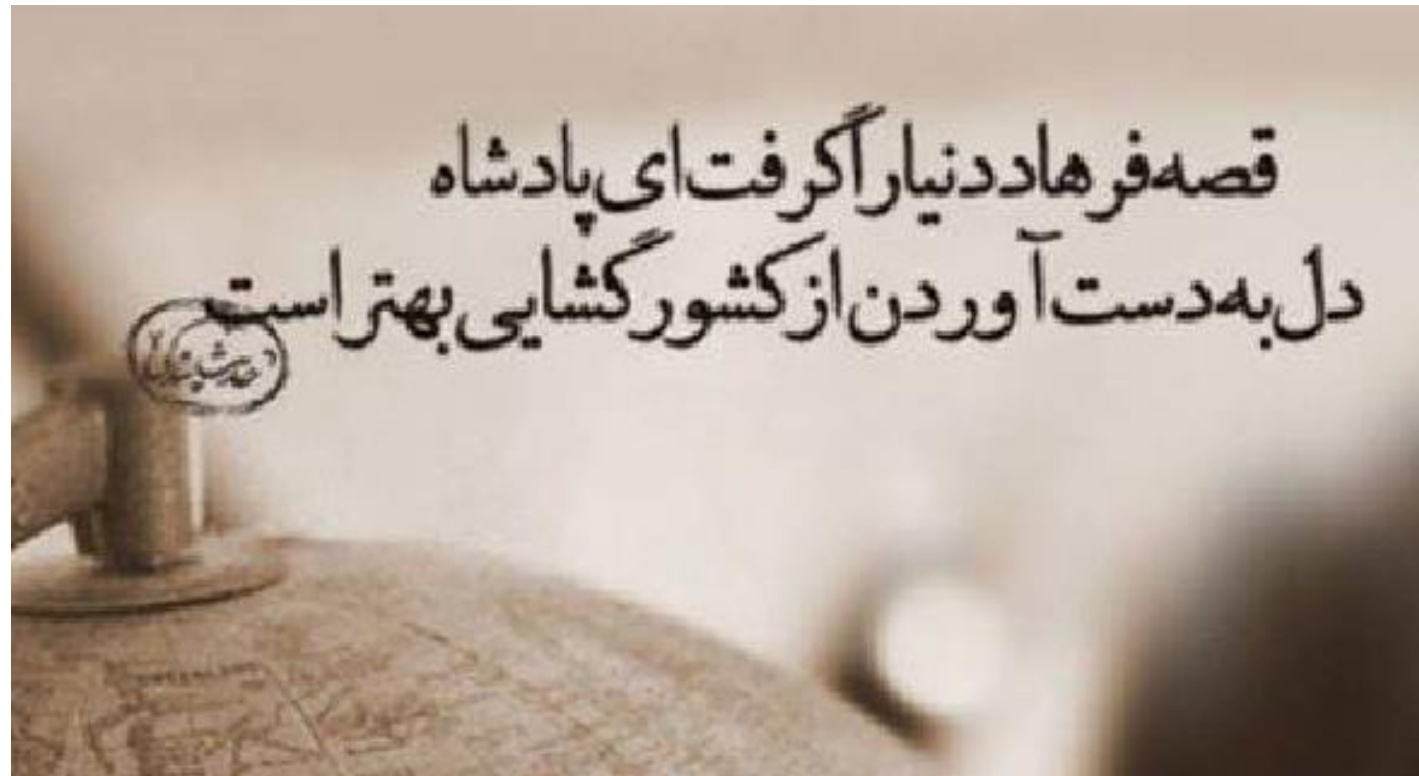


# بنام خدا



# HOW TO REPORT???

## DO INTERVENTIONS DESIGNED TO SUPPORT SHARED DECISION-MAKING REDUCE HEALTH INEQUALITIES? A SYSTEMATIC REVIEW AND META-ANALYSIS

