCR), 10, 169 **Epilepsy Foundation** My Seizure Diary, 271 epilepsy surgery, 28, 161 effect on menstrual disturbances, 156 epilepsy syndromes, 32, 47, 180, 289 limited to females, 101 recognizing and diagnosing, 101 - 7sex differences in, 8 epileptic lesion, laterality of the, 160-1 epileptogenesis, 73 eslicarbazepine, 218 estrogen/estrogens, 73 estradiol, 72 estrogen/estrogens, 50-1, 64-5, 77, 135 effect of increase in, 163 neuronal effects of, 72-3 neuroprotective effects of, 314 treatment of bone loss with, 90

water-soluble, 135 estrous cycle, 66, 72, 74 etomidate, 261 EURAP study, 12, 15, 182, 224, 232 antiseizure medications (ASMs) risk, 200 comparison of different ASM types, 233 levetiracetam use, 202 limitation of, 195 major congenital malformations, 205 pregnancy registries, 194-5, 198, 200, 201, 224, 228 rate of major congenital malformations and, 180 valproic acid withdrawal group, 222 zonisamide use, 204 EUROCAT database, 201 European International Antiepileptic Drug and Pregnancy Registry (EURAP). See EURAP study excessive daytime sleepiness. See daytime sleepiness exercise monotherapy, 40 fast spin echo T2- weighted (FSET2), 246 felbamate, 92, 288 female puberty, 130 fertility impact of social factors and stigma on, 154-5 normalized rate of, 150 rates in women with epilepsy (WWE), 10-11, 150, 154 women with epilepsy (WWE) and, 9-11 fetal anatomical assessment, 236 fetal and neonatal outcomes, 233 - 4fetal malformations antiseizure medications (ASMs) and, 12-15, 181 family history of, 168 risks of, 12 valproic acid and, 222 fetus computed tomography (CT) and radiation exposure, 242

effect of iodinated contrast medium on, 243 gadolinium-based contrast medium and safety of the, 244 magnetic resonance imaging (MRI) and safety of the, 243 - 4safety of the, 242-4 finasteride, 67 Finnish Drug Prescription Database, 194 fluid-attenuated inversion recovery (FLAIR), 246 focal epilepsies, 29, 31 childbearing age and, 161 folic acid, 222 role of, 208-10 supplementation, 11–12, 181-2, 209-10, 222, 236, 301 supplementation and spontaneous abortion and, 12 use of preconceptual, 11 follicular stimulating hormone (FSH), 64, 135 fractures, 17-18, 89, 309 antiseizure medications (ASMs) and increased risk for, 313 bone health and, 311-13 generalized tonic-clonic seizures and, 313 risk of, 172 FRAX®, 313 free carbamazepine, 218 GABA_A receptors, 70 GABAergic inhibition, 71, 73 GABAergic transmission, 27 gabapentin (GBP), 13, 34, 85, 87, 267, 286, 294, 309 risks of fractures and use of, 89, 315 treatment for restless leg syndrome, 55 gadolinium-based contrast medium, 244, 247, 252, 253 gamma-amino-butyric acid (GABA) conductance, 307 ganaxolone, 74-7, 114 clinical trials of, 75-6

Index	327

gastroesophageal reflux disease (GERD), 56 General Practice Research Database (GPRD), 312 generalized anxiety disorder (GAD), 29 generalized epilepsies, 7 genetic generalized epilepsies (GGE), 107, 116, 139 sex differences in incidences of, 101 genetic testing, 107, 234 children and adolescents, 7-8 gestational hypertension, 16 girls and young adolescents caring for, 130 gliomas, low grade, 251 Global health Observatory data, 126 glomerular filtration rate (GFR), 217 glucose metabolism and weight, 90-2 glucuronidation, 163 gonadotropin releasing hormone (GnRH), 41, 64, 135, 156 gradient echo (GRE) sequences, 246 growth and development, 300 GSK-LTG registry, 194 halogenated hydrocarbons, 261 hazardous antiseizure medications (ASMs), 287 - 8HELLP syndrome (Hemolysis, Elevated Liver Enzymes, Low Platelets), 247 hepatic CYP450, 89 hepatic cytochrome P450, 85 hepatic enzyme inducing antiseizure medications (ASMs), 85-6 heterotopia, 111 neuronal, 110 periventricular nodular, 112-13 subcortical band, 107, 110-12, 111 higher apnea-hypopnea index (AHI), 51 home safety strategies, 275 hormonal changes, 73, 92, 162, 163, 215

