

**Supplement 1. Characteristics of individual or part of international initiatives, mother-child cohort studies (n = 42), in the MEA region**

| Country | Study Coding | Enrollment Period | Study Population |                                                                          | Objectives                                                                                                                                      | Data Collection                                                                                                                                        | Data Collection Timepoints |           | Biological Samples |                                                  | Follow Up                                                                                                                           | Source |
|---------|--------------|-------------------|------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------|--------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------|
|         |              |                   | Children (n)     | Mother (n)                                                               |                                                                                                                                                 |                                                                                                                                                        | Prenatal                   | Postnatal | Mother             | Child                                            |                                                                                                                                     |        |
| Iran    | IR1          | 2008-2009         | 50               | NA                                                                       | Prematurity/LBW                                                                                                                                 | BO                                                                                                                                                     | -                          | ✓         | -                  | -                                                | At delivery, 6 & 12 months after birth                                                                                              | (41)   |
|         | IR3          | 2003 (*)          | 321              | NA                                                                       | Infantile Colic                                                                                                                                 | BO                                                                                                                                                     | -                          | -         | -                  | -                                                | At delivery & 12 weeks after birth                                                                                                  | (42)   |
|         | IR4          | 2007 (*)          | 1750             | NA                                                                       | LBW/Mortality                                                                                                                                   | BO                                                                                                                                                     | -                          | ✓         | -                  | -                                                | At delivery & 28 days after birth                                                                                                   | (43)   |
|         | IR5          | 2013-2016         | 92,521           | NA                                                                       | Neonatal Hearing Screening                                                                                                                      | TEOAEs                                                                                                                                                 | -                          | ✓         | -                  | -                                                | At delivery and after birth                                                                                                         | (44)   |
|         | IR6          | 2011-2014         | 499              | NA                                                                       | Evaluate strategies of initial respiratory support in VLBW NICU                                                                                 | BO, Pregnancy Complications (*)                                                                                                                        | -                          | ✓         | -                  | -                                                | At delivery & after birth, during hospitalization in NICU                                                                           | (45)   |
|         | IR7          | 2011-2012         | 2,115            | NA                                                                       | Compare the efficacy of an internet based versus traditional referral system for retinopathy of prematurity screening                           | BO, screening for retinopathy of prematurity                                                                                                           | -                          | ✓         | -                  | -                                                | At delivery & 5, 9, 30, 38 weeks after birth                                                                                        | (46)   |
|         | IR8          | 2006-2013         | 85               | NA                                                                       | Serum IL-1b and IL-6 as diagnostic values, perinatal asphyxia and NO                                                                            | BO, Apgar Score, Blood tests                                                                                                                           | -                          | ✓         | -                  | ✓                                                | At delivery & after birth, during hospitalization in NICU                                                                           | (47)   |
|         | IR9          | NA                | 1,932            | NA                                                                       | Retinopathy of prematurity guidelines                                                                                                           | BO, screening for retinopathy of prematurity                                                                                                           | -                          | ✓         | -                  | -                                                | At delivery & 4 weeks after Birth                                                                                                   | (48)   |
|         | IR10         | NA                | 58               | NA                                                                       | Indices of metabolic bone diseases                                                                                                              | BO, Blood tests, x-ray,                                                                                                                                | -                          | ✓         | -                  | ✓                                                | At delivery & up to 12 weeks                                                                                                        | (49)   |
|         | IR11         | 2004              | 256              | 247                                                                      | Growth factors                                                                                                                                  | BO, Q, Anthropometric measurements                                                                                                                     | -                          | ✓         | -                  | -                                                | At delivery & up to 5 years                                                                                                         | (50)   |
|         | IR35         | 2014-2016         | 438              | 438                                                                      | Growth pattern of GDM exposed off-spring's                                                                                                      | BO, maternal demographic characteristics, IADPSG criteria                                                                                              | -                          | ✓         | -                  | ✓                                                | At delivery, 2,4,6,9,12,15,18, &24 months                                                                                           | (51)   |
|         | IR37         | NA                | NA               | NA                                                                       | Maternal-fetal attachment during pregnancy and post-partum                                                                                      | Maternal demographic, BDI, SSTA1, SSA, AAS, PBI, CMFAS, Avant's questionnaire of Mother-Infant Attachment Behaviors, Muller's Mother-Infant attachment | ✓                          | ✓         | -                  | -                                                | Pregnancy, at delivery, at 2,4, 6 months after birth                                                                                | (52)   |
|         | IR38         | 2012              | 566              | NA                                                                       | Growth factors                                                                                                                                  | Maternal demographic, neonate's health status, anthropometric measurements                                                                             | -                          | ✓         | -                  | -                                                | Birth, 1,2,4,6,9,12,18,24,36 and 48 months                                                                                          | (53)   |
|         | IR46         | 2012-2016         | 307              | 307                                                                      | Association of obesity pre-pregnancy with depression                                                                                            | Demographic and midwifery questionnaire, EPDS                                                                                                          | ✓                          | ✓         | -                  | -                                                | Pregnancy, 6-8 weeks and 12 months after delivery                                                                                   | (54)   |
|         | IR47         | 2011-2017         | NA               | 6921                                                                     | Early life exposure and early life diseases.                                                                                                    | Socio economic status, parental medical history, maternal mental health, delivery type, child physical activity                                        | ✓                          | ✓         | -                  | -                                                | Pregnancy, 8 weeks after delivery, 6 months after birth, at 2 years, at 5 years and then every two years until the age of 12 years. | (55)   |
| IR49    | 2016-2018    | NA                | 1000             | Effect of pregnancy exposure and post-partum on mother and child health. | Socio demographics, DASS-21, GHQ-12, child medical history (hospitalization, diseases, ultrasound), child neurological and physical development | ✓                                                                                                                                                      | ✓                          | ✓         | -                  | Pregnancy, birth, 1,6, and 12 months post-partum | (56)                                                                                                                                |        |
| Israel  | IL1          | 1992-1997         | 307              | NA                                                                       | GR/ND                                                                                                                                           | BO, ND, GR                                                                                                                                             | ✓                          | ✓         | ✓                  | -                                                | At delivery & 2, 6 & 9 years                                                                                                        | (57)   |