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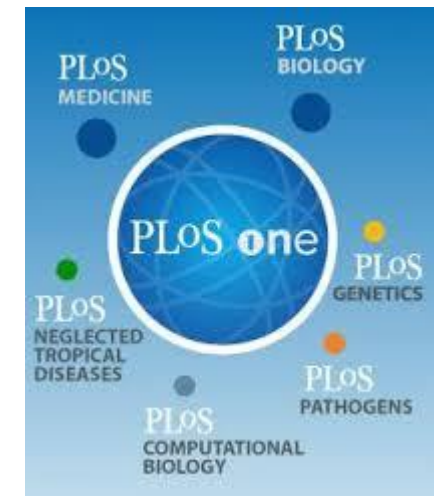
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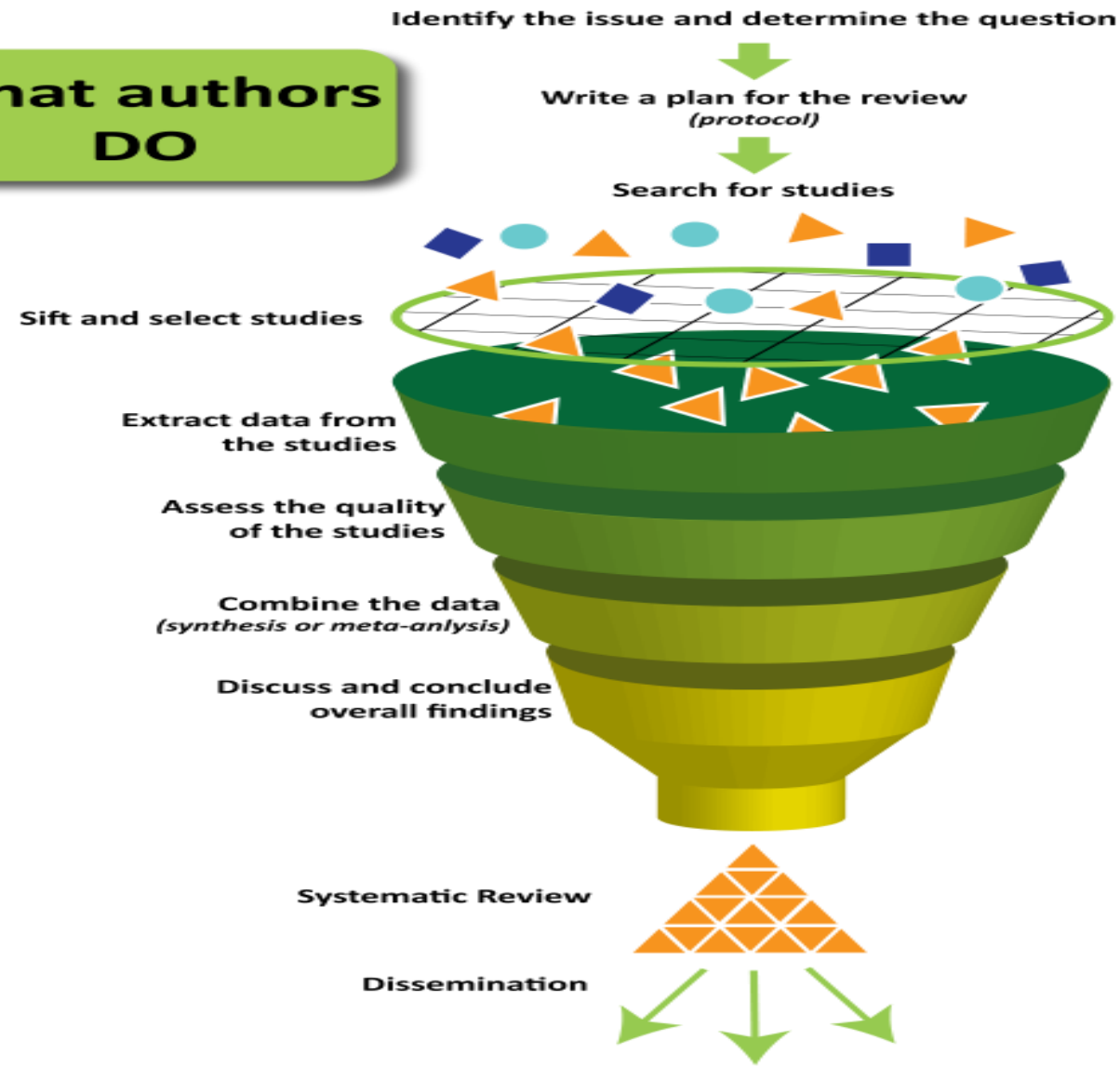