adjusting to changes after childbirth, 265 adolescence and, 65 during pregnancy, 145 in menopause, 306-7 lamotrigine and, 266 occarbazepine and, 267 sensitivity to, 146 sleep deprivation and, 57 hormonal contraceptives, 52 antiseizure medications (ASMs) and bidirection interactions of, 174-6 effects of on antiseizure medications (ASMs), 175 - 6recommendations for use of, 175 hormonal strategies, management of catamenial epilepsy with, 142-4 hormone replacement therapy (HRT), 51, 59, 65 effect of epilepsy treatment on, 17 epilepsy and, 308-9 synthetic, 308 hormones antiseizure medications interactions with, 138 female reproductive, 77 neuroactive sex, 135 sex, 156 sexual function and, 155 status epilepticus (SE) and, 73-4 human chorionic gonadotropin β subunit (β-HCG), 67 hyperactive hypothalamicpituitary-adrenal (HPA) axis, 26 hypercarbia, 259 hyperemesis gravidarum, 215 hyperprolactinemia, 159 hypersomnia, 37, 51 menstrual-related, 52 hypertensive disorders of pregnancy, 235 hypoestrogenism, in menopause, 17 hypogonadotropic hypogonadism, 10 hypomania, 28 hyponatremia, 93-4

hyposexuality, 156 breakdown of, 85 hypothalamic amenorrhea, 159, See also menstrual disorders hypothalamic hypogonadism, 158-9 hypothalamic-pituitarygonadal axis, 156 hypothalamic-pituitaryovarian axis, 134-5, 157 hypothyroidism, 243 idiopathic epilepsy. See genetic generalized epilepsies (GGE) idiopathic generalized epilepsies, 124, 157, 178 idiopathic generalized epilepsy (IGE). See also genetic generalized epilepsies (GGE) inactive epilepsy, 1 Indigenous Australians, 129 Indigenous girls and adolescent women, 129-30 infants caring for, 185 exposed to in utero VPA monotherapy, 13 risks of major congenital malformations, 13 small for gestational age (SGA), 14, 233 unfavorable neurodevelopment in, 220 infarction or intracerebral hemorrhage, 247 infertility. See also fertility antiseizure medications (ASMs), 161-3 counseling, evaluation and treatment, 163 definition of, 149 direct biological effects and, 156 epidemiology of, 150-4 etiology and characteristics of, 154-63 psychosocial issues and, 155 women with epilepsy and, 164 injection depot, 143 intramuscular, 172

328 Index

injection (cont.) intravascular, 243, 259 intravenous, 135 insomnia, 51, 52, 53-4 prevalence of in menopause, 59 role of pharmacotherapy in treating, 54 sleep maintenance, 6 intelligence quotient (IQ) scores higher, 209 lower, 14 verbal, 181, 182 VPA-exposed children, 206 interictal discharges effects of seizures on, 48 effects of sleep on, 48-9 interictal dysphoric disorder, 28 interictal psychosis, 30 International Board-Certified Lactation Consultants (IBCLCs), 281 International Classification of Sleep Disorders (ICSD-3), 52 International Commission on Radiological Protection, 242 International League Against Epilepsy guidelines, 223 International League Against Epilepsy Task Force on Comorbidities, 123 interpersonal therapy (IPT), 37 intramuscular injection, 172 intrapartum and postpartum management, 237-9 intrauterine device (IUD), 170-2 iodinated contrast medium, effect on the fetus, 243 iodinated-based contrast medium, 253 IQ scores difference for breastfed children, 17 higher, 209 lower, 14 maternal, 180 verbal, 181, 182 VPA-exposed children and, 206

juvenile absence epilepsy (JAE) sex differences and, 8 juvenile myoclonic epilepsy (JME), 107, 115–16, 124, 183

