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Economic Empowerment Interventions and Their Association with Reproductive Health Outcomes

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Abstract

Economic empowerment interventions, cash transfers, microfinance, and combined economic-and-training programs, are widely promoted as levers for improving women's and girls' reproductive health, yet the underlying evidence is considerably more heterogeneous than that promotion often suggests. This article synthesizes the literature relating economic empowerment to reproductive health outcomes, tracing conceptual and measurement frameworks for women's empowerment and agency; randomized cash transfer trials and the systematic reviews that pool them; microfinance and combined economic-health interventions, with particular attention to the IMAGE trial in South Africa; household-survey evidence linking empowerment indices to contraceptive use and skilled maternity care; and intimate-partner violence as both an outcome and a mediating pathway. We find that the strongest and most consistently replicated effects come from designs explicitly targeted at the reproductive-health outcome of interest, whether through health-linked conditionality or an accompanying gender-norms curriculum, while economic empowerment pursued as a general goal shows weaker and more heterogeneous downstream reproductive-health effects, and in some gender-normative contexts economic interventions without an accompanying norms component have been associated with increased, not decreased, intimate-partner violence. Measurement inconsistency across studies of "empowerment" and "agency" further limits how confidently pooled estimates in this literature can be read, leaving a more precise but still incomplete map of when, how, and for whom economic empowerment translates into better reproductive health.

Keywords: women's economic empowerment; reproductive health; cash transfer programs; microfinance interventions; intimate partner violence

1. Introduction

Reproductive health and economic status have been entangled in public health and development thinking for decades, but the direction of causality, and the practical question of which economic interventions actually move the reproductive-health needle, have proven far harder to pin down than the intuitive story suggests. The intuitive story is simple enough: a woman with an independent income, control over savings, or an asset in her own name has more say over whether, when, and with whom she has sex, whether she uses contraception, and whether she seeks antenatal or maternity care, and so economic empowerment should translate more or less directly into better reproductive health outcomes. The empirical literature is considerably less tidy. Cash transfers, microfinance, savings groups, and vocational or livelihoods programs have been trialed against outcomes ranging from contraceptive uptake and unmet need for family planning to adolescent pregnancy, HIV and HSV-2 incidence, skilled birth attendance, and intimate-partner violence (IPV), and the results are a genuine mixed bag: some designs move some outcomes substantially, others move nothing detectable, and a few move outcomes in directions program designers did not anticipate.

This article synthesizes that literature. Our organizing premise is that "economic empowerment" is not a single lever but a family of related interventions, unconditional and conditional cash transfers, microcredit, group-based savings, asset transfers, vocational training, and combined economic-plus-health or economic-plus-gender-training designs, and that each interacts with reproductive health through a different, and only partially overlapping, causal pathway [1]. A cash transfer conditioned on school attendance operates primarily by keeping girls in the classroom and out of early marriage; unconditional transfers operate more through relaxing a household budget constraint and, in some designs, reducing the economic pressure that pushes girls toward transactional sex; microfinance paired with a health or gender-training curriculum operates through household bargaining power and social network effects as much as through income itself [2,3,4]. Distinguishing these pathways matters for practice, because a program that succeeds through one mechanism will not automatically reproduce its results when the mechanism is absent, and the literature is, in our reading, considerably more honest about this

heterogeneity than popular summaries of "what works" in women's economic empowerment tend to suggest.

We trace five interlocking strands of evidence: the conceptual and measurement literature on women's empowerment and its relationship to fertility and reproductive autonomy; cash transfer trials and the systematic reviews that have tried to synthesize them; microfinance and combined economic-health interventions, with particular attention to the IMAGE study in South Africa as the most thoroughly followed trial in this space; the household-survey literature relating empowerment indices to contraceptive use and skilled maternity care; and intimate-partner violence as both an outcome in its own right and a mediating pathway between economic status and reproductive health. We close with an honest accounting of where the evidence remains thin, contradictory, or simply under-tested, because that accounting is, in our view, at least as useful to a program designer as a list of interventions that "work."

