

Infertility is One of the Leading Public Health Problems in the World

Sinisa Franjic

Independent Researcher, Republic of Croatia

Corresponding author

Sinisa Franjic, Independent Researcher, Republic of Croatia.

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ABSTRACT

Today, infertility is a part of our everyday life and one of the leading public health problems that more and more people are facing. The number of infertile couples ranges between 12 and 15 percent, with a trend of further increase.

Keywords: Infertility, Fertility, Women, Men, Health

Introduction

Improvement of infertility practice requires made strides preparing of proficient and logical staff, way better avoidance and treatment of sexually transmissible disease and puerperal and postabortal contamination, advance ponder of pathology and physiology of generation, and perfection of substitution forms such as fake insemination by donor and in vitro fertilization [1]. More broad consider of the pathology and physiology of propagation will create superior medicines. In specific, within the female the part of ultrasound in ovulation acceptance should be characterized and pulsatile LHRH mixture compared with other administrations. The exact hormonal and ultrasound occasions must be way better recorded to get it ovulatory dysfunction and rethink clinical ovulation to discover a treatment for this issue. Sperm transport and fertilizing capacity must be evaluated frequently. Within the male the capacity to initiate in vitro development of epididymal sperm and incitement of motility are of principal significance for extreme approaches to essential testicular failure and hindrance. Fake insemination by giver must be made much more broadly accessible and in vitro fertilization moved forward significantly to gotten to be a standard demonstrative and restorative method. To attempt this research, money related, research facility and clinical assets must be made and, to total the method, the data broadly spread so that all communities may benefit.

Oocytes

It has been recommended that the increment in chromosomal anomalies isn't straightforwardly due to the chronological age of the oocyte and its drawn out state of meiotic capture but that the ordinary oocytes are ovulated and chosen to begin with [2]. This theory would clarify why women who have untimely ovarian lacking have an expanded chance of chromosomally anomalous

fetuses as they close the conclusion of their regenerative life and may have diminished ovarian save. The best-known affiliation between maternal age and aneuploidy is for trisomy 21, Down's disorder, however a full understanding of the mechanism(s) remains slippery, and trisomic chromosomal awkwardness proceeds to be a major cause of human genetic disease. To encourage more extensive understanding of aneuploidy, its frequency has been examined cytogenetically at distinctive formative time focuses, most commonly either on develop gametes, on embryos or on tissues from clinically perceived pregnancies.

It is thought that anomalies in chromosome isolation emerge most commonly amid a broken to begin with meiotic division. Bits of knowledge into potential instruments were given numerous a long time back utilizing in vitro culture and given oocytes from women of distinctive ages to look at the isolation of chromosomes amid to begin with meiosis compared with perceptions on metaphase II oocytes. It was found that 64 of 179 meiosis II oocytes inspected had an anomalous haploid complement, but none included a entirety additional chromosome as would be anticipated by the classical show of non-disjunction. These comes about propose that untimely division of the centromere at meiosis I may be the foremost vital source of human trisomy. Embryonic chromosomal variations from the norm are a major cause of implantation disappointment and early pregnancy misfortune, subsequently accounting for the generally moo rates of human richness in normal and helped conceptions. Utilizing the most recent innovation of next-generation sequencing (NGS) of pre-implantation embryos amid in vitro fertilisation (IVF), it has been appeared that 43% have chromosomal variations from the norm, with 38% in those beneath 37 compared with 54% in those more seasoned, and a exceedingly noteworthy relationship with progressed maternal age.

Contraception

Likely the foremost vital advice that can be given to youthful individuals concerns appropriate methods of contraception [2]. Pelvic contamination, most commonly caused by Chlamydia trachomatis, comes about in extreme tubal harm in 10–30% of women after a to begin with assault, 30–60% after a moment assault and 50–90% after a third assault. Chlamydial pelvic inflammatory disease (PID) is regularly quiet, with the understanding having no idea that there was an contamination until severe grips and pelvic harm are famous at laparoscopy amid barrenness examinations.