Kerala Registry of Epilepsy and Pregnancy (India), 194, 222, 224, 269 ketamine, 261 ketogenic diet, 289 Kleine–Levin syndrome, 52

labor and delivery management of seizures during, 225 risk of seizures during, 224, 237 lacosamide (LCM), 88, 204, 268, 285, 288 clearance, 218 younger patients and, 110 lactation (breastfeeding), 16-17, 18, 183 antiseizure medications (ASMs) and, 284-7 counseling and support for WWE, 289–90 psychotropic medications in, 35-7 rufinamide and, 289 lamotrigine (LTG), 266-7, 285, 294, 315 lamotrigine clearance, 217, 224 malformations and use of, 200 - 1left temporal lobe epilepsy PCOS and, 158 left temporal lobe epilepsy (TLE) sexual dysfunction and, 9 left temporal lobectomy (TLE), 111 Lennox-Gastaut syndrome, 144 and autism spectrum disorder, 32 lesional epilepsy, 101 levetiracetam, 285 levetiracetam (LEV), 13, 87, 220, 221, 267, 284, 294, 315 effectiveness of, 114 risks of malformations and, 202 libido, 155 decreased, 27, 84, 87, 88, 125 disorder of, 86

lifestyle modifications, 40, 271, 273 light therapy, 40 limbic system, the, 28 Liverpool and Manchester neurodevelopmental group (LMNG) study, 206 localized cortical electrical stimulation, 39 Locock, Charles, 134 loss of libido. See libido low-grade gliomas, 251 luteinizing hormone (LH), 135 magnetic resonance imaging (MRI), 241-2, 243-4 contrast used with, 252 major congenital malformations (MCMs), 13, 144, 169, 220, 228 folic acid and, 12 risks of, 233, 279 major depression, 4 major depressive disorder (MDD), 26-7 treatment of, 37-40 major depressive episodes (MDEs), 26 with onset during pregnancy, 27 malformations antiseizure medications (ASMs) and, 279-80 carbamazepine use and, 198-200 congenital, 193-4, 301 during the first trimester, 206 lamotrigine use and risks of, 200 - 1major congenital, 220, 228 of offspring of women with epilepsy and general population, 194 phenobarbital risks and, 198 risk of major congenital, 233 risks from using antiseizure medications, 204 risks from using topiramate and, 203 risks of using levetiracetam (LEV) and, 202 risks of using oxcarbazepine and, 203 risks of using phenytoin and, 201-2

Index 329

risks of using zonisamide and, 203 valproic acid use and, 201 manic depression, 28-9 marriage, 154, 161 arranged, 128 bans on, 149 lower marriage rates, 10 reduced rate for people with epilepsy, 128-9 social factors and, 154 women with epilepsy and, 3 maternal epilepsy, 169, 194, 234, 301 statistics, 293 Maternal Outcomes and Neurodevelopmental Effects of Antiepileptic Drugs (MONEAD) study, 145, 232, 268 MeCP2 deficiency, 107 Medical Birth Registry of Norway, 14 Medical Expenditure Panel Survey Household Component, 232 medical genetics consultation, 236 medical history and presentation, 241 medication adjustments, 223 postpartum period and, 266 medications antiseizure, 9 compliance with, 124 psychotropic, 34-5, 37-9 risks of seizures before and during pregnancy, 183-5 switching, 222-3 teratogenic effects of, 191 medicines complementary and alternative, 40 ways to remember, 271 medroxyprogesterone acetate, 143 melatonin agonists, 54 meningioma, 250 menopause, 17, 306 catamenial epilepsy and, 145 early, 307-8 hormonal changes in, 306-7 hormone replacement therapy (HRT) and sleep quality, 59 hypoestrogenism in, 17