A scope note before we proceed. This is a literature synthesis, not a new meta-analysis or a report of primary data collection; where we cite a specific effect size, it is a number the original study or systematic review actually reports, and we have tried to be explicit about which reviews find null or inconclusive results rather than only citing the interventions that succeeded. The reproductive health outcomes literature on economic empowerment is, more than most areas of applied public health research, prone to publication and framing bias toward positive findings, and a synthesis that only reports the successes would misrepresent the state of the evidence.

It is also worth being explicit about why this synthesis groups such structurally different interventions, a one-time asset transfer, a recurring cash stipend, a multi-year microfinance-plus-curriculum program, a household-level empowerment index derived from survey items, under a single umbrella. The programmatic literature itself increasingly treats "economic empowerment" as a portfolio category precisely because funders and governments choose among these instruments when designing a reproductive-health-adjacent program, and a synthesis organized instrument-by-instrument, rather than outcome-by-outcome, is closer to the decision a policymaker actually faces: given a fixed budget and a

reproductive-health goal, which family of economic intervention, if any, is worth the investment, and under what conditions. That framing also explains why we treat intimate-partner violence as both an outcome and a mediating pathway rather than setting it aside as outside the scope of "reproductive health" narrowly defined; several of the trials reviewed here measure IPV and reproductive-health outcomes in the same cohort using the same underlying mechanism, household bargaining power, and separating the two artificially would misrepresent how the original studies were designed and analyzed.

2. Conceptualizing Economic Empowerment and Reproductive Autonomy

Kabeer's influential framework treats empowerment not as a state but as a process, one in which a person moves from a condition of being denied the ability to make strategic life choices to a condition of possessing that ability, and she decomposes the process into resources (the preconditions), agency (the process of decision-making itself), and achievements (the outcomes) [1]. That three-part structure has proven durable precisely because it forces a distinction the reproductive-health literature needs and does not always make: giving a woman a resource, income, an asset, a loan, is not the same thing as giving her agency over how that resource is used, and agency is not the same thing as an improved reproductive-health achievement. A woman can receive a cash transfer and still have no more control over her own fertility decisions than before, if the transfer is captured by a husband or mother-in-law, or if the household's underlying gender norms around contraceptive decision-making are untouched by the extra income.

The capability-based reading of empowerment also clarifies why "reproductive health outcomes" is itself not a single target but a bundle of related but distinct achievements: contraceptive uptake, timing and spacing of births, freedom from coerced sex, access to antenatal and skilled maternity care, and freedom from intimate-partner violence are conceptually related, all downstream of a woman's capacity to exercise strategic control over her own body and household circumstances, but they are not interchangeable, and an intervention that moves one need not move the others. A cash transfer that increases a girl's bargaining power over the timing of her first pregnancy, for instance,

operates through a different set of household and social dynamics than a savings program that increases a married woman's ability to negotiate contraceptive use with a resistant partner, even though both would be coded as "economic empowerment interventions improving reproductive health" in a sufficiently coarse review. Holding onto that granularity is one of the main reasons this synthesis organizes itself around distinct families of intervention design rather than collapsing everything into a single pooled claim.

This distinction runs directly through the empowerment-and-fertility literature. Upadhyay and colleagues' widely cited review of the relationship between women's empowerment and fertility found a consistent, though not universal, association between higher empowerment (measured variously as decision-making power, mobility, or attitudes toward gender equity) and lower fertility and greater contraceptive use, but flagged that the relationship's direction is genuinely difficult to establish from cross-sectional survey data: women with fewer children may simply have more time and opportunity to accumulate the kind of household status the surveys code as "empowerment," rather than empowerment causing the lower fertility [5]. Prata and colleagues' companion review, focused specifically on family planning, reached a similar conclusion from a partially overlapping evidence base: empowerment (household decision-making, financial autonomy, freedom of movement) is associated with contraceptive use and reduced unmet need in the majority of studies reviewed, but the relationship is not uniform across contexts, and several studies found no significant association or even a negative one in settings with particularly restrictive gender norms, where a wife's greater relative economic standing sometimes provoked resistance rather than accommodation from her husband [6].

