**Effectiveness of participatory mothers' group interventions to improve child's nutritional status: a systematic review**

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**Review question(s)**
How effective are participatory mothers' group interventions in improving their feeding practices for children and their nutritional status?

**Searches**
We will search the following databases: PubMed/MEDLINE, Cochrane Library, CINAHL, Web of Science, SocIndex, PsycINFO. We will also hand search international organization databases and PhD thesis databases using the references of certain papers of interest. Searches will be limited to abstracts published in the English language and will be limited by year of publication from 1978 (Alma Ata declaration year, when community participation was first described as an important component of primary health care) to the end of March 2015.

**Types of study to be included**
Randomized controlled trial (RCT), non-randomized trials, cohort, quasi-experimental, observational, cross-sectional studies, and other comparative observational studies as well as multiple case studies and evaluation reports. We will not include single case studies, letters, editorials, reviews, and books.

**Condition or domain being studied**
Child undernutrition contributes to about 45% of the 6.3 million child deaths every year (Liu et al., 2012, UNICEF, 2014). Undernutrition is caused by myriad of factors including poor feeding practices, childhood illnesses, and socio-demographic disadvantages (Black et al., 2008). Ensuring optimal infant and young child feeding (IYCF) practices is the key to improve nutritional status and thus promote the survival, growth and development of the child (Kushwaha et al., 2014).

Mothers are the primary caregivers of children in most communities. When mothers participate in group social activities, they are able to communicate with each other and exchange knowledge among themselves. Participatory mothers' group interventions have potential to improve IYCF practices and child’s wellbeing (Lewycka et al., 2013). These interventions empower mothers through peer counseling and shared decision making (Younes et al., 2015). Evidence is scarce and inconsistent on the effectiveness of participatory mothers' group interventions on feeding practices and child’s nutritional status. No systematic review has been conducted to examine such effectiveness and their effect on policy and practice. This systematic review aims to collate and summarize evidence on the effectiveness of mothers’ groups in improving the feeding practices and nutritional status.

**Participants/ population**
Mothers of children under 5 years old

**Intervention(s), exposure(s)**
Inclusion criteria
1. Participatory interventions including peer nutrition counseling, shared decision making, grandmothers/elders to mother nutrition counseling OR
2. Nutrition-focused participatory interventions involving mothers’ groups with mothers themselves as key drivers.

Exclusion criteria
1. Top-down nutrition interventions e.g. distribution of ready-to-use therapeutic foods (RUTF), blanket supplemental feeding programs, and cash transfer.

**Comparator(s)/ control**
We will include studies with and without control groups. If applicable, comparator will be comparable mothers’ groups who have children under 5 years old and did not receive the interventions. We will also compare outcomes between pre and post intervention, where applicable.
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Outcome(s)
Primary outcomes
Child nutritional status measured as underweight, wasting and stunting according to WHO Child Growth Standards
a. Underweight: weight for age < -2 standard deviations (SD)
b. Wasting: height for age < -2 SD
c. Stunting: weight for height < -2 SD
Secondary outcomes
Feeding practices for children measured through
a. Breast feeding (exclusive breastfeeding and duration): number of months
b. Initiation of complementary feeding: age in months
c. Continued breast feeding duration (number of months)
d. Feeding frequency: number of meals per day
e. Step up period during complementary feeding: age in months
f. Dietary diversity: measured as the number of types of foods fed to the child in one day

Data extraction, (selection and coding)
Paired researchers will conduct the literature search and review the articles for eligibility. We will discuss disagreements on eligibility of study until a consensus is reached. If required, we will consult the supervisor for final decision.

Risk of bias (quality) assessment
We will assess each selected study for selection bias, performance bias, detection bias, attrition bias and reporting bias using GRADE criteria.

Strategy for data synthesis
We will conduct a descriptive analysis of individual studies according to the type of intervention, duration, outcome, quality and risk of bias. We will analyze the effectiveness of intervention, based on the nature of reported outcomes. If we find enough studies with quality data, we will conduct a meta-analysis to examine the effectiveness of mothers’ group-based empowerment interventions

Analysis of subgroups or subsets
None planned at this time

Dissemination plans
The review will be published in a peer reviewed scientific journal

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Conflicts of interest
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Ongoing

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Stage of review at time of this submission

| Stage of review at time of this submission                  | Started | Completed |
|-------------------------------------------------------------|---------|-----------|
| Preliminary searches                                        | Yes     | No        |
| Piloting of the study selection process                     | No      | No        |
| Formal screening of search results against eligibility criteria | No      | No        |
| Data extraction                                             | No      | No        |
| Risk of bias (quality) assessment                           | No      | No        |
| Data analysis                                               | No      | No        |

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