

Index

A

- Activities of daily living (ADL), 174
- Adopt food fortification policy
 - barriers, 228–229
 - ethical considerations, 228
 - parameters, 227
- Alginate, 76–77
- Almeida, C.A., 418
- Aloia, J.F., 191
- Amino chelate iron, 415
- Anemia, 30–31
 - adolescents, 328, 329
 - childbearing age women, 329, 330
 - complementary feeding in China, 293
 - and fortification, 325–326
 - hematologic indicators
 - consumption of, 402–404
 - helminth infections, 405
 - repeated measures logistic regressions, 402, 403
 - infants and young Omani children, 328
 - iron deficiency, 294 (*See also* Iron deficiency anemia (IDA))
 - micronutrients malnutrition, 324
 - prevalence of, 292, 293, 341
- Animal products
 - bioavailable iron, 30
 - iron deficiency anaemia, 30–31
 - product developments
 - acceptable ready-to-eat product, 32–33
 - anaemia prevalence, 31
 - bovine lung, 33
 - large-scale production, 33–34
 - proximal composition/caloric content, 34, 35
 - safe levels guidance, 33
 - testing, developed products
 - baseline anaemia, 35
 - children anaemia and nutritional status, 36, 37
 - intervention effects, 35–37
 - intervention population, 34–35
- Antioxidants, 25

- Apple pomace
 - applications, 25
 - component and nutritional composition, 23–24
 - definition, 22
 - dietary fibres, 24
 - health-promoting activities, 25, 26
 - natural antioxidants, 25
 - polyphenolic compounds, 25, 26
- Arcanjo, F.P., 119
- Ares, G., 80
- Augustin, M.A., 77

B

- Barton, A.D., 174
- Baseline anaemia, 35
- Batistuti, J.P., 32
- Beckett, C., 133
- Bioavailable iron, 30
- Biofortification, 316
- Birthweight, 131
- Bone disease. *See* Osteoporosis
- Bovine lung, 33
- Brazil, iron food fortification. *See* Iron food fortification, Brazil
- Butler, L.G., 78

C

- Cardiovascular disease, 240, 251
- Castillo, C., 390
- Caston, L.J., 9
- Cheese fortification
 - bioactive compounds, 72
 - cheese matrix, 73
 - guidance on safe levels, 83
 - microencapsulation
 - double emulsion, 75–76
 - polymeric complexes, 76–77
 - simple emulsion, 74–75

- Cheese fortification (*cont.*)
 phenolic compounds addition, 78–80
 probiotic bacteria
 challenges and potential solution, 81
 cheddar production, 82
 functions, 83
 strain selection and inoculation, 82–83
 recommendations, 83
- Cheese matrix, 73
- Childs, F. 30
- Chinese Food and Nutrition Surveillance System (CFNSS), 292
- Cholecalciferol, egg fortification, 12–13
- Chromium, egg fortification, 11–12
- Cobalamin. *See* Vitamin B12
- Cobalamin, egg fortification, 13
- Coefficient of variation (CV), 208
- Coffin, D.E., 9
- Cognition. *See* Multiple-micronutrient-fortified salt
- Complementary food supplements
 definition, 299
 development quotient and component scores, 297
 effectiveness, 296–298
 field trial, 295–296
 formulation, 295
 hemoglobin concentration, 296–297
 intelligence quotient and component scores, 298
 reduction, anemia prevalence, 296
 in Vietnam
 definition and production, 337–339
 nutritional status, infants and young children, 339–343
- Consumer acceptance, 230–231
- Consumer choice, 228
- Cook, J.D., 208, 402
- Copper, egg fortification, 11
- Cranney, A., 183
- C-telopeptide (CTx-I), 199–200
- D**
- Darnton-Hill, I., 229
- Date fiber, yogurt fortification
 acidity, 89–90
 color values, 89–90
 pH, 89
 sensory quality and acceptability, 91
 texture properties, 91
- de Paula, R.A., 421
- Dhingra, P., 133
- Dietary fibres, 24, 26
- Dingwall, R., 218
- Discretionary fortification, 268–269
- Docosahexaenoic acid (DHA)
 bioavailability issues, 101
 fruit juices, 97–98
 milk, 96–97
 safe levels, 101
 study design issues, 100–101
 vegetable juices, 97–98
- E**
- Egg fortification
 advantages, 17–18
 carotenoids, 15–16
 dietary reference intakes, 9
 EFA (*see* Essential fatty acids (EFA))
 fortified milk-based supplement, 5, 6
 functional modification, 7
 LDL oxidation, 7, 8
 maternal diet and micronutrient status, 5, 6
 micronutrient malnutrition, 5
 synergistic combinations, 16–17
 trace minerals
 chromium, 11–12
 copper, 11
 iodine, 10
 iron, 11
 manganese, 11
 selenium, 10
 zinc, 10
 vitamins
 biotin, 14
 choline, 14
 folic acid/folate, 13–14
 vitamin A, 12
 vitamin B12/cobalamin, 13
 vitamin B5/pantothenic acid, 13
 vitamin B2/riboflavin, 13
 vitamin D3/cholecalciferol, 12–13
 vitamin E/tocopherol, 12
- Eicosapentaenoic acid (EPA). *See* Docosahexaenoic acid (DHA)
- Enzyme-linked immunosorbent assay (ELISA), 208
- Essential fatty acids (EFA), 14–15
- Ethylenediaminetetraacetate (EDTA), 161
- European Society of Pediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN), 149–150
- European Union (EU) food fortification, 227
- Evaporated sugarcane juice. *See Rapadura*
- F**
- Faber, M., 133
- Fatty acid, in fish
 deficiency symptoms, 44
 essentiality, 43–44
 fish feeds
 dietary oils, 46–47
 performance and safety, 46
 regression approaches, 49–50
 guidance level, 50–51
 lipotoxicity and respiration uncoupling, 44–45
 recommendations, 51–52
- Fatty acids, meat
 composition, 58
 saturation, 57
- Fechner, A., 76
- Feeding assistance, 172
- Ferreira, A.M.A., 418