# Journal And Paper Informa

- PloS one, [journals.plos.org](http://journals.plos.org)
- 2014 / 2015 Impact Factor, 3.234
- Received December 13, 2013;
- Accepted March 18, 2014;
- Published April 15, 2014
- <http://dx.doi.org/10.1371/journal.pone.0094670>
- Cited by 35
- Open access, freely available online



# What authors DO

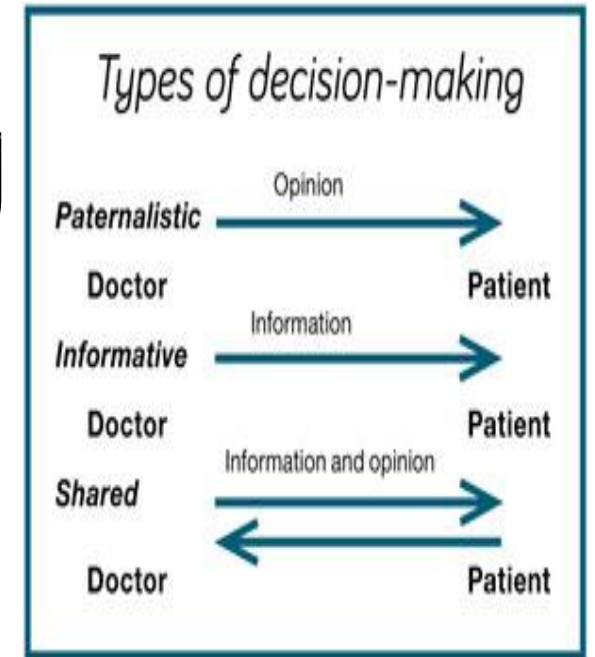


# PICO

- **P:** disadvantaged groups
- **I:** shared decision-making interventions
- **C:** other intervention
- **O:** all outcome for disadvantaged groups
- **D:** controlled trials and observational studies.

# Shared Decision-Making

- Increasing patient engagement in healthcare has become a **health policy priority**
- is one of the **consultation models** advocated to **promote patient activation** and **engagement** in healthcare.
- It offers a new paradigm to manage patients' growing demand for healthcare by **promoting collaborative decision-making** between patients and clinical experts.





# CON...

- **Shared decision-making** is a process in which clinicians and patients work together to select tests, treatments, management or support packages, based on clinical evidence and the patient's informed preferences.



# CON...

## No decision about me, without me

- there is a risk that SDM primarily attracts and benefits those who are natural information-seekers, who are educated, empowered and able to advocate for their needs, while marginalizing patients who are socially excluded and disadvantaged.
- The idea has therefore emerged that SDM may increase health inequalities.
- Research shows that involving patients in their care and listening to their views improves knowledge, decision outcomes, compliance with treatments, and reduces the uptake of elective procedures.
- However, engaging in SDM generally requires knowledge, confidence, self-efficacy and high levels of health literacy.



# CON...

- The benefits of decision support interventions have been demonstrated in a meta-analysis of over 80 randomized controlled trials.
- However, their impact on **disadvantaged groups**, who concurrently experience the highest burden of disease, have never been investigated in a systematic manner.