The combined oral contraceptive pill (COCP) is the foremost useful prophylactic, and it too gives a few assurance against PID, decreasing the chance of hospitalization with PID by 50%. The component is by the impact of progestogens to thicken the cervical bodily fluid, subsequently hindering infiltration by spermatozoa and the microbes related with them. The COCP does not, be that as it may, bestow total assurance from sexually transmitted infections (STIs), and obstruction strategies of contraception ought to be utilized in expansion to the COCP, particularly by women who are not in a steady relationship. The COCP, be that as it may, has too been related with a multiplying of the hazard of cervical cancer, though any obstruction strategy of contraception that anticipates STIs ought to decrease the rate of cervical dysplasia and the resulting require for diathermy circle extraction of the anomalous range. Surgery to the cervix can lead to disturbances within the generation of cervical bodily fluid or to cervical stenosis and subsequently subfertility. In expansion, it may lead to cervical ineptitude and premature delivery. Issues related with cervical dysplasia ought to decay with the far reaching immunization of girls against human papilloma infection.

The intrauterine contraceptive device (IUCD) is thought to extend the hazard of creating a clinical PID by 50–100% compared with non-users, and certainly PID related with the nearness of an IUCD is frequently extreme. The hazard of PID is for the most part related to way of life, with a really moo rate of PID in IUCD clients who are in long-term, steady, monogamous connections. Of all the distinctive sorts of IUCDs, the progestogen-releasing IUCD [for example, Mirena® Intrauterine Framework (IUS)] shows up to limit the hazard of disease due to its impact on the cervical bodily fluid. We don't for the most part suggest the utilize of IUCDs in a nulliparous lady unless the lady expects that she is in a long-term relationship – an IUS seem, in any case, be advertised.

PID

There are three clear joins within the causal pathway for pelvic inflammatory disease (PID): lower genital tract sexually transmitted disease (STD) taken after by upper genital tract PID and after that tubal infertility [3]. This pathway moreover involves two clear connections that have a transient lag in clinical expression: STD driving to PID and PID driving to tubal infertility. The genital microbial environment, the person behavioral environment (e.g., sexual behavior), and the sociogeographic environment have covering impacts on these relationships. Neisseria gonorrhoeae, Chlamydia trachomatis, and anaerobic microbes are the foremost common pathogens related with upper genital tract disease. STD life forms at first

contaminate the cervix, endometrium, and tubal mucosa and get ready the tissue for ensuing polymicrobial contamination. A concurrent drawn out fiery reaction and inactive chlamydia disease of the endometrium and/or fallopian tube may encourage incline disease with oxygen consuming and anaerobic bacteria. The anaerobic bacteria cause harm by both coordinate impacts of harmfulness variables and auxiliary impacts on have protections. Hazard components for PID and infertility include age, contraceptive choice, and cigarette smoking. Other PID hazard components are race, recurrence of intercut, timing of coitus, sex hones, age of onset of sexual movement, past scenes of gonococcal PID, and douching. Other chance components for infertility are number of past PID scenes, seriousness of pelvic irritation, and chlamydia disease. Asymptomatic PID accounts for more than 50% of all PID cases. Atypical side effects (e.g., oligomenorrhea) or biochemical (e.g., metabolic or immunologic) markers may ought to be utilized to recognize PID. Tubal infertility happens in 10–30% of couples looking for infertility administrations in created nations. All studies show a solid relationship between STD/PID and infertility. The pathogenesis of infertility incorporates postinfectious scarring, microbiologic harmfulness, and have resistant components. The foremost taken a toll viable way to diminish tubal infertility is avoidance of lower genital tract STDs.

