STUDY CRITIQUE GUIDELINES

(Based on STROBE, Elm et al 2007)

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|  | Items to look for: |  |
| Title and Abstract | Study design mentioned or deducible?  Informative abstract-what was done, what was found? | Study Design: Case-Control Study pregnancies (singleton)=600 300 refugee cases, 300 nonrefugee controls  Purpose: To compare the clinical characteristics and pregnancy outcomes between refugees and nonrefugees  Conclusion: refugees had poor antenatal care but  no adverse perinatal outcomes were observed |
| Introduction |  |  |
| Background/ Rationale/Objectives | Study Question(s)  (what is/are the hypothesis(es)?) | Compare the clinical characteristics and pregnancy outcomes (maternal health, pregnancy outcomes and neonatal results) between refugees and nonrefugees. |
| Methods |  |  |
| Study Design | Specified? Look for clues. Prospective, retrospective? Does study start with exposure, or start with disease? Both? Unit of measurement? | Retrospective cohort study, case-control  Unit of measurement: pregnancies (singleton) |
|  | Begin to consider advantages/disadvantages of selected study type. | Potential problems with removing individuals with missing data, may bias study.  Advantages: this was an inexpensive and time efficient study since data was extracted from hospital records. |
| Setting |  |  |
|  | Location, data sets used, [possibly sampling framework], periods of recruitment, follow up, data collection | Babies were delivered at Sisli Hamidiye Etfal Training and Research Hospital (Istanbul, Turkey)  Studied at maternity center in Istanbul, Turkey |
| Participants |  |  |
|  | Cohort-eligibility criteria, methods of selection, methods of follow-up  Evaluation of non responders  Case-control-eligibility criteria, sources and methods of case ascertainment and control selection, matching etc.  Selection of subjects (How many selected? How many included in analysis? potential for selection bias?) | All data was extracted from the hospital’s database system  Cases: Pregnant Syrian refugees  Controls: Pregnant Turkish Nonrefugees  Patients with insufficient hospital data and or systemic disorders were excluded from the study |
|  | Reviewed and Approved by Institutional Review Board? | The study was approved by the Institutional Review Board of Sisli  Hamidiye Etfal Training and Research Hospital |
| Variables |  |  |
| Exposure(s) | Definition of exposure?  Methods of measuring these variables?  Potential for information bias? Misclassification? Differential/non differential? | Exposure: Refugee status  No misclassification, Turkish Citizenship would automatically rule out refugee status, these women were receiving maternal care as mandated by the Turkish government. |
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| Outcome(s) | Definition of “case” or disease outcome?  Methods of measuring these variables?  Potential for information bias? Misclassification? Differential/non differential? | Refugees were the cases  Primary outcome of interest was the difference of maternal age among two groups.  Secondary outcomes: prevalence of adolescent pregnancies,  obstetric outcomes, hemoglobin levels. |
| Potential confounders | What potential confounders were considered? How were confounders measured?  What methods were used to address confounding? In study design? In analysis? | Maternal origin (country of birth and/or ethnic origin)  This was a known potential confounder based on results from previous studies |
| Effect measure modification | any considered? | Multiparous and Premiparous women |
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| Biases | Methods to address bias? How did the authors ensure that the data/information collected was relevant, accurate, valid? | Methodology does not describe any methods to address bias |
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| Statistical methods of analysis | Methods to control for confounding? Methods to examine subgroup effects or interactions? | They did not control for cofounding  Subgroup analysis was conducted |
|  | How were missing data addressed? | If insufficient hospital record, woman was removed from study |
|  | Cohort-loss to follow up, Case control-matching, Cross-sectional-sampling | 300 cases- refugees, 300 controls- nonrefugees, all delivered at same hospital |
|  | Population based sampling-weighting in analysis? | No |
|  | Sensitivity analysis? | No |
|  | What measures of effect calculated?  (OR, RR etc.) Appropriately considered?  Chance evaluated? | Odds Ratio |
| Results |  |  |
| Participants | Number of participants at each stage of study, eligible, included in study, completed follow up, analyzed.  Reasons for non-participation?  Response diagram? | 600 total, 300 cases, 300 controls |
| Descriptive data | Characteristics of study participants (demographic, clinical, social), exposures, potential confounder results  (often table 1). |  |
| Outcome data | Report numbers of participants with outcome or cases and controls (depends on study design). |  |
| Main results | Reports confounder adjusted estimates with 95% Confidence intervals (or standard error if continuous variables). Specify confounders and rationale for inclusion. May show unadjusted and adjusted effect estimates side by side (or in an appendix.  Are the author’s conclusions appropriate? |  |
| Other analyses | Sensitivity analysis, interactions, subgroups |  |
| Discussion |  |  |
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| Key results | Summarize results with respect to study hypothesis. | * Syrians were significantly younger than Turkish patients. * percent of adolescents 12–19 years were significantly higher in the Syrian patients   (14.3 vs. 5.3 %, p<0.001).   * 41.3 % of the refugee patients had no antenatal care. However, this ratio was only 7.7 % for the control group (p<0.001). * Preterm birth rates showed no difference between the groups * Post-term birth rates were significantly higher in the control group. * Low Birthweight (<2500 gr), oligohydramnios, stillbirth and fetal anomaly rates were not different between the two groups. |
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| Interpretation | Cautious interpretation? Considers limitations, results from other studies, other relevant evidence? (for example, consistency or coherence with other research) | Could be used to assess maternal outcome risk for refugee women |
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| Generalizability | Can the results of the study be generalized to a wider population? | Could be generalized to other refugees groups |
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| Limitations and Strengths | Discuss with respect to study design, measurement error, potential for systematic error and how it was addressed | Huge potential for error, problematic creation of cohort, dropping those that did not have complete medical records |
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| Causal Criteria | Temporality, dose response, strength of effect, coherence, consistency, biologic plausibility, analogy | No |
| Other Information |  |  |
|  |  |  |
| Funding | Source of funding, potential for conflict of interest, transparency | Not listed |