- This systematic review aims to **assess the impact of SDM interventions on patients from disadvantaged groups, and on health inequalities.**

# Methods



- A **protocol** was developed in advance to outline the objective and methods of the systematic review. It was registered in **Prospero** in March 2012 (Registration number CRD42012002200) [journal.pone.0094670.s001.DOC](https://doi.org/10.1371/journal.pone.0094670.s001.DOC)
- **Design**; Systematic review and meta-analysis of randomized controlled trials and observational studies

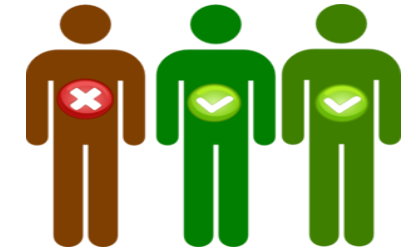
# CON...

- The following **research questions** were used to guide the systematic review process:
  1. Can SDM interventions improve outcomes for disadvantaged groups?
  2. Can SDM and related interventions decrease health inequalities?
  3. What are the features of SDM interventions that are beneficial to disadvantaged groups and influence health inequalities?

# SEARCH STRATEGY



- **Data Sources;** CINAHL, the Cochrane Register of Controlled Trials, the Cochrane Database of Systematic Reviews, EMBASE, HMIC, MEDLINE, the NHS Economic Evaluation Database, Open SIGLE, PsycINFO and Web of Knowledge were searched from inception until June 2012.
- [journal.pone.0094670.PDF](#)



- **Study selection and inclusion criteria**

We included all studies, without language restriction, that met the following two criteria:

(1) assess the effect of shared decision-making interventions on disadvantaged groups and/or health inequalities, (2) include at least 50% of people from disadvantaged groups, except if a separate analysis was conducted for this group.

- A **disadvantaged group** was defined as all people who are socially disadvantaged in respect of: 1) poverty/socioeconomic status; 2) ethnic minority status; 3) education/literacy level or 4) geographical location (areas described as disadvantaged/or medically underserved), using the author set criteria.

- [journal.pone.0094670.PDF](https://doi.org/10.1371/journal.pone.0094670)

# DATA EXTRACTION AND QUALITY ASSESSMENT

- **Independent double** data extraction was performed
- **pre-designed form** adapted from an earlier systematic review , and piloted prior to data extraction
- 19 items
- **Independent dual rating**
- Inconsistencies were resolved through moderated **discussions**
- RCT- Cochrane **risk of bias tool**, Observational studies were assessed against **Downs & Black** quality assessment checklist (26 items).



# EVIDENCE SYNTHESIS



- In studies where there were more than two groups, we included the groups that were closest to a **control and SDM** intervention groups.
- For the purpose of the meta-analysis, we included all **quantitative outcomes** that were directly relevant to SDM.
- exclude results relating to the acceptability of the intervention, which had primarily been measured **qualitatively**. However, these results were considered in the narrative analysis.

# CON...

- For studies that reported outcome measures with continuous data, **standardized mean difference (SMD)** was used to calculate effect sizes.
- For independent group designs, the SMD was calculated using the Hedges' g method.
- For repeated measures design, **Glass's  $\Delta$  method** was used to calculate the effect size.
- For studies that reported outcome measures as a proportion, **odds ratios** were used to calculate the effect size.