Fertility

A woman's fertility may be put at critical hazard when she experiences end of a pregnancy [2]. Suction end of pregnancy dangers harm to the cervix, in spite of the fact that this hazard is decreased by cervical arrangement with intravaginal prostaglandins preoperatively. Harm to the uterus by puncturing may occur, and pelvic disease, caused by the presentation of disease amid the strategy or auxiliary to held items of conception, happens after 5% of surgical terminations. There's wrangle about approximately the schedule utilize of antibiotic prophylaxis some time recently end of pregnancy, with clashing prove approximately its advantage since of the conceivable risk of actuating antibiotic resistance. The comes about of preoperative endocervical swabs are once in a while accessible by the time of the strategy. On adjust, we consider it prudent to offer prophylaxis [within the frame of tetracycline and metronidazole or amoxicillin/clavulanic acid (Augmentin)] to nulliparous ladies having a surgical end of pregnancy. Restorative end of pregnancy with the antiprogesterone mifepristone combined with a prostaglandin such as misoprostol carries a 5% chance of held items of conception and consequently a hazard of pelvic disease, in spite of the fact that in general this medicate combination likely leads to marginally less cases of ensuing infertility than surgical termination of pregnancy.

STIs may also have a significant impact on male fertility. Gonorrhea causes irreversible obstacle of the spermatic conduits, but it is much less predominant within the West than it was some decades back. Chlamydia trachomatis is presently the foremost common sexually transmitted pathogen in created nations, causing urethritis and epididymitis. Men ought to be empowered to utilize condoms until they are in a steady relationship in which they need to begin a family.

Typical fertility requires intact ovulatory function [4]. Ovulatory dysfunction is analyzed in around 15% of couples encountering

infertility and ought to be looked for as portion of the center fertility assessment. In the event that a persistent features a history of normal menstrual cycles, extending between 21 and 35 days, and experiences molimina (e.g., perimenstrual breast delicacy, bloating) and a few degree of menstrual cramping, it is profoundly likely that she is ovulating, and it could be a matter of a few wrangle about whether encourage documentation is vital. In addition, some patients will report location of an LH-surge when utilizing home-based ovulation indicator tests. In any case, it is reasonable to report presumptive ovulation with a fringe serum progesterone assurance performed within the anticipated luteal stage. A progesterone esteem surpassing 3 ng/mL is considered confirmatory. A progesterone concentration in a better run isn't imperative, as ovarian progesterone emission is pulsatile with significant inconstancy all through the day. Every day recording of the woman's basal body temperature (to identify a thermogenic move) and/or performing an endometrial biopsy within the luteal stage (to histologically distinguish and date secretory endometrium) are generally of memorable intrigued and now not routinely advised. When anovulation is analyzed, encourage assessment is shown to recognize an etiology such as polycystic ovary disorder, hypothalamic amenorrhea, or other endocrinopathies in arrange to suitably direct ensuing treatment.

It is suitable to briefly address the concept of "ovarian reserve" when talking about ovarian function. Follicular atresia may be a typical physiologic component of ovarian maturing, with consumption of follicles and oocytes commencing at around 20 weeks development in utero and proceeding until menopause. Ovarian save, whereas typically declining with progressing chronologic age, can shift significantly between ladies at any given age due to distinctive pattern follicular gifts and/or rates of atresia. Whereas different inactive and energetic tests have been utilized over the a long time (e.g., basal early follicular stage FSH and estradiol levels, clomiphene challenge testing), the foremost biomarkers utilized in modern hone are the evaluation of AMH (anti-Mullerian hormone) levels and basal AFCs (antral follicles) decided with transvaginal sonography. AMH levels underneath roughly 1.0 ng/mL and AFC <8–10 are by and large taken to mean reduced ovarian save. For the purposes of the current discussion, it ought to be emphasized that the utility of ovarian save testing is essentially for foreseeing treatment reaction to ovarian incitement with exogenous gonadotropins for IVF; it is utilized both for counseling purposes and the choice of an ideal medicine convention. Measures of ovarian save are something else ineffectively prescient of a woman's capacity to conceive; indeed within the setting of the helped reproductive technologies, ovarian save testing cannot dependably foresee pregnancy or non-pregnancy taking after treatment.

