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Review

The safety, efficacy and acceptability of task sharing tubal sterilization to midlevel providers: a systematic review☆,☆☆,★,★★

Maria Isabel Rodriguez[a,*], Cristin Gordon-Maclean[b]

[a]Oregon Health & Science University Department of Obstetrics & Gynecology
[b]Marie Stopes International

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Abstract

Background: Task sharing is an important strategy for increasing access to modern, effective contraception for women and reducing unmet need for family planning.
Objective: The objective was to identify evidence for the safety, efficacy or acceptability of task sharing tubal sterilization to midlevel providers.
Search strategy: We searched PubMed, Cochrane and Popline for articles in all languages using the following key words: task sharing, tubal sterilization, midlevel providers, task shifting.
Selection criteria: All studies reporting on any measure of safety, efficacy or acceptability of tubal sterilization performed by any cadre of midlevel providers.
Data collection and analysis: Data were independently abstracted by two authors and graded using the United States Preventive Services Task Force rating for evidence quality. Heterogeneity of outcome measures precluded a meta-analysis.
Main results: Nine studies of fair to poor quality reported on safety and acceptability outcomes. Generalizability of findings is limited by inadequate sample size and lack of statistical comparisons. No study reported on long-term efficacy outcomes.
Conclusions: Well-designed clinical trials, of adequate sample size, are urgently needed to establish the safety, efficacy and acceptability of task sharing tubal sterilization to midlevel providers.

Keywords: Task sharing; Task shifting; Female sterilization; Tubal ligation; Midlevel provider

1. Introduction

Unintended pregnancy contributes significantly to maternal mortality and morbidity in developing nations [1,2]. Globally, large disparities exist in access to the most effective forms of contraception. The latest estimates are that 222 million women have an unmet need for modern contraception; the need is greatest where the risks of maternal mortality are highest [3,4]. In the least developed countries, 6 out of 10 women who do not want to get pregnant or who want to delay the next pregnancy are not using any method of contraception [4]. Unmet need for family planning is highest among the most vulnerable elements in society: adolescents, the poor, those living in rural areas and urban slums, people living with HIV and internally displaced people [5,6].

Multiple barriers to accessible, equitable and high-quality family planning care in developing nations exist; however, a critical barrier is a shortage of trained providers [7]. Human resource shortages in the health services are widely acknowledged as a threat to the attainment of the health-related Millennium Development Goals [7,8]. Task shifting, or task sharing, has been proposed as a strategy to optimize the

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★ Details of ethics approval: As a systematic review of published literature, no ethic submission was required.
★★ Implications: Task sharing of female sterilization to midlevel providers is a common practice globally. The evidence for the safety and efficacy of this practice is sparse. The desire to scale up availability of reproductive health services rapidly must not compromise quality of care. Rigorous evaluation and monitoring of programs can assist with both goals.
* Corresponding author. 3181 SW Sam Jackson Park Rd, UHN 50, Portland, OR 97239, USA.
E-mail address: rodrigma@ohsu.edu (M.I. Rodriguez).

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available work force to deliver essential health services to those in need. Task shifting is defined as the delegation of specific tasks to less specialized health workers [7]. Task sharing refers to a partnership in which different levels of providers do similar work, rather than having less-credentialed providers take over provision completely [8]. While these terms are fairly new, the concept has existed and been utilized in a range of settings successfully. Task sharing or shifting can occur within clinics or across different supply outlets [7,8].

Task sharing is a key strategy for reducing unmet need for family planning. While a wide range of modern, effective methods of contraception exist, inadequate numbers of providers to supply them exist, particularly in rural areas. The most effective forms of contraception, the long-acting and permanent methods [intrauterine device (IUD), implant, female or male sterilization] are particularly inaccessible due to the health worker shortage [9]. Multiple studies have examined the effectiveness and safety of task shifting delivery of injectable progestin or contraceptive pills, and provision of IUD by a range of midlevel providers [10,16]. The World Health Organization (WHO) recognizes task shifting as a key strategy to optimize reproductive health and has issued recommendations on which family planning services can be safely provided by different cadres of workers [7].

Tubal ligation (TL) is a highly effective method of contraception, and a key barrier to its use is the lack of trained providers [8]. Several country programs have begun task sharing or shifting TL to midlevel providers to try and expand method choice for women [9,17]. A wide variation exists in the training and educational background of midlevel providers of contraceptive services.

Prior to countries with human resources shortages of physicians deciding to scale up task sharing of TL, it is essential to confirm whether it is safe, effective and acceptable to women. TL is a major pelvic surgery and requires a provider who is capable of managing potentially life-threatening

Table 1
WHO definitions of health worker cadres[a]

Category	Definition	Alternative names
Advanced-level associate clinician	A professional clinician with advanced competencies to diagnose and manage the most common medical, maternal, child health and surgical conditions, including obstetric and gynaecological surgery (e.g., caesarean sections). Advanced-level associate clinicians are generally trained for 4 to 5 years post secondary education in established higher-education institutions and/or 3 years post initial associate clinician training. The clinicians are registered, and their practice is regulated by their national or subnational regulatory authority.	Assistant medical officer, clinical officer (e.g., in Malawi), medical licentiate practitioner, health officer (e.g., Ethiopia), physician assistant, surgical technician, medical technician, nonphysician clinician
Associate clinician	A professional clinician with basic competencies to diagnose and manage common medical, maternal, child health and surgical conditions. They may also perform minor surgery. The prerequisites and training can be different from country to country. However, associate clinicians are generally trained for 3 to 4 years post secondary education in established higher-education institutions. The clinicians are registered, and their practice is regulated by their national or subnational regulatory authority.	Clinical officer (e.g., in Tanzania, Uganda, Kenya, Zambia), medical assistant, health officer, clinical associate, nonphysician clinician
Auxiliary nurse	Has some training in secondary school. A period of on-the-job training may be included and sometimes formalized in apprenticeships. An auxiliary nurse has basic nursing skills and no training in nursing decision making. The level of training varies between countries from a few months to 2–3 years.	Auxiliary nurse, nurse assistant, enrolled nurses
Auxiliary nurse midwife	Has some training in secondary school and typically a period of on-the-job training. Like an auxiliary nurse, an auxiliary nurse midwife has basic nursing skills and no training in nursing decision making. They possess some of the competencies in midwifery but are not fully qualified as midwives.	Auxiliary midwife
Midwife	A person who has been assessed and registered by a state midwifery regulatory authority or similar regulatory authority. Their education lasts 3, 4 or more years in nursing school and leads to a university or postgraduate university degree or the equivalent. A registered midwife has the full range of midwifery skills.	Registered midwife, midwife, community midwife
Nurse	A graduate who has been registered to practice after examination by a state board of nurse examiners or similar regulatory authority. Education includes 3, 4 or more years in nursing school and leads to a university or postgraduate university degree or the equivalent. A registered nurse has the full range of nursing skills.	Registered nurse, nurse practicioner, clinical nurse specialist, advance practice nurse, licensed nurse, BS nurse, nurse clinician

[a] *Optimizing health worker roles to improve access to key maternal and newborn health interventions through task shifting*. Geneva: WHO, 2012.