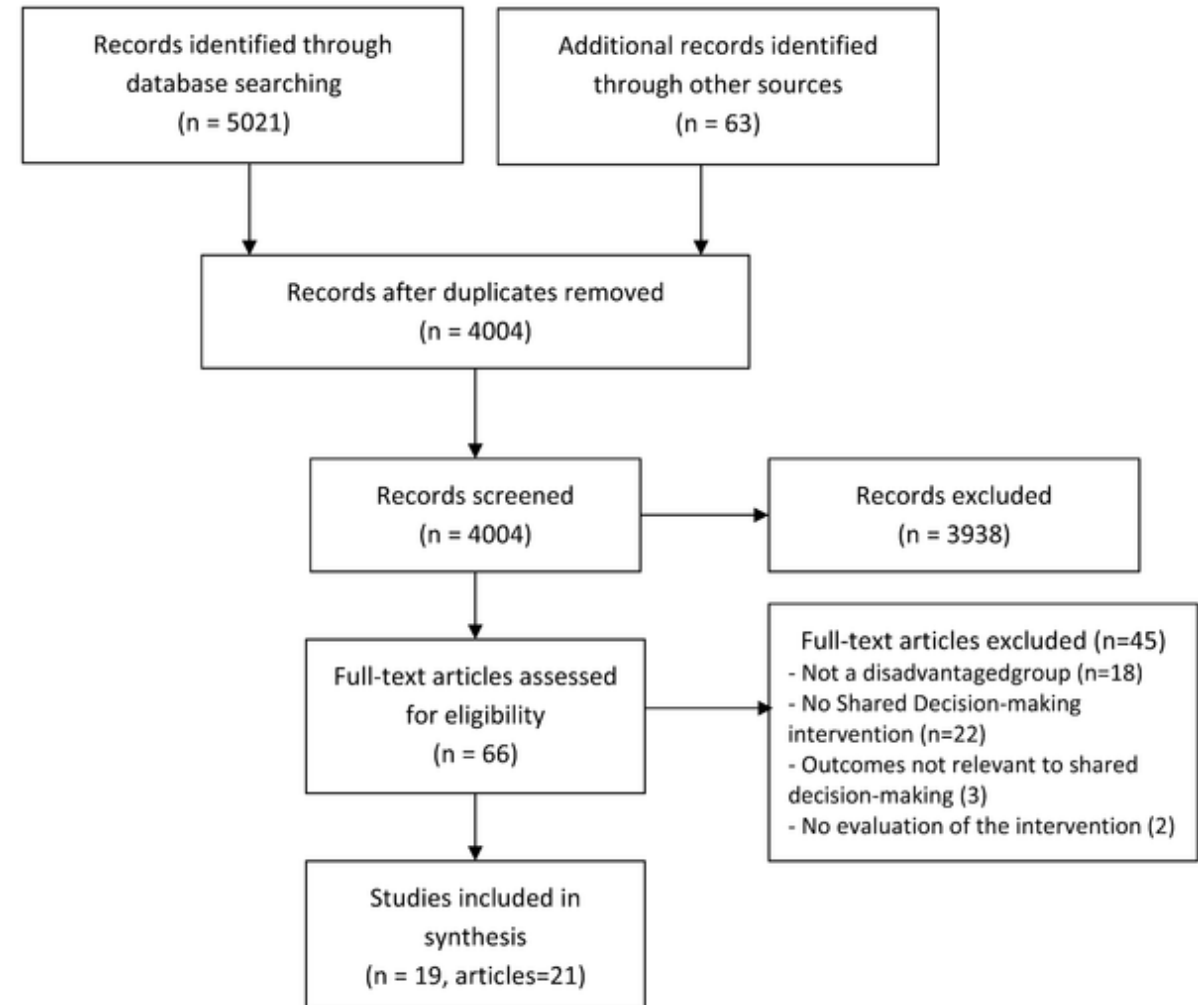
# CON...

- A **random-effects model** was used to estimate the weighted treatment effect, including 95% confidence intervals for each outcome measure.
- The **I<sup>2</sup> statistic** was reported to indicate the level of **heterogeneity** within the effect estimates.
- **Meta-regression** was used to investigate **the effect of covariates** on the overall effect estimates, and where numbers were feasible a stratified analysis was also undertaken.
- **Funnel plots** were used to investigate the **potential publication bias** of the studies included in the meta-analysis.
- Significance was assumed at  $P < 0.05$ .
- All analyses were undertaken **using Stata** (version 11).