The measurement problem sits underneath both reviews. Wood and colleagues' recent scoping review of how "agency" specifically, as opposed to empowerment more broadly, has been measured in family-planning research documents wide inconsistency: some studies use a single item on who decides about contraceptive use, others build multi-item indices spanning household purchases, healthcare-seeking, and mobility, and the resulting agency scores are not straightforwardly comparable across studies, which complicates any

attempt to synthesize "the effect of empowerment on family planning outcomes" into a single number [7]. Diamond-Smith and colleagues approached the same conceptual knot from the other direction, asking not whether empowerment predicts family planning use but whether family planning use itself empowers women, and found that the evidence for that reverse pathway, family planning access building agency rather than merely reflecting it, is real but similarly heterogeneous across measurement approaches and country contexts, with the clearest gains concentrated in settings where contraceptive access was newly introduced or substantially expanded rather than already established [8]. Read together, these reviews caution against treating "economic empowerment improves reproductive health" as a settled, uniform finding; it is better read as a family of context-dependent associations whose sign and magnitude depend heavily on what is measured, how, and in which gender-normative environment.

3. Cash Transfer Programs and Reproductive Health Outcomes

Cash transfers are the most rigorously evaluated economic intervention in this literature, in large part because their delivery mechanism (a scheduled payment) lends itself naturally to randomized designs, and the evidence base is correspondingly large and, on balance, more cautious about reproductive-health effects than program advocates sometimes suggest. The most influential single trial is the Zomba Cash Transfer Program in Malawi, which randomized adolescent girls and young women to receive conditional or unconditional cash transfers (or to a control arm) and tracked, among other outcomes, HIV and HSV-2 prevalence at 18 months. Baird and colleagues found that girls in the cash transfer arms had markedly lower HIV and HSV-2 prevalence than controls, a striking result given that neither transfer arm was explicitly designed as an HIV-prevention intervention, and the authors interpreted the effect as most plausibly operating through reduced economic pressure toward transactional and cross-generational sex among the cash recipients [2]. A companion analysis of the same trial, examining whether the conditionality (requiring school attendance) mattered independently of the cash itself, found that unconditional and conditional transfers produced broadly similar effects on several outcomes, including reduced early marriage and teenage pregnancy among girls who had already dropped out of

school at baseline, a group the conditional arm could not reach because they were no longer enrolled, suggesting the income effect itself, not only the schooling requirement, was doing meaningful work [3].

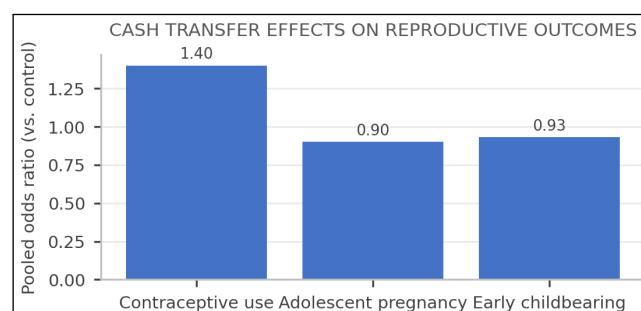


Figure 1: Pooled odds ratios (with values below 1.0 favoring the cash-transfer group) for contraceptive use, adolescent pregnancy, and early childbearing from Kneale et al.'s 2023 systematic review and meta-analysis of cash transfer interventions in low- and middle-income countries -- only the pregnancy estimate reached (marginal) statistical significance [9].

Systematic reviews that have tried to pool evidence across many cash transfer trials tell a considerably more measured story than the Zomba results alone might suggest. Kneale and colleagues' 2023 meta-analysis, covering cash transfer interventions targeting contraceptive use, adolescent pregnancy, and early childbearing across low- and middle-income countries, found the pooled effect on contraceptive use to be statistically inconclusive (odds ratio 1.40, 95% CI 0.79 to 2.48), a modest and only marginally significant reduction in adolescent pregnancy (odds ratio 0.90, 95% CI 0.81 to 1.00), and no significant overall effect on early childbearing (odds ratio 0.93, 95% CI 0.84 to 1.05), though a subgroup analysis found suggestive evidence that conditional transfers specifically, as opposed to unconditional ones, reduced early childbearing, with the unconditional-transfer subgroup showing considerably more heterogeneity across studies [9]. Khan and colleagues' earlier systematic review of conditional and unconditional cash transfers aimed specifically at contraceptive use reached a broadly consonant conclusion: transfers conditioned on health-related behaviors (clinic visits, contraceptive uptake itself) showed more consistent positive effects than transfers conditioned on unrelated behaviors like school attendance or transfers with no conditions attached at all, which is a reasonably intuitive finding but one worth stating plainly, because it implies that "cash transfers improve contraceptive use" is not really the generalizable claim the broader empowerment literature sometimes treats it as; what the evidence more precisely