Conception

Spontaneous conception requires at slightest one-sided tubal patency, and fertility may moreover be impaired within the setting of either innate or procured uterine anomalies [4]. Subsequently, an appraisal of the life structures of the upper female regenerative tract is another center component of the infertility assessment. A few imaging modalities are accessible for the person or combined appraisal of uterine and tubal life systems, extending from radiologic strategies to 2D and/or 3D sonography, MRI (attractive resonance imaging), and endoscopy. In most hones, the principal procedures utilized within the essential fertility assessment are

hysterosalpingography (HSG) and/or saline mixture sonography (SIS, moreover named sonohysterography). The HSG, utilizing either water-based or lipid-soluble differentiate, has the advantage of evaluating both uterine and tubal life systems. An HSG can recognize inherent uterine peculiarities (unicornuate, septate, bicornuate) in expansion to the nearness of uterine fling abandons (polyps, myomas, intrauterine grips). Specifically recognizing between a uterine septum and a bicornuate uterus may require extra testing such as sonography or a pelvic MRI to better assess the outside uterine form. The HSG is additionally the pillar for assessing tubal patency and life systems. One-sided or respective proximal or distal tubal impediment can be identified and specifically the nearness of hydrosalpinx in cases of distal obstacle. Wrong positives are not unprecedented, especially in cases of suspected proximal tubal impediment, as may happen with transitory tubal fit. Execution of an HSG may, in and of itself, have a few restorative benefit within the setting of tubal patency, with improved pregnancy rates seen within the months following the strategy. The SIS involves the intracavitary ingrained of sterile saline with concurrent ultrasound imaging. The SIS could be a exceptionally touchy methodology for the discovery of endometrial polyps, submucous myomas, and other uterine pathology; in differentiate with the HSG, the echotexture of any identified intrauterine pathology can more specifically propose a polyp versus submucous myoma. Tubal patency can be deduced by the amassing of saline within the cul-de-sac during an SIS, but one cannot as clearly recognize one-sided versus reciprocal tubal patency, and the tubal life structures is less well defined than with an HSG. In case anatomic variations from the norm are identified, various helpful alternatives may be suggested, extending from agent hysteroscopy for intrauterine pathology to laparoscopy for suspected endometriosis and/or pelvic grips and IVF for occlusive tubal infection. Whereas routinely performed within the past, laparoscopy is now not suggested as a standard symptomatic component of the female infertility assessment, with potential special cases being cases with identified pelvic pathology or significant symptomatology.

The elemental introductory research facility assessment of the male is the standardized semen analysis. The male accomplice is inquired to deliver an ejaculated semen test after a specified restraint interim, by and large of 2-3 days. A total investigation quantifies the volume of the ejaculate and decides the sperm concentration, rate motility, and extent of sperm showing typical morphology. Per current World Health Organization criteria, ordinary semen parameters incorporate: an ejaculate volume of at slightest 1.5 mL, sperm concentration of at slightest 15 million/mL, a sperm motility of 40% or more noteworthy, dynamic motility of 32% or more prominent, and a morphology of 4% or more noteworthy typical shapes. Anomalous introductory semen examination bears rehashing; when a male calculate is identified, the male accomplice ought to be alluded to a urologist or andrologist with a clinical center on male infertility. Treatment alternatives for the male can extend from way of life modification to hormonal treatment, surgery for expansive varicoceles or anatomic hindrance, intrauterine insemination (IUI), IVF with intracytoplasmic injection (ICSI), or surgical sperm recovery for utilize with IVF in cases of obstructive or non-obstructive azoospermia (nonattendance of sperm within the ejaculate), depending on the fundamental etiology and seriousness of sperm impairment.