- Fillet fatty acid composition, 47, 48
 Fisberg, M., 421
 Fish, fatty acid. *See* Fatty acid, in fish
 Fish feeds
 dietary oils, 46–47
 performance and safety, 46
 regression approaches, for modelling, 49–50
 Fish sauce fortification
 guidance levels, 123
 iodine fortification, 118–119
 iron
 absorption, 121–123
 fortification, 119–120
 recommendations, 123
 sauce production, 114–116
 Flour fortification
 impact, 327–328
 program initiation, 324–325
 Folic acid (folate)
 bioavailability, consumption and nutrient adequacy, 326, 327
 Canada
 adverse effects, 252–253
 cardiovascular disease, 251
 congenital anomalies, 251, 252
 folate status, 249
 implementation, 248–249
 intake, 249
 NTD, 249–251
 pediatric cancer, 252
 controversies
 fortification levels increasing, 254
 recommendation, pregnant women, 253
 vitamin B12, 254
 egg fortification, 13–14
 fortification, 243
 nursing home, elderly, 172
 Food fortification
 adoption
 barriers, 228–229
 ethical considerations, 228
 parameters, 227
 application
 consumer awareness, 231
 infrastructural constraint, 230
 lack of broader stakeholder consensus, 230
 lack of consumer acceptance, 230–231
 naturalness, 232
 public health strategies, 229
 socio-economic constraints, 230
 technical constraints, 230
 monitoring and impact assessment, 233–234
 policy development framework, 224–225
 public health, 224
 scientific evidence, 226–227
 Food regulation
 health problem impact, 306
 implementation aspects, 314–315
 micronutrient addition
 adventitious contamination, 316
 increasing nutrient concentration, 316
 non-nutritional purposes, 315
 stated health reasons, 316
 risk analysis framework, 306–307
 risk assessment
 nutrient/hazard identification, 307
 nutrient intake calculations, 309–310
 population exposures, 308
 risk communication, 314
 risk management aspects
 economic analysis, 313–314
 nutritional suitability, 311
 technological advice, 311–313
 vehicle selection, 310–311
 Food technological advice
 fortificant, 311, 312
 quality assurance, control process and labelling, 311, 313
 vehicle matrix, 311–312
 Food vehicle, 227
 Fortified dairy products, 197–199
 Fortified drinks, 95–102
 Fortified foods (FF), Indonesian infants
 contribution
 linear/goal programming, 387–388
 NDF, 387, 389
 nutrient, 387–388
 proportion of energy, 389
 intakes
 percentage, 387
 wheat flour, 385
 manufactured infant cereal, 390–391
 nutrient intakes
 complementary feeding pattern, 384–385
 densities, complementary feeding diets, 384, 386
 Fruit juices, 98
 Functional foods, 316
- G**
 Gall, M.J., 174
 Gathwala, G., 155
 Gibbs, M., 390
 Global Alliance for Improved Nutrition (GAIN), 280
 Global public health intervention. *See* Food fortification
 Gum arabic (GA), 77
 Gur, 106. *See also* *Rapadura*
- H**
 Hagerman, A.E., 78
 Harnack, L.J., 269
 High-performance liquid chromatography (HPLC), 208
 Hilario, M.C., 78
 Home fortification. *See* Micronutrient powder
 Horton, S., 228
 HS-Omega-3 Index, 99, 102
 Hu, M., 75