supports is that cash transfers explicitly conditioned on the target reproductive-health behavior tend to move that behavior, while transfers aimed at a different target (schooling, poverty reduction generally) move reproductive health outcomes only inconsistently and via more indirect pathways [10].

McQueston, Silverman, and Glassman's broader review of interventions to reduce adolescent childbearing, which includes cash transfers alongside schooling subsidies, livelihoods programs, and comprehensive sexuality education, similarly found cash transfers among the more consistently effective intervention categories for delaying childbearing, but cautioned that most of the trials reviewed were conducted in a fairly narrow set of settings (chiefly sub-Saharan Africa and Latin America) and typically over short follow-up windows, leaving the durability of the effect past the transfer period, and its generalizability to other regions, genuinely open questions [11]. Burchett and colleagues' complementary review of structural interventions (a category that includes cash transfers, school subsidies, and microfinance) for adolescent contraceptive use specifically found that the evidence base, while growing, remains concentrated in a small number of well-studied programs, and flagged that many trials measure proximate outcomes like school retention or program uptake far more rigorously than they measure the reproductive-health outcomes that are the programs' ultimate justification [12]. Lisboa and colleagues' review of cash transfer effects on birth and child growth outcomes, examining a related but distinct set of reproductive and maternal-child health endpoints, found generally favorable but inconsistent associations with birth weight and reduced neonatal mortality, again concentrated in conditional programs with explicit health-service-utilization requirements, reinforcing the pattern that conditionality tied to the health system appears to matter more than the cash transfer mechanism in isolation [13].

The most comprehensive attempt to synthesize unconditional cash transfers specifically, across the full range of health outcomes rather than reproductive health alone, is Pega and colleagues' Cochrane review, which pooled evidence from dozens of trials in low- and middle-income countries and found that unconditional transfers modestly increased the likelihood of having any health expenditure and improved food security, with

more mixed evidence for specific clinical outcomes, and importantly found relatively few of the included trials measured reproductive-health-specific endpoints at all, which the reviewers noted as a gap rather than as evidence of null effects [14]. That absence of measurement, rather than a demonstrated absence of effect, recurs as a theme throughout this literature and is worth flagging early: a meaningful share of what looks like "inconclusive evidence" on cash transfers and reproductive health outcomes is really "under-measured evidence," where trials designed around poverty, food security, or schooling outcomes simply did not collect the reproductive-health data that would let a later meta-analysis include them.

4. Microfinance and Combined Economic-Health Interventions

If cash transfers test what unconditional or lightly conditioned money does on its own, microfinance-based interventions test a more layered hypothesis: that access to credit, especially when combined with group-based savings, peer support, and explicit health or gender-equity training, can shift household bargaining power and social norms in ways a one-time or recurring payment cannot. The single most influential trial in this tradition is the Intervention with Microfinance for AIDS and Gender Equity (IMAGE) study in rural South Africa, which randomized women to receive a village-bank-style microfinance program alone, the same microfinance program combined with a structured gender- and HIV-training curriculum, or neither, and followed participants for intimate-partner violence, HIV risk behavior, and related outcomes over several years [4]. The combined arm, microfinance plus training, produced the clearest and most widely cited result in this literature: participants in that arm reported a substantially and statistically significantly lower rate of past-year physical or sexual intimate-partner violence than the comparison group, a reduction the original trial and subsequent analyses attributed to the combination of economic standing and an explicit curriculum addressing gender norms and relationship power, rather than to the microfinance component alone [4,15].