# Results

## ■ Description of studies

- They presented data collected in primary care, secondary/tertiary care and community settings, in **three countries** (USA, Australia, Nicaragua) with 84% of studies undertaken in the USA.
- We note that 53% of all studies included were published in the **past two years**.
- The total number of participants across all included studies was **4505**.



**Table 1.** Characteristics of included studies.

Study	Design	Participants	N	Intervention	Outcomes	Quality score
Bylund 2011	Before/after pilot study	Minority ethnic group (African American: 40.6%; Asian: 40.6%; Hispanic: 12.5%; White: 6.2%)	32	Communication skills workshop.	Anxiety; Patient report of communication behaviour; Patient intent of future use of communication skills; Acceptability of the intervention.	12/26
Cooper 2011 <sup>1</sup> *RCT		Low socioeconomic status and minority ethnic group (African American: 62%, Asian: 1%, American Indian: 0.7%, White: 36% and 76% unemployed)	279	Pre-consultation coaching delivered by trained community health workers focussing on engagement, activation and empowerment skills.	Physician communication behaviours; Patient perceived involvement in care and patient ratings of physicians' participatory decision-making; Blood pressure; Self-reported medication adherence.	Cochrane risk of Bias assessment (see Figure 2)
Drake 2010*	Quasi-experimental	Minority ethnic group (African American:100%)	73	Small group education sessions about PSA testing designed to promote knowledge and self-efficacy among African American men.	Knowledge; Decisional conflict scale; Decision self-efficacy; Preference for control.	14/26
Driscoll 2008*	Observational study	Low socioeconomic status compared to high socioeconomic status and minority ethnic groups	361	Two interventions: 1) About PSA testing only 2) About other health issues and screening for colon cancer.	Knowledge; Discussion about PSA test with physician; Intention to have the PSA test.	5/26

- [journal.pone.0094670.PDF](https://doi.org/10.1371/journal.pone.0094670)

# CON...

- Characteristics of disadvantaged groups
- Interventions
- Methodological quality
- Data available for meta-analysis
- **Meta-analysis**
  - ✓ Continuous data
  - ✓ Binary data
  - ✓ Publication bias
- **Narrative synthesis**
  - ✓ Attributes of the decision-making process
  - ✓ Treatment or screening preferences, intentions and behavior
  - ✓ Adherence and health outcomes
  - ✓ Intervention's acceptability
  - ✓ Health literacy
  - ✓ Effect on health inequalities

[journal.pone.0094670.PDF](https://doi.org/10.1371/journal.pone.0094670)



# DISCUSSION

## ■ Main Findings

- This review suggests that SDM interventions **significantly improved outcomes** in disadvantaged groups:
- **increased knowledge, informed choice, participation in decision-making, decision self-efficacy, preference for collaborative decision making and reduced decisional conflict.**

# CON...

- Given the **varying quality and designs** of the included studies, it is important to **interpret these results with caution**, and bear in mind the significant effect of **Drake's study as an outlier**
- **Disadvantaged groups** may therefore benefit from SDM interventions **more than** higher literacy/higher education groups.

# STRENGTHS AND WEAKNESSES

- Given the **paucity of controlled research** in this area, we purposefully decided to include all study designs.
- **Heterogeneity**, Random effect model
- a **stratified analysis** was undertaken to investigate how the overall effect estimate varied by **study design**.
- considerable efforts to identify all eligible studies, **published and unpublished** by searching the grey literature, conference proceedings, using a “cited by” search and “related articles” search in PubMed and by contacting experts in this area through social media

# CON...

- The **funnel plots** showed that there was a **lack of studies with a high number of participants.**
- the sample size was generally small and follow-up was not systematic and limited
- **Comparison with other studies**

# CONCLUSIONS

- Promoting SDM in clinical settings is an **ethical imperative** for all clinicians and a priority on the policy agenda.
- This review demonstrates the **beneficial impact of SDM interventions** on disadvantaged groups, across various outcomes, and highlights the potential for SDM and related interventions **to reduce health inequalities** when the intervention is adapted to disadvantaged groups' needs.