- Human milk fortifications, preterm infants
 - disadvantages, 155
 - rationale, 149–150
 - recommendations, 149
 - types
 - after hospital discharge, 154
 - growth and development, 154–155
 - individualized fortification, 152–153
 - maternal, 153–154
 - multicomponent powdered products, 153
 - standard fortification, 150–151
- Hurrell, R.F., 419
- Hydrophilic compound immobilization, 75–76

I

- IDA. *See* Iron deficiency anemia (IDA)
- Individualized human milk fortification
 - adjustable, 152–153
 - blood urea nitrogen, 153
 - targeted, 152
- Indonesian National Standard for Complementary Foods (SNI MP-ASI), 385
- Iodine
 - egg fortification, 10
 - fortification
 - fish sauce, 118–119
 - soy sauce, 118–119
 - iodine deficiency disorders
 - geographic information system, 350
 - micronutrients malnutrition, 324
 - salt iodization, 349–350
 - spectrum of, 348
- Iron
 - bioavailability, consumption and nutrient adequacy, 326, 327
 - deficiency
 - childhood anemia prevalence map, 412, 413
 - food fortification, 412–415
 - Nigeria, 430–431
 - egg fortification, 11
 - functions, 429–430
 - recommended dietary allowances, Nigeria, 430
 - sources, 430
- Iron deficiency anemia (IDA), 30–31, 106, 208
 - bioavailability
 - non-haem iron, 357
 - iron compounds 352
 - control of, 351
 - efficacy studies, 354–356
 - efficient fortification programme, 353
 - mould growth effect, 353–354
 - national wheat flour fortification programme, 352
 - packaging materials effect, 352–353
 - rheological characterization, 354
 - symptoms of, 350
 - toxicological effects, 357–358
- Iron food fortification, Brazil
 - biscuits and breads, 419–420
 - corn, wheat, and cassava flour, 419

- impact of, 415, 416
 - milk and infant formulas, 417–418
 - orange juice, 418–419
 - potable drinking water
 - addition, 415
 - mean hemoglobin levels, 416
 - uses, 417
 - rice and bean, 420–421
 - safe doses, 421
 - strategy, 421
 - sugar, 421
- Iron fortificants, 163
- Iron fortification
 - absorption studies, 121–123
 - fish sauce, 119–120
 - soy sauce, 120
- Iron-unfortified foods, in Nigeria
 - amala, 440
 - beans, 439
 - bean variety levels, 441
 - butter and margarine, 439
 - cassava products, 439
 - clams, oysters and mussels, 441
 - cocoa powder and chocolate, 440
 - dried herbs, 441
 - fruit juice and soft drinks, 441
 - iron levels, 441, 442
 - liver, 441
 - packaged and unpackaged snacks, 440
 - pumpkin seeds, 440
 - rice, 439
 - sun dried tomatoes, 440
 - sweets and gums, 440

J

- Jaggery*, 106, 107. *See also Rapadura*
- Jobling, M., 47, 48

K

- Kailasapathy, K., 77
- Keane, E.M., 174
- Kirkpatrick, D.C., 9
- Koji, 116
- Kuusipalo, H., 133

L

- Lactobacillus* sp., 82
- Laddoo*, 109
- Langlois, K., 268
- Lartey, A., 133
- Leeson, S., 9
- Lipid fish nutrition
 - fatty acid
 - deficiencies, symptoms of, 44
 - essentiality, 43–44
 - lipotoxicity and respiration uncoupling, 44–45
- Lipophilic compound immobilization, 74–75