Follow-up analyses of the same cohort add useful texture to that headline finding. Kim and colleagues' qualitative and quantitative analysis of the mechanism found that the reduction in IPV operated substantially through improvements in women's self-confidence,

household decision-making, and social capital, that is, through the empowerment pathway the training curriculum was explicitly designed to build, rather than through the loan-driven income increase in isolation, and noted that women who had not attended the training sessions regularly saw smaller gains even within the combined arm [15]. Pronyk and colleagues' follow-up analysis focused on younger participants (aged 18 to 35) found the combined intervention reduced self-reported unprotected sex with non-spousal partners and other HIV risk behaviors in that subgroup, although the trial was not statistically powered to detect an effect on HIV incidence itself over its follow-up period, a limitation the authors were explicit about rather than overselling a behavioral finding as a biological outcome [16]. A later analysis explicitly comparing the incremental contribution of the health-and-gender-training component against microfinance alone, the design question at the heart of the whole combined-intervention literature, found that the training component added meaningfully beyond what microfinance access alone delivered on the IPV and empowerment measures, providing some of the clearest trial-based evidence that the "combined" design is doing genuine additional work and is not simply a more expensive version of a microfinance-only program [17].

Table 1: Selected trials and systematic reviews of microfinance and cash-transfer interventions reporting intimate-partner violence (IPV) or related reproductive-health-adjacent outcomes, illustrating the pattern of more consistent effects for interventions paired with an explicit gender/health curriculum. [4,15,17,18,19].

Study / Review	Design	Population	Reported Finding
Pronyk et al., IMAGE trial [4]	Cluster-randomized trial; microfinance + training vs. microfinance alone vs. control	Rural South Africa, women in microfinance-eligible households	Combined arm showed a significant reduction in past-year physical/sexual intimate-partner violence relative to control
Kim et al., IMAGE follow-up [15]	Quantitative + qualitative mechanism analysis of IMAGE cohort	Same IMAGE trial participants	IPV reduction linked to gains in confidence, household decision-making and social capital, strongest among regular training attendees
Kim et al., IMAGE incremental-effects analysis [17]	Comparison of combined vs. microfinance-only arms	Same IMAGE trial participants	Training component added significant incremental benefit on empowerment and IPV measures beyond microfinance alone

Study / Review	Design	Population	Reported Finding
Leite et al., systematic review [18]	Systematic review of cash transfer and microcredit programs and IPV	Multiple LMIC settings, review of primary studies	Mixed evidence: most studies show reduced IPV, a minority show no effect or an increase, particularly without a norms-focused component
Raj, Silverman & Klugman [19]	Longitudinal cohort analysis	Married women, rural Maharashtra, India	Economic empowerment generally protective against IPV, but association weaker or reversed where husbands held more inequitable gender attitudes at baseline

Two systematic reviews have since tried to place the IMAGE results in a broader context of microfinance and cash-transfer programs targeting intimate-partner violence specifically, and both counsel caution against over-generalizing from a single well-resourced trial. Leite and colleagues' review of economic empowerment interventions, cash transfers and microcredit programs together, and their effect on IPV found the evidence genuinely mixed: several studies reported reductions in IPV consistent with IMAGE, but a meaningful minority reported no effect or, in a small number of cases, an increase in violence, particularly in settings where the economic intervention shifted a woman's relative status within the household abruptly and without any accompanying norms-focused component, echoing the "conflict" or "backlash" hypothesis that a purely economic intervention can, in some gender-normative environments, provoke resistance rather than accommodation from a partner [18]. Raj, Silverman, and Klugman's longitudinal analysis of economic empowerment and IPV risk among married women in rural Maharashtra, India, is a particularly clear illustration of this more cautious pattern: greater relative economic empowerment (measured through asset ownership, earnings, and financial decision-making) was associated with reduced risk of IPV over the study period for most women, but the protective association was substantially weaker, and in some specifications reversed, among women whose husbands held more rigid or inequitable gender attitudes at baseline, underscoring that the household's prior gender-normative environment functions as an effect modifier rather than a background detail [19]. Taken together with the IMAGE findings, the microfinance-and-training literature supports a fairly specific, more conditional claim than "microfinance

reduces violence against women": combining economic access with an explicit curriculum addressing relationship power and gender norms appears considerably more reliable at improving reproductive-health-adjacent outcomes like IPV than economic access alone, and the risk of a null or adverse result rises in settings where household gender norms are left entirely unaddressed.