menopausal sleep complaints, 51 premature, 159 seizures and, 308 sleep and, 58 sleep-disordered breathing (SDB), 58 menstrual cycle catamenial epilepsy and, 65 epilepsy surgery and changes in, 161 hypothalamic-pituitaryovarian axis and, 134-5 neuroactive sex hormones, 135 sleep and, 51 menstrual disorders risk of infertility due to, 9 - 11statistics for women with epilepsy (WWE), 9 menstrual irregularities, 84 meperidine neurotoxicity, 262 metabolite monohydroxy carbazepine (MHD), 286 metastatic choriocarcinoma, 251 methylenetetrahydrofolate reductase (MTHFR), 208 Metropolitan Atlanta Congenital Defects Program (MACDP), 202 microsomal hepatic enzyme, 84 mindfulness-based cognitive behavior therapy (MBCT), 37 Minnesota, United States age and gender-specific incidence of epilepsy in, 3 monoamine oxidases (MAOs), 26 monotherapy, 180, 234, 301 exercise, 40 in pregnancy, 208 vs. polytherapy, 181, 204-5 mood disorders, 4-5, 265 mood monitoring, 273-4 multiple sleep latency test (MSLT), 52 multisystem disorder, 244

insomnia and, 59

National Medical Birth Registry, Finland's, 13 NEAD study, 181, 183, 206, 207, 297, 300 preconception folic acid supplementation, 181 valproate and ADHD, 208 women on ASMs monotherapy in the, 206 neural tube defect (NTD), 236 assessing for, 236 folic acid and, 222 neuroactive sex hormones, 135, 138 neurocognitive development, 207, 300 neurocognitive problems, 31-2 neurodevelopment, 223, 300-1 unfavorable neurodevelopmental in infants, 220 neurodevelopmental disorders, 114 evaluation of, 123 global neurodevelopment and adaptive behavior, 207 MECP2 duplication in males and, 109 Neurodevelopmental Effects of Antiepileptic Drugs (NEAD) study, 180, 206, 281 neuroexcitatory role via inhibition of GABA, 50 neuroimaging, 244, 245 in non-pregnancy-related conditions, 251-2 in pregnancy, 241-2, 253 pregnant women and, 252-3 neurologic disorder, in pregnancy, 293 neuromodulators, 77 neuromuscular blocking agents, 261-2 neuronal migration and organization, 300 neuronal tube defect (NTD), 200 NeuroPace trial, 48 neuropsychiatric disorders, 25, 293 risks for women on medications for, 297 neurosteroids as anticonvulsant agents clinical trials, 74-7

330	Index
-----	-------

neurostimulation, 39 newborn. See also fetus care of the, 274, 294 feedings and care of during the postpartum period, 276 gadolinium-based contrast medium and safety of, 244 physical examination of the, 297 - 8new-onset seizures in pregnancy, 226 N-methyl D-aspartate (NMDA) receptor complex, 307 nocturnal behaviors, 52 non-benzodiazepine hypnotics, 54 non-catamenial epilepsy, 216, See also catamenial epilepsy non-enzyme-inducing antiseizure medications (ASMs), 18, 84, 85, 86-8, See also enzymeinducing antiseizure medications (ASMs) transwomen use and, 130 nonhormonal strategies management of catamenial epilepsy with, 144 - 5normeperidine, 262 North American AED Pregnancy Registry (NAAPR), 13, 194 North American Antiepileptic Drug Pregnancy Registry data, 233 North American ASM Pregnancy Registry, 181 North American Commission of the International League Against Epilepsy, 129 Norwegian Medical Birth Registries (MBRN), 194 Norwegian Mother and Child Cohort Study (MoBa), 281

obstetric anesthesia, 257 airway management, 257–8 obstructive sleep apnea (OSA), 6, 51 offspring affected with epilepsy, 7 oligomenorrhea, 86, 161 hyperprolactinemia and, 159 omega-3 fatty acids, 40 opioid analgesics, 262 oral contraceptives, 170, 172-3 management of catamenial epilepsy, 143 oral contraceptive pills (OCPs), 41 osteopenia, 89, 90, 314 pharmacologic therapy and, 314 osteoporosis, 17-18, 41, 90, 310-11 family history of, 313 of hip and lumbar spine, 89 pharmacologic therapy and, 314 vitamin D and, 314 ovulation-sparing, 306 oxcarbazepine (OXC), 13, 15, 86, 93, 110, 163, 176, 220, 221, 267, 286, 294, 315, See also pharmacokinetics risks of malformations from use of, 203