- Long-chain polyunsaturated fatty acids (LCPUFAs), 51–52, 148, 150
- Looker, A.C., 262
- Lorefalt, B., 174
- M**
- Mailer, R.J., 43
- Malnutrition, 172, 174
- Maltodextrin, 172
- Mandatory folic acid fortification
 - data collection method, 280
 - data interpretation method, 280–281
 - ethical dilemma, 279–280
 - evidence, 284
 - folate, 278
 - guidelines, 286
 - national food regulatory agencies, 284–285
 - NTD prevalence, 278–279, 284–286
 - potential limitations, 286
 - results, 281–284
 - SNI, 285
- Manders, M., 174
- Manganese, egg fortification, 11
- Masondole, L., 77
- McClure, R.J., 155
- Meat
 - bioavailability, 56
 - fatty acids
 - composition, 58
 - saturation, 57
 - guidance on safe levels, 66
 - n-3 PUFA enrichment
 - meat products, 62–65
 - non-ruminant meat, 61–62
 - problems with, 65–66
 - ruminant meat, 59–61
 - nutritional value, 56–57
- Microencapsulation, cheese fortification
 - double emulsion, 75–76
 - polymeric complexes, 76–77
 - simple emulsion, 74–75
- Micronutrient deficiency
 - Asian development bank, 343
 - complementary food approach, in Vietnam
 - definition and production, 337–339
 - effectiveness of, nutritional status, 342–343
 - efficacy of, nutritional status, 339, 341–342
 - dual fortification, salt, 358
 - implementation, in Vietnam, 343–344
 - iodine deficiency disorders
 - geographic information system, 350
 - salt iodization, 349–350
 - spectrum of, 348
 - iron deficiency anaemia
 - bioavailability, non-haem iron, 357
 - bioavailability, iron compounds, 352
 - control of, 351
 - efficacy studies, 354–356
 - efficient fortification programme, 353
 - mould growth effect, 353–354
 - national wheat flour fortification programme, 352
 - packaging materials effect, 352–353
 - rheological characterization, 354
 - symptoms of, 350
 - toxicological effects, 357–358
 - Lancet series, 344
 - potential contribution calculation, 345
 - pregnant women, 136, 139
 - school meals fortification, 160, 163
 - staple food or/and condiments, 344–345
 - VAD, 348
- Micronutrient powder
 - causes of, 396
 - cooked food, 396
 - intervention impact
 - growth, 408
 - hematologic indicators and anemia, 402–405
 - infections, 408
 - school feeding program, India, 397–398
 - nutrients types and amounts, 409
 - school lunch meal
 - formulation, 398–399
 - fortification, 399
 - intake compliance, 401–402
 - Tehri Garhwal District, 396–397
 - vitamin and mineral, retention
 - acceptance of, 400
 - content, 399–400
 - effectiveness of, 400–401
 - vitamin A, zinc, folate and vitamin B12, 405–408
- Micronutrients
 - child development, 135
 - child growth, 132–135
 - child morbidity, 135
 - complementary foods, 137–138
 - density, 130–131
 - formulation and testing, 139
 - interventions, 131
 - malnutrition
 - anemia, 324
 - iodine deficiency disorders, 324
 - vitamin A, 324
 - nursing home, elderly, 175
 - recommended composition, 136–137
 - status, 132, 135–136
- Midday meal, 397
- Miglioranza, L.H., 418
- Mocanu, V., 185, 187, 188
- Multiple-micronutrient-fortified salt
 - biochemical measurements validation, 208
 - blood collection and storage, 207
 - cognitive test, 208–209
 - dosage of, 207
 - ethical issues, 209
 - laboratory analysis, 208
 - older children, impact of
 - blood collection, storage, and laboratory analysis, 212

