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Inequalities and stillbirth: a meta-narrative review

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Review question

The aim of this review is to undertake an inter-disciplinary evidence synthesis (using a meta-narrative approach) to understand how structural factors (health system, living in poverty), lifestyle factors (smoking, obesity), and bio-clinical factors (maternal infection, non-communicable disease, fetal growth restriction) intersect to increase stillbirth risk to improve interventions to manage at-risk pregnancies.

The broad research question is: What is the relationship between inequality and stillbirth, how has this been studied, and with what effects?

The measurable objectives are:

1. To review the current body of knowledge of the relationship between inequalities and stillbirth across the natural and the social sciences;
2. To provide new insights into the interplay of biological, clinical, cultural and socioeconomic factors in increased stillbirth risk;
3. To explore the impact of interventions on inequalities;
4. To provide a narrative summary of this research for stakeholders tasked with reducing preventable stillbirth.

Searches

The following databases will be used to identify eligible studies for inclusion as part of the scoping searches:

MEDLINE® (Life sciences, medicine and biomedicine)
Embase® (Biomedical)
CINAHL® (Nursing and Allied Health Professionals)
PsycINFO® (Psychology and the behavioural and social sciences)
AJOL® (African Journals on-line)
Global Index Medicus
Popline (includes LILACS [Latin America and the Caribbean])
Historical abstracts
Humanities International Complete
Race Relations Abstract
SocIndex
Lexis Library
Lexis Nexus

Types of study to be included

This is a meta-narrative review with no restrictions on type of study to be included.

Condition or domain being studied

Stillbirth is a profound human tragedy. The experience of stillbirth involves physical implications for the mother, together with intense grief and lasting psychological trauma for both parents and wider family.

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Studies have shown that stillbirth is associated with anxiety, depression and post-traumatic stress disorder in mothers, couples, siblings and grandparents.

The UK has the third highest rate of stillbirth among the 35 high-income countries of the world. Against a background of political, public and professional interest in halving the UK's stillbirth rate by 2030, and significant inter-disciplinary research effort to prevent or to improve maternity care services, there is longstanding evidence, across high-income countries, that the risk of stillbirth remains highest for the poorest families. Almost half (46%) of stillbirths remain of unknown cause, and inequalities in stillbirth risk demand more attention.

What is missing from current research agendas is an overarching synthesis of clinical and social science evidence to clarify the range of individual, social and biological mechanisms of increased stillbirth risk, the intersections between these mechanisms, and strategies to tackle them. There is also an urgent need to identify where interventions may decrease stillbirth risk for some, but may inadvertently increase inequalities for others. This meta-narrative review seeks to fill this gap in response to international interest in reviewing evidence from all relevant research traditions to address the unanswered questions surrounding stillbirth risk, and an NHS England Strategic Clinical Network need for this evidence to inform interventions to reduce the risk amongst women with complex social needs from vulnerable groups.

Participants/population

The population of interest for the purposes of our inclusion criteria is: Woman or Women or Mother or Mothers or Father or fathers or Family or Families or Husband or partner or partners or Parent or parents

Inclusion criteria

Any study design investigating stillbirth and inequality
Any study in high-,middle- or low-income settings

Exclusion criteria

Any study published in non-English language
Any study of pregnancy loss before 20 weeks
Any study of perinatal loss in the neonatal period
Any study involving participants who had assisted conception (as identified by authors)

Intervention(s), exposure(s)

The exposures to be reviewed are deprivation or low income or poverty, or violence or abuse, or consanguinity, or ethnicity, or discrimination, or race or racism or racial, or migrant, or migration, or maternal age, or adolescence, or nutrition or obesity, or overweight or underweight, or smoking, or alcohol or drug or substance or chemical, or nonattendance, or neighborhood.

The interventions to be reviewed are:

growth chart or biomarkers or movement, or count, or support, or continuity of care or caseload.

The outcomes to be reviewed are:

stillbirth or perinatal death or pregnancy loss or miscarriage or fetal death or foetal death or feticide or foeticide or intrauterine death after 20 weeks pregnancy gestation.

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Comparator(s)/control

Not applicable.

Primary outcome(s)

Stillbirth incidence

Timing and effect measures

Effect measure exposure to inequality

Secondary outcome(s)

Not applicable

Data extraction (selection and coding)

Key results will be extracted, collated and grouped. Modified data extraction forms will be developed from existing published meta-narrative reviews and other types of review the team have been involved with in relation to stillbirth. Included studies will then be tabulated by tradition.

Risk of bias (quality) assessment

All articles that meet the inclusion criteria will be independently assessed by two researchers (NC,KF) and the principal investigator (CK) to minimize bias. Quality appraisal of quantitative studies will be undertaken using the appropriate checklists from the Critical Appraisal Skills Programme (CASP) Toolkit. Checklists formed from this process will be used to grade papers into categories A, B, C or D, with group A representing papers of the highest quality. Papers will be assigned to groups according to how many criteria fulfilled (i.e. Category A papers not fulfilled 0-1 of the marked criteria; Category D papers not fulfilled ?6 criteria). Qualitative appraisal will be undertaken according to the checklist described by Walsh and Downe and articles graded A – D in accordance with Downe and Simpson. A grades will be allocated to papers with no or few flaws where the study credibility, transferability, dependability, and confirmability is high; B, some flaws, unlikely to affect the credibility, transferability, dependability, and/or confirmability of the study; C, some flaws which may affect the credibility, transferability, dependability, and/or confirmability of the study; D, significant flaws which are very likely to affect the credibility, transferability, dependability. Any differences in appraisals will be discussed with the wider research team until a final decision is reached.

Strategy for data synthesis

The defining feature of meta-narrative reviews is their illumination of a complex topic area from multiple angles in a unified narrative synthesis. The synthesis stage involves summarizing each tradition in coherent individual accounts (including elements of data aggregation) and then comparing and contrasting the resultant meta-narratives to highlight similarities and differences. This process of contestation between the disciplines/traditions leads to higher order constructs and conclusions where recommendations can be made (i.e. in circumstances such as X, don't forget to think about y).

Quantitative studies

Quantitative meta-analysis will be used if the included studies are sufficiently homogeneous. In the event included quantitative studies are too heterogeneous they will be summarized narratively, separate from the qualitative evidence synthesis in the first instance, and then incorporated alongside into an overall typology of inequality and stillbirth.

Qualitative studies

A modified meta-ethnography approach will be used for qualitative evidence synthesis comprising 4 stages:1) Familiarization and quality appraisal; 2) Data extraction (direct participant quotations and author's thematic interpretation); 3)Coding into initial concepts; 4) Interpretative synthesis into emergent and final

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themes to be presented in a typology.

Analysis of subgroups or subsets

Not applicable

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Conflicts of interest

None known

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