Patient Health Questionnaire-9 (PHQ-9), 32 PCDH 19 epilepsy, 113-14 perampanel, 90, 204, 218, 288 perimenopausal insomnia, 59 perimenopause hormone levels and, 65 perimenopausal depression, 27 perimenopausal women and bone health, 309-10 seizures and, 308 treatment of perimenopausal depression, 40 perinatal depression, 27 treatment of, 40 periodic limb movement disorder, 55 periodic limb movements in sleep in pregnancy, 58 peripartum depression, 273 periventricular nodular heterotopia, 107, 112 - 13pharmacokinetic changes in pregnancy, 223

pharmacokinetics, 174, 202 effect on the efficiency of ASMs, 217 of antiseizure medications (ASMs), 215 pharmacotherapy, 37, 40 role of, 54 phenobarbital (PB), 13, 85, 198, 268, 287, 315 concentrations of, 138 phenytoin (PHT), 13, 85, 268, 287, 315 malformations and use of, 201 - 2PMDD. See premenstrual dysphoric disorder (PMDD) polycystic ovary syndrome (PCOS), 9, 86, 158 polymenorrhea, hyperprolactinemia and, 159 polysomnography (PSG), 47, 50, 61 polytherapy, 216, 234, 300 vs. monotherapy, 181, 204 - 5Posterior Reversible Encephalopathy Syndrome (PRES), 245 postictal somnolence, 48 postmenopausal women, 54, 58, 309 on antiseizure medications (ASMs), 311 phenytoin use and, 315 treated with raloxifene, 314 postnatal development development and growth, 300 long-term follow-up, 300 postnatal management, 299-300 physical examination, 300 postpartum care plan, 265, 269-71, 270 postpartum cerebral angiopathy, 249-50 postpartum depression, 4, 27, 185, 289 anxiety and, 281 breastfeeding risk and, 274 - 6risk factors for, 273 statistics about, 235

postpartum period, 265, 276

counseling about

breastfeeding and epilepsy

during the, 274-6

home safety strategies, 275

medication adjustments

mood monitoring during,

newborn care during, 274

during the, 276

postpartum management,

postpartum psychosis, 31, See

preconception counseling,

counseling

counseling

of, 11

preeclampsia, 16

severe, 16

pregabalin, 85

pregnancy

predischarge assessment, 299-300

and eclampsia, 244-7

and eclampsia as risk factors

for cerebral venous

and eclampsia diagnosis, 258

thrombosis, 247

preterm births and, 294

treatment for restless leg

catamenial epilepsy and, 145

comorbid conditions in, 244

complications and epilepsy,

effects of epilepsy on, 231-3

medication (ASMs), 266

syndrome, 55

pregabalin (GABA analog

ASMs), 87

15-16

doses of antiseizure

preconception seizures, 216

preconceptual folic acid, use

preconception planning, 125,

elements of, 178

also postpartum depression

newborn feedings and care

self-management during, 271

11-12, 168-9, 177, 185,

130, 177, 182, 185, 221,

See also preconception

221, 228, 236, See also

during, 266

273 - 4

237-9

postpartum safety, 269 developing safety plans for

women and babies, 276

hypertensive disorders of, 235 monitoring, 238 neuroimaging in, 241-2, 252-3, 253 new-onset epilepsy during, 293 ongoing care, 237 pharmacokinetic changes in, 223 pregnancy-related sleep disorders, 57 psychotropic medications in, 35-7 restless legs syndrome in sleep in, 58 risk of antiepileptic drugs in, 178 - 82risk of seizures during, 182 - 3risks of medications and seizures during and after, 183-5 risks related to seizures during, 182 safety and social support, 185 safety of the fetus, 242-4 seizure control during, 15,228 seizure deterioration in, 215 seizure frequency during, 182 seizures during, 215-16 sleep and, 56-7 sleep-disordered breathing in, 57 teratogenesis in repeated pregnancies, 205-6 therapeutic drug monitoring (TDM) during, 223 women with epilepsy and, 61 Pregnancy and Lactation Labeling Rule (PLLR), 192 pregnancy registries, 194-8 characteristics of, 196-7 pregnant Meyer's serum gonadotropin (PMSG), 67 premature menopause, 159 premenstrual dysphoric disorder (PMDD), 27-8 treatment of, 40-1 premenstrual syndrome (PMS), 27 Prempro, controlled trial of, 308