|                                |      |           |                                     |        |                                                                                                                              |                                                                                                                                               |   |   |    |    |                                                                       |      |
|--------------------------------|------|-----------|-------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---|---|----|----|-----------------------------------------------------------------------|------|
|                                | IL2  | 1994-1997 | 164                                 | NA     | Breastfeeding/ Infection                                                                                                     | Nutrition, infection, BO                                                                                                                      | ✓ | ✓ | -  | ✓  | At birth up to 2 years                                                | (58) |
|                                | IL3  | 2004-2008 | 13,324 (13,019 completed the study) | NA     | Allergies/Cow's milk                                                                                                         | Nutrition, Allergic tests                                                                                                                     | - | ✓ | -  | -  | At delivery & 48-60 months after birth                                | (59) |
|                                | IL4  | 2006-2008 | NA                                  | 1161   | Mental health/BO                                                                                                             | Q                                                                                                                                             | ✓ | ✓ | -  | -  | 1 <sup>st</sup> trimester till 6 weeks after birth                    | (60) |
|                                | IL5  | 1991-2013 | 225,260                             | NA     | Early term delivery and metabolic health                                                                                     | BO, metabolic health                                                                                                                          | - | ✓ | NA | NA | At birth & up to 18 Years                                             | (61) |
|                                | IL6  | 2005-2013 | 149                                 | NA     | Antiviral treatment in cCMV Hearing impairment                                                                               | Clinical, laboratory, radiological and audiological data                                                                                      | - | ✓ | -  | NA | At birth, >1 year                                                     | (62) |
|                                | IL7  | NA        | 122                                 | NA     | Haptoglobine (Hp) phenotype and sepsis incidence                                                                             | Hp, clinical                                                                                                                                  | - | ✓ | -  | ✓  | Birth and neonatal phase                                              | (63) |
|                                | IL27 | 1991-2014 | 240953                              | 240953 | Pediatric respiratory morbidity                                                                                              | Demographics, pregnancy complications, BO, respiratory morbidity, hospitalization related to respiratory diagnosis                            | - | ✓ | -  | -  | Birth to 18 years                                                     | (64) |
|                                | IL28 | 2016-2017 | 342                                 | 342    | Birth beliefs translated into birth preference and actual birth related options                                              | Socio demographic and obstetric history at T1, Birth Beliefs scale, preferred and actual place, mode of birth, natural birth related options. | ✓ | ✓ | -  | -  | Mother: pregnancy, and 2 months post-partum                           | (65) |
|                                | IL31 | 2009-2011 | 564                                 | NA     | Infants growth and vaccination schedule                                                                                      | Maternal Characteristics, BO, developmental milestone achievements, immunization adherence, hemoglobin.                                       | - | ✓ | -  | ✓  | Child: 2 weeks, 1,2,4,6,9,12,18 and 24 months                         | (66) |
|                                | IL33 | 1998-2017 | 750,000                             | NA     | Environmental exposures and fetal growth                                                                                     | Demographic data of the newborn, father and mother. Urine, serum and blood sample.                                                            | ✓ | ✓ | ✓  | -  | Pregnancy, Delivery, 20 years                                         | (67) |
|                                | IL34 | 1991-2013 | 232,281                             | NA     | Children with isolated single umbilical artery (iSUA) and long-term pediatric hospitalizations due to respiratory morbidity. | Characteristics of pregnancies with and without iSUA, incidence of respiratory related hospitalization in children.                           | - | ✓ | -  | -  | Birth, up to age 18                                                   | (68) |
| <b>Jordan</b>                  | J1   | 2010-2011 | 3,889                               | 4322   | Vitamin D deficiency                                                                                                         | BO, Q, Blood tests                                                                                                                            | - | ✓ | -  | ✓  | Neonatal Phase                                                        | (69) |
|                                | J2   | 2015      | NA                                  | 150    | Maternal learning needs and concerns after giving birth                                                                      | Maternal demographics, BO                                                                                                                     | - | ✓ | -  | -  | 24h after giving birth, 6-8 weeks post-partum                         | (70) |
| <b>Kingdom of Saudi Arabia</b> | KSA1 | NA        | 288                                 | NA     | Sickle cell disease                                                                                                          | BO                                                                                                                                            | - | ✓ | -  | ✓  | At delivery & 4 years                                                 | (71) |
|                                | KSA2 | 2013-2015 | NA                                  | 14,568 | Cohort profile, effects of non-communicable diseases                                                                         | BO, Q Blood tests                                                                                                                             | ✓ | ✓ | ✓  | -  | During pregnancy & after birth                                        | (72) |
|                                | KSA3 | 2011-2014 | 1124                                | 1,124  | Pregnacy outcomes (GDM)                                                                                                      | Q, BO, Apgar score, Pregnancy complications, Blood tests                                                                                      | ✓ | ✓ | ✓  | ✓  | Pregnancy, birth and neonatal phase                                   | (73) |
|                                | KSA4 | 2010-2013 | 28646                               | NA     | Fetal and neonatal malformations                                                                                             | BO, Q, fetal measurements (echocardiography, karyotyping, MRI)                                                                                | ✓ | ✓ | -  | ✓  | Pregnancy, birth and neonatal phase                                   | (74) |
|                                | KSA9 | 2015      | 330                                 | NA     | Neonatal Acute Kidney Injury                                                                                                 | BO, Demographic data, baseline and maximum SCr, CRIB II, Apgar scores,                                                                        | - | ✓ | -  | ✓  | Neonatal                                                              | (75) |
| <b>Kuwait</b>                  | KW1  | 2007-2008 | NA                                  | 373    | Breastfeeding                                                                                                                | BO, Maternal health                                                                                                                           | - | ✓ | -  | -  | At delivery and 6, 12, 18 & 26 weeks after birth                      | (76) |
|                                | KW2  | 2012-2015 | 2079                                | NA     | Prenatal risk factors for early childhood obesity                                                                            | BO, Q                                                                                                                                         | ✓ | ✓ | ✓  | ✓  | All three trimesters during pregnancy & 3 months, 3 years after birth | (77) |