- Multiple-micronutrient-fortified salt (*cont.*)
 composition, 212, 215
 concentration/IQ test, 215
 efficacy trial, 210–213
 letter cancellation test, 216
 memory test, 210, 214–216
 Raven's colored progressive matrices, 216
 research design, 210
 stability of, 207, 209
 statistical analysis, 212
 randomized controlled trial, 206–207
 stability, 207, 209
 statistical analysis, 209
 younger children, impact of
 angular stomatitis, 216–217
 cognitive study, 216–217
 efficacy study, 216–217
 level of fortificants, 218–219
 nutrition/cognition, 217–218
- Multiple sclerosis (MS), 240
- Mushroom soup, 270
- N**
- Naber, E.C., 9
- NaFeEDTA, 119, 120, 122
- National Food Standard
 daily ration nutrients, 299, 300
 definition, 299
 earthquake-affected counties, 299, 300
 hemoglobin concentration, 299
 promulgation, 299
- National Standard of Indonesia (SNI), 285
- NDF. *See* Nutrient-dense foods (NDF)
- Neural tube defect (NTD)
 corn masa flour, 284
 epidemiological evidence, 278–279
 ethical dilemmas, 279
 folate status, 286
 folic acid, 249–251
 pregnancy, 279
 prevalence, 285–286
 recommendation, 284
- Neural tube defects (NTD), 329, 330
 aetiological study, 362
 importance of, 369
 mandatory fortification
 final assessment report, 368
 FSANZ, 367
 monitoring effects, 368–369
 retrospective analysis, 370
 prevention, 362–364
 voluntary fortification
 and folate supplement use, 364–367
 with folic acid, 364
- Nigeria
 basic food commodities
 bread and biscuits, 432
 eggs, meat, fish and poultry, 433
 iron fortification, 433–434
 milk and milk products, 432
 millets, 432
 pulses, 432
 rice, 431
 vegetable and fruit products, 432–433
 wheat, 431
- child enjoying fortified meal, 428, 429
- common food
 bread, 437
 cereal products, 438
 cocoa products, 437
 dairy products, 436
 noodles, 438
 rice, 436–437
 safety issues, 438
 salt, 437–438
 soy sauce and fish sauce, 437
- current nutrition programs, 434–435
- food fortification, 435–436
- foods not fortified, 434
- iron deficiency, 430–431
- iron-unfortified foods
 amala, 440
 beans, 439
 bean varieties levels, 441
 butter and margarine, 439
 cassava products, 439
 clams, oysters and mussels, 441
 cocoa powder and chocolate, 440
 dried herbs, 441
 fruit juice and soft drinks, 441
 iron levels, 441, 442
 liver, 441
 packaged and unpackaged snacks, 440
 pumpkin seeds, 440
 rice, 439
 sun dried tomatoes, 440
 sweets and gums, 440
- safe levels, 429
- season, 428
- Non-ruminant meat, 61–62
- N-3 polyunsaturated fatty acids
 description, 15
 enriched meat
 meat products, 62–65
 non-ruminant meat, 61–62
 problems with, 65–66
 ruminant meat, 59–61
- N-6 polyunsaturated fatty acids, 15
- Nursing home, elderly
 increased nutritional intake, 172, 174–175
 micronutrients, 175
 nutritional deficiency, 171–173
 protein intake improvement, 172, 174
 recommendations, 175
 safe levels, 175
- Nutrient-dense foods (NDF), 387, 389
- Nutrisano, 139, 140

Nutritional intervention, by animal products
 baseline anaemia, 35
 children anaemia and nutritional status, 36, 37
 intervention effects, 35–37
 intervention population, 34–35
 Nutrivida, 139, 140

O

Obatolu, V.A., 133
 Ödlund, O.A., 174
 Oelofse, A., 133
 Oman
 anemia
 adolescents, 328, 329
 childbearing age women, 329, 330
 and fortification, 325–326
 infants and young Omani children, 328
 bioavailability, consumption and nutrient
 adequacy, 326–327
 comorbidities and genetic factors, 331
 demographics, health and nutrition, 323–324
 flour fortification
 impact, 327–328
 program initiation, 324–325
 geography and economy, 322–323
 micronutrients malnutrition, 324
 neural tube defects, 329, 330
 outcome, 331–332
 political and contextual factors, 330–331
 political support, 325
 recommendations, 332

Omega-3 Index, 99, 102

Omega/n-3 fatty acids
 bioavailability issues, 101
 DHA and EPA, 96
 fruit juices, 97–98
 milk, 96–97
 randomized double-blind intervention, 99
 recommendations, 102
 safe levels guidance, 101
 study design issues, 100–101
 vegetable juices, 97–98