preterm births, 294 primidone, 287 proconvulsants, progesterone as, 71-2 progesterone, 51, 64-5, 135, 137 anticonvulsant and seizurepromoting effect of, 68 anticonvulsant effects, 70-1 proconvulsant effects, 71-2 progesterone therapies for catamenial epilepsy, 142 - 4propofol, 261 pseudopregnancy model, 66 psychiatric comorbidities epilepsy and, 122 in childhood, 122-3 psychiatric disorders, 4-6, 113, 194 as a comorbidity in children with epilepsy, 122 biological antagonism between neurological and, 39 comorbid, 25 neuropsychiatric disorders, 25, 297 psychiatric phenomena, and epilepsy, 25 psychiatry, 4-6 psychogenic non-epileptic seizures (PNES), 33-4 impact on quality of life, 34 treatment of, 42 psychomotor retardation, 37 psychosis, 29-31 interictal, 30 postpartum, 31 treatment of, 41 psychotherapy, 37 psychotropic medications, 36, 37-9 risk of seizures from using, 34-5 use in pregnancy and breastfeeding 47, 35-7 puerperium, 267 cerebral venous thrombosis in, 247, 248 valproic acid (VPA) monitoring and, 268

quality of life comorbid psychiatric disorders, 25 effect of aging on, 316

© in this web service Cambridge University Press & Assessment

331

Index

332	Index
-----	-------

quality of life (cont.) effect of comorbid mental health disease on, 316 effect of epilepsy on, 146 effect of major congenital malformation (MCM) on, 193 effect of stimagtization on, 126 for adolescents with epilepsy, 124, 125 impact of ADHD on for children, 123 improvement in with HRT, 59 loss of driver's license and, 221 of persons with epilepsy, 88 psychogenic non-epileptic seizures (PNES)and, 34 reduction in for people with epilepsy, 9, 46, 52 restless legs syndrome and reduction in, 55 Rett syndrome and, 108 sleep disorders and, 6, 52, 53, 57,61 raloxifene, 314 rape, rates of, 126 repetitive transcranial magnetic stimulation (rTMS), 39 reproductive disorders, 158 hyperprolactinemia, 159 hypothalamic hypogonadism, 158-9 polycystic ovary syndrome (PCOS), 158 premature menopause, 159 sex hormones alterations, 159 reproductive disturbances. See also reproductive disorders antiseizure medications (ASMs) and, 161-3 chronic epilepsy and acute seizures, 160 epilepsy surgery and, 161 in women with epilepsy (WWE), 160 laterality of the epileptic lesion, 160-1 reproductive dysfunction and fertility, 9-11

reproductive hormones effects of antiepileptic drugs on, 174-6 female, 64-5, 77 reproductive rights, 149 Presidential Task Force on Redefining the Postpartum Visit of the American College of Obstetricians and Gynecologists, 269 restless legs syndrome, 55 in sleep in pregnancy, 58 Rett syndrome (RTT), 107-9 right temporal lobe epilepsy, 139 sexual dysfunction and, 9 Rochester study, 155 rufinamide, 218, 289 S-adenosylmethionine

(SAM-e), 40 schizoaffective disorders, 293 seizure control, 46, 124, 145, 182, 186, 194, 271, 279 and development of psychosis, 30 catamenial epilepsy, 216 continuous positive airway pressure (CPAP) and, 55 contraceptives for, 176-7 DMPA effects on, 176 during pregnancy, 15 during pregnancy and pharmacokinetics, 217 hormonal contraceptives and, 176 impact of, 29 improved sleep and, 48 inadequate, 299 incomplete, 161 lamotrigine for better, 87 lifestyle modifications, 273 medroxyprogesterone acetate (MPA) for, 143 poor, 52 preconception and, 216, 222, 223 pregnancy and, 145, 183, 215, 216, 222, 228, 231, 237, 266 seizure exacerbation, 11, 53, 65-6, 77, 123, 144, 146, 164 ADHD fears and, 123 catamenial, 77, 134, 138, 143