5. Household Empowerment, Contraceptive Use, and Maternal Care

A separate and larger evidence base, built mainly on Demographic and Health Survey (DHS) data rather than on trials of a specific program, examines the cross-sectional association between household-level measures of women's empowerment, decision-making authority, control over earnings, freedom of movement, and attitudes toward IPV, and reproductive-health outcomes including contraceptive use, unmet need for family planning, and skilled birth attendance. This literature cannot establish causality the way a randomized cash-transfer trial can, but its scale and geographic breadth make it a useful complement to the smaller number of intervention trials, particularly for outcomes like skilled maternity care that are harder and more expensive to test experimentally.

Blackstone's analysis of DHS data from Ghana found that women's empowerment, and specifically household decision-making status, was positively associated with modern contraceptive use, but that the association operated differently depending on whether the empowerment measure captured a woman's status relative to her husband or her absolute level of decision-making authority, with the relative measure showing the more consistent association, a distinction that again underscores how sensitive this literature's conclusions are to measurement choices [20]. Ntoimo and colleagues' study of rural Nigeria found that composite empowerment indices, combining economic, decision-making, and attitudinal components, predicted greater use of skilled maternity care, though individual sub-components of the index varied considerably in their predictive strength, with financial autonomy showing a stronger association with skilled-attendance uptake than attitudinal measures of empowerment did [21]. Two recent analyses of the 2022 Tanzania DHS reach compatible but not identical conclusions: Koray and colleagues found that lower women's

empowerment was associated with higher unmet need for family planning, particularly among younger and rural women [22], while Kim, Chun, and Cho's analysis of the same survey round found that specific empowerment domains, decision-making power over health and major purchases in particular, were more strongly linked to modern contraceptive use than others, such as attitudes toward wife-beating, which showed a weaker independent association once decision-making power was accounted for [23]. The consistency of the broad direction of association, empowerment correlating with greater contraceptive use and skilled-care utilization, across Ghana, Nigeria, and Tanzania, three quite different settings surveyed with the same DHS instrument family, is one of the more reassuring patterns in this literature, even as the specific empowerment sub-domain doing the predictive work varies from study to study.

This DHS-based literature intersects directly with the adolescent-pregnancy determinants literature. Yakubu and Salisu's systematic review of determinants of adolescent pregnancy across sub-Saharan Africa identified poverty and low economic status, alongside low educational attainment and restrictive gender norms, as among the most consistently reported risk factors across the studies they reviewed, situating economic disadvantage not as a background variable but as a proximate driver of adolescent pregnancy risk in its own right, which is the mirror image of the cash-transfer and empowerment findings discussed above [24]. Lassi and colleagues' meta-analysis of contraceptive use, empowerment, and agency specifically among adolescent girls and young women reinforces this picture from the contraceptive-use side, finding that greater agency, encompassing decision-making power, freedom of movement, and access to resources, was associated with higher contraceptive use across the pooled studies, though, consistent with the broader agency-measurement problem Wood and colleagues documented, the strength of the association varied considerably depending on which agency sub-domains a given study measured [25,7].

6. Open Challenges

Several limitations recur across this literature and deserve to be named plainly rather than smoothed over. First, the causal evidence base remains lopsided toward

a small number of well-resourced trials, the Zomba cash transfer program and the IMAGE study chief among them, that have been analyzed and re-analyzed from many angles precisely because good, longitudinal, trial-quality data on economic-empowerment-and-reproductive-health outcomes is genuinely scarce [2,4]. The broader DHS-based empowerment literature is large but observational, and the two evidence bases do not always point in exactly the same direction on mechanism, even when they agree on the broad sign of the association [5,20].

Second, measurement inconsistency is not a minor footnote but a substantive barrier to synthesis. "Empowerment" and "agency" are measured through single items in some studies and multi-domain indices in others, and the sub-domains that compose those indices, financial control, decision-making, mobility, attitudes toward violence, are not consistently associated with reproductive-health outcomes across studies, as the Tanzania DHS analyses alone illustrate [22,23,7]. A pooled effect size computed across studies using materially different empowerment measures risks averaging over genuinely different constructs, and several of the reviews cited here (Kneale et al., Khan et al., Prata et al.) are explicit that this heterogeneity limits how confidently their pooled estimates should be read [9,10,6].