Oral nutritional supplements (ONS), 172

Osteocalcin (OC), 199–201

Osteoporosis, 183, 242

Osteoprotegerin (OPG), 199

Owino, V.O., 133

P

Pakistan, micronutrient deficiency. *See* Micronutrient deficiency

Pantothenic acid, egg fortification, 13

Pediatric cancer, 252

Peripheral neuropathy, 239

Phenolic compounds

beneficial health effects, 78
 bioactive compounds and antiradical activity, 79
 cheese containing, 78, 79
 chemical structure and molecular weight, 79

on gel-forming kinetics, 81
 plant-derived, 78

Phu, P.V., 134

Pino, S., 208

Placebo-controlled randomized study, 175

Polberger, S., 152

Polyphenolic compounds

apple pomace, 24, 25
 cheese, 78–80
 health-promoting activity, 26

Postmenopausal health study

bone fracture incidence, 196
 bone metabolism, 197
 bone mineral density, 201
 bone-remodelling indices, 199–201
 calcium/vitamin D, 196–197
 dietary intervention, 197–198
 growth and calciotropic hormone, 198–199
 guidance level, 202
 hip fracture, 196
 methodology, 197
 osteoclastic differentiation molecule, 199
 recommendations, 202

Potassium iodate (KIO₃), 118

Probiotic bacteria, cheese fortification

challenges and solution, addition, 81
 cheddar production, 82
 functions, 83
 strain selection and inoculation, 82–83

Protein energy malnutrition control program
 (PEMCP), 343

R

Rapadura

as food fortificant, 109–110
 health protector, 109
 hemoglobin levels and anemia prevalence, 110
 history, 106–107
 nutritional composition, 108
 processing and consumption, 108
 vs. with refined sugar, 107
 uses of, 106–107

RAS. *See* Recurrent aphthous stomatitis (RAS)

Receptor activator of nuclear factor-kappaB ligand
 (RANKL), 199

Recommended daily intake (RDI), 123

Recurrent aphthous stomatitis (RAS), 241–242

Regression equations, 49–50

Required daily allowance (RDA), 207

Riboflavin, egg fortification, 13

Rice Fortification Resource Group (RiFoRG), 280

Riedl, K.M., 78

Riggs, B.L., 201

Ruminant meat, 59–61

S

Sacco, J.E., 269

Santiago, M.S., 155

Santigosa, E., 43

- Sazawal, S., 133
 Schiavone, A., 9
 School feeding program, in India, 397–398
 School meal fortification
 anthropometric effects, 167
 biochemical and clinical effects, 165–167
 ferrous glucine phosphate and riboflavin, children
 anemia prevalence, 162–163
 stability and hemoglobin levels, 162
 ferrous glycine phosphate and riboflavin, 161
 multiple micronutrient food
 absorption, 168–169
 composition, 165, 166
 enhancement, 167–168
 HPLC, 164, 165
 stability, 165
 vitamins, 164–165
 organoleptic properties, 163
 Seasoning sauce, 116
 Selenium, 10
 Semo, E., 75
 Serum ferritin, 208
 Siró, I., 231
 Sirri, F., 9
 Smoliner, C., 174
 Smuts, C.M., 133
 Soy sauce fortification
 guidance levels, 123
 iodine fortification, 118–119
 iron
 absorption, 121–123
 fortification, 120
 NaFeEDTA, 119, 120
 recommendations, 123
 sauce production
 chemically hydrolyzed, 116–117
 mold mixture, 116
 steps, 117
 seasoning sauce, 116
 Standard human milk fortification
 composition, 150–151
 protein intake, 151
 Suess-Baum, I., 9
- T**
 Tarasuk, V., 269
 Targeted fortified foods
 pregnant women
 birth weight and outcomes, 131
 dietary intake, 140
 formulation and testing, 139
 Oportunidades program, 137–139
 pattern of utilization, 140–142
 recommended micronutrient composition, 136–138
 strategies, 130–131
 young children
 child development, 135
 child growth, 132–135
 dietary intake, 140
 formulation and testing, 139
 micronutrient status, 135–136
 morbidity, 135
 Oportunidades program, 137–139
 pattern of utilization, 140–142
 recommended micronutrient composition,
 complementary foods, 137–138
 strategies, 130–131
 Tocopherol, egg fortification, 12
 Torres, M.A.A., 418
 Turchini, G.M., 46
- U**
 Uauy, R., 390
 Universal salt iodization (USI), 119
- V**
 Vagner, m., 43
 Vegetable juices, 98
 Very low birth weight (VLBW) infants, 149–150
 Vietnam
 complementary food approach
 energy and nutrient contents and nutrient
 densities, 338, 340
 Fasevie project, 337
 feeding practices, 337
 minerals amounts, 338, 339
 nutrients amounts, 338
 nutritional status, 339–342
 raw instant flour composition, 338, 340
 vitamins, 338
 implementation, 343–344
 Vila, B., 9
 Vitamin A
 deficiency, 348
 micronutrients malnutrition, 324
 Vitamin B12
 deficiency
 aged and aging, 242–243
 fertility, 242
 folic acid fortification, 243
 hematopoiesis, 239, 241
 mean corpuscular volume, 241
 multiple sclerosis, 240
 osteoporosis, 242
 peripheral neuropathy, 239
 RAS, 241–242
 folic acid, 254
 nursing home, elderly, 172
 Vitamin D2 (ergocalciferol), 261, 270
 Vitamin D3 (cholecalciferol), 12–13
 Vitamin D bread fortification
 benefits of, 190
 health effect
 bone, 187–188
 pain, 188–189
 QUALEFFO-41, 189–190
 impact of
 bioavailability, 186
 clinical study, 185