|                                        |               |              |      |      |                               |                                                                                                                                                            |    |   |   |   |                                                                        |      |
|----------------------------------------|---------------|--------------|------|------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---|---|---|------------------------------------------------------------------------|------|
| <b>Qatar</b>                           | QA1           | 2017-Present | 3000 | 3000 | Maternal and child Health     | BO, Apgar Score, Biological samples, Q, PDS, neurodevelopment, colostrum, ultrasound                                                                       | ✓  | ✓ | ✓ | ✓ | Pregnancy, birth, neonatal phase (planned FU up to 5 years)            | (78) |
| <b>United Arab Emirates</b>            | UAE1          | NA           | 221  | NA   | Breastfeeding                 | Breastfeeding                                                                                                                                              | NA | ✓ | - | - | At delivery & 1 month after delivery                                   | (79) |
|                                        | UAE2          | 2002 (*)     | NA   | 125  | Infant feeding practices      | Q, BO                                                                                                                                                      | -  | ✓ | - | - | At delivery & 3, 6, 15 months after birth                              | (80) |
|                                        | UAE4          | 2002         | NA   | 205  | General health of infants     | BO, Maternal characteristics of car transportation, frequency of infant health problems, of infant medications, utilisation of medical facilities for care | -  | ✓ | - | - | Birth, 3, 6 and 15 months                                              | (81) |
| <b>Collaboration between countries</b> | Qatar/Lebanon | 2015-Present | NA   | 500  | Effect of nutrition on health | BO, Q, Blood tests                                                                                                                                         | ✓  | ✓ | ✓ | - | During pregnancy, at delivery & 4, 6, 9, 12, 18, 24 months after birth | (82) |