Third, the conditionality question, whether a cash transfer or microfinance program needs to be explicitly tied to the reproductive-health behavior of interest, or paired with an explicit gender-norms curriculum, to reliably move that behavior, is better evidenced than it was a decade ago but still not fully resolved. The pattern across Khan et al.'s review, the IMAGE trial's combined-versus-microfinance-alone comparisons, and Kneale et al.'s conditional-versus-unconditional subgroup analysis all point in a similar direction, that a more targeted design produces more reliable effects, but "more reliable" is not the same as "consistently effective," and a non-trivial share of even well-targeted interventions in this literature produced null results [10,17,9].

Fourth, and perhaps most consequentially for program design, the backlash or conflict risk documented by Leite et al. and by Raj et al. means that economic empowerment interventions cannot be assumed to be

reproductive-health-neutral-at-worst; in specific gender-normative contexts, shifting a woman's relative economic standing without addressing the household's underlying power dynamics has been associated with increased, not decreased, risk of intimate-partner violence [18,19]. This is arguably the single most important qualification the literature offers to the simple "give her money, empower her" framing that still circulates in some development and public health discourse, and it is not adequately captured by pooled effect sizes that average protective and adverse individual-level effects into a modest net-positive point estimate.

Finally, measurement gaps in the trials themselves remain a quiet but real problem: as Pega and colleagues' Cochrane review noted, a meaningful share of cash transfer and economic empowerment trials simply did not collect reproductive-health-specific outcome data, having been designed around poverty, food security, or schooling endpoints instead, which means the true evidence base on reproductive-health effects is almost certainly larger than what current systematic reviews can access, and future trials in this space would benefit considerably from routinely including a minimal, harmonized set of reproductive-health and IPV measures even when those are not the primary outcome of interest [14].

7. Conclusion

The literature synthesized here supports a more qualified claim than the intuitive "economic empowerment improves reproductive health" framing, but a genuinely useful one. Economic empowerment interventions, cash transfers, microfinance, and combined economic-and-training designs, are associated with improved reproductive health outcomes with reasonable consistency, but the strength, direction, and reliability of that association depend heavily on intervention design (conditional versus unconditional, economic-only versus economic-plus-training), on which specific outcome and which specific empowerment sub-domain are being measured, and on the household and community gender-normative context into which the intervention is introduced [1,5,6]. The strongest, most consistently replicated evidence comes from designs that explicitly target the reproductive-health outcome of interest, whether through conditionality tied to health-service use or

through an accompanying gender-norms curriculum, as in the IMAGE study's combined arm and in cash transfer programs with health-linked conditions [4,10,13]. The weakest and most heterogeneous evidence concerns interventions that pursue economic empowerment as a general goal and hope reproductive-health gains follow as a byproduct, a pattern the pooled null and near-null estimates in Kneale et al.'s and Pega et al.'s reviews illustrate clearly [9,14].

None of this argues against economic empowerment interventions as a category; the evidence for their broader poverty, education, and household-welfare benefits is considerably stronger and less contested than the reproductive-health-specific evidence reviewed here. What it argues for is realism about what economic empowerment programs can be expected to deliver on reproductive health specifically, and honesty about the conditions, targeted design, attention to household gender dynamics, adequate outcome measurement, under which the intuitive link between a woman's economic standing and her reproductive autonomy actually holds. The field has moved, over roughly two decades of trials and reviews, from an assumption that economic empowerment straightforwardly improves reproductive health to a considerably more precise and more useful map of when, how, and for whom that holds true; extending that map, particularly into the under-studied territory of interventions that were never designed with reproductive health as an outcome at all, is the clearest remaining task for future research in this area.

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Conflict of Interest

The authors declare that they have no competing interests relevant to this work.

Data Availability Statement

This article synthesizes previously published literature and does not report new primary data; readers are directed to the cited sources for their respective data and code availability statements.

Ethical Approval

Not applicable. As a literature synthesis, this work did not involve the recruitment of human or animal subjects or the collection of primary data.

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