- compliance to, 186
 - efficiency and safety, 186–187
 - Vitamin D deficiency
 - older adults
 - bone health, 183
 - bread (*see* Vitamin D bread fortification)
 - chronic pain, 184
 - cost-effectiveness, 185
 - dietary intake, 182
 - factors, 181–182
 - fortification, 184–185
 - guidance level, 191
 - international comparison studies, 180–181
 - RDAs, 183
 - recommendation, 191
 - risk of falling, 183
 - status, 181
 - sunlight, 182
 - supplementation strategy, 184
 - supplements, 182
 - Vitamin D fortification
 - bio-addition, 271–273
 - Canada
 - food enrichment, 269–271
 - history, 267–268
 - milk ingestion, 267, 268
 - Canada and North America
 - corn flakes label, 265–266
 - food categories, 265
 - prevalence
 - deficiency and insufficiency, 261–262
 - dietary recommendations, 261, 263
 - NHANES surveys, 261, 262, 264
 - nutritional intake adequacy, 261, 263
 - sun exposure, 260
 - United States of America, 266–267
 - Vitamin D supplementation
 - alleviating, 379
 - causes, 375
 - children and adolescents
 - deficiency, 377
 - preparations, 377, 378
 - recommendations, 376
 - sources, 375, 376
 - sunlight exposure, 375
 - tolerable upper limits, 379
 - Vitamins
 - B-complex, 164, 167, 168
 - egg fortification
 - biotin, 14
 - choline, 14
 - folic acid/folate, 13–14
 - vitamin A, 12
 - vitamin B12/cobalamin, 13
 - vitamin B5/pantothenic acid, 13
 - vitamin B2/riboflavin, 13
 - vitamin D3/cholecalciferol, 12–13
 - vitamin E/tocopherol, 12
 - folic acid, 164, 165, 169
 - vitamin A, 164, 165, 167, 168
 - vitamin B12, 164, 165, 167, 168
 - vitamin C, 164
 - vitamin D, 164
 - vitamin E, 164–167
 - Voluntary fortification
 - and folate supplement use
 - western Australia, 364–365
 - NTD
 - and folate supplement use, 364–367
 - with folic acid, 364
 - Voluntary or discretionary fortification, 306
- W**
- Weinbreck, F., 77
 - Wheat flour fortification, 387
 - Whey protein (WP), 77
- Y**
- Ying Yang Bao
 - adequate food and nutrition security, 300–301
 - anemia prevalence, 292–293, 296
 - CFNSS, 292
 - complementary feeding, 293
 - complementary food supplements
 - definition, 299
 - development quotient and component scores, 297
 - effectiveness, 296–298
 - field trial, 295–296
 - formulation, 295
 - hemoglobin concentration, 296–297
 - intelligence quotient and component scores, 298
 - iron deficiency anemia, 294
 - linear growth, improvements, 294
 - National Food Standard
 - daily ration nutrients, 299, 300
 - earthquake-affected counties, 299, 300
 - hemoglobin concentration, 299
 - promulgation, 299
 - nutritional status, 292
 - stunting prevalence, 292–293
 - Yogurt fortification
 - date fiber on
 - acidity, 89–90
 - color values, 89–90
 - pH, 89
 - sensory quality and acceptability, 91
 - texture properties, 91
 - guidance on levels, 92
 - quality parameters, 89
 - recommendation, 92
 - sample preparation, 88–89
- Z**
- Zang, H., 9
 - Zinc
 - egg fortification, 10
 - intervention impact on, 10
 - Zlotkin, S., 415