cyclic, 308 cyclical, 135 during ovulatory, 65 patterns of, 139 perimenstrual, 71, 138 seizure triggers, adolescents, 124 seizure/seizures action plan, 272, 272-3 acute symptomatic, 101 bilateral tonic-clonic, 8, 135 breakthrough, 274 consequences of during pregnancy, 218-21 deterioration in pregnancy, 215 during labor and delivery, 224 effects of chronic, 160 effects of on sleep, 48-9 from eclampsia versus epilepsy, 225 generalized tonic-clonic, 48, 115 in non-pregnancy related conditions, 251-2 menopause and perimenopause and, 308 monitoring and tracking of, 271 - 2preconception, 216 psychotropic medications risks, 34-5 refractory, 144 risk of during pregnancy, 182 - 3risks for, 301 secondary to eclampsia, 225 secondary to epilepsy, 224-5 single, 1 tonic-clonic, 72, 182 trigger minimization and lifestyle modifications, 273 types of, 108 unprovoked incidence of, 101 water balance and, 137 selective amygdala hippocampectomy, 161 selective estrogen receptor modulators (SERM), 314 selective serotonin reuptake inhibitors (SSRIs), 37 self-image, adolescents and, 124 - 5

Index

333

Selye, Hans, 64 serotonin-norepinephrine reuptake inhibitors (SNRIs), 37 sevoflurane, 261 sex and gender differences 2SLGBTQIA+ populations and, 130 in epilepsies, 8 sex hormones, 156 neuroactive, 135 sex hormones alterations, 159 sex-hormone-binding globulin (SHBG) concentrations, 85 sexual awakening, in adolescence, 124-5 sexual desire, 87 and mood, 155-6 decreased, 9 sexual dysfunction, 8-9, 88 gender differences and, 125 in women with epilepsy (WWE), 156 menopause and, 17 mood and, 155-6 postoperative improvement of, 161 European database statistics on, 86 sex hormones level and, 156 temporal lobe epilepsy (TLE) and, 156 sexually transmitted infection (STI) prevention, 173 single seizures, 1 sleep effect of antiseizure medications (ASMs) on, 50 epilepsy and, 47-8 excessive daytime sleepiness, 52 good rules for, 53 hormonal influences on, 50-1 hormone replacement therapy (HRT) and quality of, 59 menopause and, 58 menstrual cycle and, 51 non-REM (NREM), 47 physiology of, 46-7 rapid eye movement (REM), 47

restless legs syndrome and periodic limb movement in pregnancy, 58 sleep comorbidities, 52 excessive daytime sleepiness, 52 insomnia, 53-4 restless legs syndrome, 55 sleep-disordered breathing, 54-5 sleep deprivation, 124, 224 postpartum period and, 289 sleep disorders epilepsy and, 46 in pregnancy, 57 in women with epilepsy, 61 medicine consultation and polysomnography for, 61 sleep-related respiratory events, 57 sleep disruption, 6-7, 287 causes of, 51, 56 cognitive impairments and, 61 comorbid, 52 method of feeding an infant and, 57 restless leg syndrome and PLMS and, 58 sleep disturbances. See sleep disruption Sleep Heart Health study, 59 sleep-disordered breathing (SDB), 51, 52, 53, 54-5, 56, 61 diagnosis of, 52 hormone replacement therapy and, 59 in menopause, 58 in pregnancy, 57 treating, 56 sleep-related hypermotor epilepsy (SHE), 47 small for gestational age (SGA) infants, 14, 233 social anxiety disorder (SAD), 41 Social Emotional Questionnaire, 208 specific absorption rate (SAR), 243 spontaneous abortion, 203, 228, 233, 234

