Supporting Information on the methods used in this review

This review uses the PRISMA guideline and the PRISMA 2009 checklist. Two of the authors independently performed a systematic literature search in the databases PubMed, Embase, Toxline and Web of Science in January 2014 and an updated search in January 2015.

Inclusion- and exclusion criteria:

- Only articles in English language were included, to ensure that all details of the study were understood.
- The purpose is to investigate a biomarker or identify cases of in utero alcohol exposure
- Only peer-reviewed original articles were included
- The considered biomarker must be
  - neonatal or maternal
  - measurable during pregnancy or immediately after birth
  - detectable in living human populations

The following search strategies were applied:

- PubMed: (alcohol OR alcohols OR ethanol OR alcohol consumption OR alcohol abuse) AND (biomarker OR biological marker OR biomarkers OR biological markers) AND (neonatal OR prenatal OR maternal OR fetal). Limits: English articles and journal articles, 693 hits.
- Toxline: (alcohol OR alcohols OR ethanol OR alcohol consumption OR alcohol abuse) AND (biomarker OR biological marker OR biomarkers OR biological markers) AND (neonatal OR prenatal OR maternal OR fetal). Limits: English articles, journal article, 121 hits.
- Embase:
  1. biomarker.mp. or biological marker/
  2. alcohol consumption/ or alcohol.mp. or alcohol/ or fetal alcohol syndrome/ or alcohol abuse/
  3. neonatal.mp.
  4. prenatal.mp. or prenatal exposure/
  5. maternal.mp.
6. fetal.mp.
7. 3 or 4 or 5 or 6
8. 1 and 2 and 7
9. limit 8 to /English language and article) (266 hits)

- Web of Science using the function all databases: (alcohol OR alcohols OR ethanol OR alcohol consumption OR alcohol abuse) AND (biomarker OR biological marker OR biomarkers OR biological markers) AND (neonatal OR prenatal OR maternal OR fetal). Limits: English articles and articles, 291 hits.

The search resulted in 1371 publications, 480 duplicates were removed. Based on abstracts, 769 publications were excluded. In total, 122 references were downloaded and read, 53 articles were selected for data extraction. Data were extracted to ensure that existing knowledge on the field were captured.

Data extracted from the articles are summarized in appendices S1–S3 in the supporting information.