Note. (\*) enrollment duration <1 year

(#) Pregnancy complications: infertility, preeclampsia, premature rupture of membrane, diabetes, placenta abruption, chorioamnionitis

Abbreviations: BO: birth outcomes; LBW: low birth weight; VLBW: Very low birth weight; NICU: Neonatal Intensive Care Unit; GDM: Gestational Diabetes Mellitus; Q: Questionnaires; BDI-II: Persian version of Beck Depressive Inventory II; EPDS: Edinburgh Postnatal Depression Scale; GHQ: General Health Questionnaire; SSA: Social Support Appraisal; NOS: Network Orientation Scale; GR: Growth Restriction; TEOAEs: Transient Evoked Otoacoustic Emissions; NO: Neurological Outcomes; ND: Neurodevelopment; BMI: Body Mass Index; NA: Not Available; PO: Pregnancy Outcomes; cCMV: Congenital Cytomegalovirus; FFSD: Female Sexual Distress Scale-Revised; BDI: Beck Depression Inventory; TE: Traumatic Events; SE: Sexual Experiences; SBE: Survey Subjective Birth Experience Questionnaire; DASS-21: Depression-Anxiety-Stress Scale; GHQ-12: 12 Items General Health Questionnaire; iSUA: Isolated Single Umbilical Artery; SSTAI: Spielberg State Trait Anxiety Inventory; AAS: Adult Attachment Scale; PBI: Parental Bonding Instrument; CMFAS: Cranley's Maternal Fetal Attachment; IADPSG: International Association of Diabetes and Pregnancy Study Groups; MRI: Magnetic Resonance Imaging; CRIB II: Clinical Risk Index for Babies.