folic acid supplementation and, 12, 181 monotherapies and, 233 risk of, 154 St. John's wort, 40 status epilepticus, 66, 71, 73-4, 228, 237 controlling, 260 controlling refractory, 261 during delivery, 224 ECT can be used in refractory, 39 electrical status epilepticus during sleep (ESES), 108 inhibitory mechanisms, 49 lidocaine and, 260 nonconvulsive or convulsive, 113 normal treatment of, 225 pregnancy-associated, 228 synthetic neurosteroid brexanolone as treatment for superrefractory, 74 stigma/stigmatization, 126 effect on fertility, 154-5 Study of Osteoporotic Fractures, 312 subclinical hypothyroidism, risk factors for, 92 subcortical band heterotopia, 107, 110-12 sudden infant death syndrome (SIDS), 274 sudden unexpected death in epilepsy (SUDEP), 48, 182, 220, 235 sugammadex, 262 suicidal ideation, 32-3 suprachiasmatic nucleus (SCN), 51 Swedish National Registry, 194 Swiss study statistics of sleep disturbances in adults with epilepsy patient, 6 synthetic neurosteroid brexanolone, 74 temporal and frontal seizure foci, 28 temporal lobe epilepsy (TLE), 9, 29, 31, 65, 139, 156, 159, 160-1 amenorrhea and, 158

using, 203

risks of malformations from

temporal lobe epilepsy (cont.) catamenial epilepsy pattern and, 139 HPG function in men with, 160 on polytherapy, 218 PCOS and, 160 progesterone receptors, 72 reproductive disorders in, 159 status epilepticus and, 66 temporal lobectomy, 161 teratogenesis, 191-2 principles of, 192-3 repeated pregnancies and, 205 - 6teratogenicity, 232, 236 antiseizure medications (ASMs) and, 194, 221 neurodevelopmental, 169 of antiseizure medications (ASMs), 128 risk of, 222, 237 risks for, 183 testosterone, 51 therapeutic drug monitoring (TDM), during pregnancy, 223 thrombotic thrombocytopenic purpura (TTP), 247 thyroid prevalence of thyroid dysfunction, 92 subclinical hypothyroidism risks, 92 thyroid hormones and antiseizure medications (ASMs), 92-3 tonic-clonic seizures, 72, 109, 182, 234, 262 bilateral, 8, 135 generalized, 48, 115, 159, 220, 222, 225, 260, 313 in pregnancy, 220 monotherapy for, 15 topiramate (TPM), 13, 34, 86, 92, 267, 286, 316

total energy deposited (dose), 242 transdermal patch, 173 transwomen, 130 traumatic brain injury, 2, 101 treatment options evidence-based, 134 for catamenial epilepsy, 139 for infertility, 163 psychotropic medications as, 35 UK Pregnancy Registry (UKEPR), 194, 200, 207 limitation of, 195 risk of major congenital malformations and ASM polytherapy, 205 risk of major congenital malformations with zonisamide, 203 statistics, 201 topiramate monotherapy exposure, 203 United Kingdom, maternal death and epilepsy, 235 unborn child, safety of, 242-4 unintended pregnancies in the United States, 11 United Nations, breastfeeding advocacy and, 280 US Food and Drug Administration (FDA), 32 unplanned pregnancies, 11, 169, 170 general population for women with epilepsy (WWE), 11 unprovoked seizures, incidence of, 101 upper airway resistance syndrome, 57 uridine diphosphate glucuronosyl

transferases (UGT), 92, 266, 283 United States, maternal death and epilepsy, 235 vaginal ring, 173, 175 valproate (VPA), 10, 86, 91, 158, 162, 176, 316 for bipolar disorders, 34 valproic acid (VPA), 13, 85, 218, 268, 286-7, 294 malformation risk from use of, 201 withdrawal of use during pregnancy, 223 verbal intelligence scores, 207 vitamin D metabolism/ supplementation, 89, 90, 306, 310, 312, 314 accelerated, 311 volatile anesthetics, 261 water balance, seizures and, 137 weight, antiseizure medications (ASMs) and, 90-2 West syndrome and autism spectrum disorders, 32 Women's Health Initiative trial, 59 World Health Organization (WHO), 194 breastfeeding advocacy and, 280 fracture risk assessment tool, 313 X-linked epilepsies, 113

zolpidem, 54, 57 zonisamide (ZNS), 88, 92, 218, 267, 286, 294, 316 effects of on sexual function, 88 risks of malformations and, 203 weight issues and use of, 92