ICSI

Endeavors to extend the chances of pregnancy driven to another improvement within the 1990s: intracytoplasmic sperm infusion, known as ICSI [5]. In this IVF method the sperm and ova are not set in a petri dish so spermatozoa can fertilize the ova. Or maybe, the scholar captures a spermatozoon with a empty needle and after that infuses it specifically into an ovum. The spermatozoon is hence constrained into the egg.

ICSI increments the chances of pregnancy, particularly when the infertility problem is caused by low sperm check, destitute sperm motility, or other male fertility issues. In some cases it is the as it were way a handful can make an embryo. But ICSI moreover raises a unused set of moral concerns. It is frequently utilized when the sperm check is moo or spermatozoa are not competent of entering ova within the ordinary way, a sign the sperm is youthful or anomalous. Driving a spermatozoon into an ovum when something pertinent to the sperm is unusual runs an expanded chance of creating an fetus with a poor set of fatherly qualities.

In addition, the ordinary prepare of fertilization includes a arrangement of changes in both the spermatozoon and the ovum as the spermatozoon to begin with joins to and after that enters into the egg, a handle that takes hours. Coordinate infusion takes as it were minutes, and small is known around how bypassing the typical cellular modifications during fertilization will influence the consequent child. Also, the infusion suction a few fabric from the ovum and briefly misshapes its shape. At long last, numerous ICSI embryos are subjected to “assisted hatching,” a handle whereby the external covering of the developing life is scratched in an exertion to create it more likely to embed within the uterus.

The dangers of the aspiration and of the temporary deformation of the ovum and of scratching the surface of the developing life are not well caught on. In spite of the fact that preparatory follow-up ponders appeared no increment within the anticipated number of congenital deformities, they did propose higher rates of chromosomal anomalies and delays in neurological advancement for children duplicated this way. By 2002 we knew there were problems. A think about distributed within the New England Journal of Medicine appeared that women experiencing IVF who permitted ICSI uncovered their babies to twofold the hazard of a major birth defect compared with children conceived normally. In spite of the fact that typically a critical increment in hazard, we got to be beyond any doubt that the hazard of a major birth defect itself is generally low, so we are multiplying a low number.

ICSI got to be an infertility treatment without broad inquire about to set up its security for future children, and this was morally careless. ICSI is still in numerous ways a investigate convention being showcased as a treatment to couples frantically seeking to bear a child. Prudential thinking proposes that ICSI should have been tried in noteworthy investigate ponders some time recently it was offered as a clinical treatment, but the seriously crave for pregnancy on the portion of couples as well as doctors blinded both bunches to the potential hurts that can be delivered by the unused method. Prudential thinking moreover recommends that IVF faculty utilizing ICSI ought to completely illuminate

the ladies that the procedure is multiplying the hazard of a major birth deformity for their child or children compared with characteristic conception.

Male Problem

Male infertility has been depicted as a shape of infertility that's ineffectively responsive to essential treatment [6]. Reports show that as it were a little extent of male factor infertility is resolvable with essential strategies of treatment. By differentiate, male figure infertility is for the most part settled with auxiliary measures, such as manufactured insemination, intra-uterine insemination, in vitro fertilization and fetus exchange, intracytoplasmic sperm exchange, and child fostering/adoption.

In spite of the expanding rate and the trouble in treating male infertility, there has been constrained documentation of the leading causes and chance variables for male infertility. Understanding the causes and hazard variables will empower the recognizable proof of essential anticipation strategies, as well as successful strategies for the essential treatment of male infertility. Such understanding may moreover cultivate the method of deciding inventive auxiliary and tertiary approaches for managing with the problem.

A few causes and hazard variables have been hypothesized and/or demonstrated for male infertility and distributed within the writing. A few of these incorporate smoking, liquor admissions, drugs, weight, past or show testicular contaminations, presentation to environmental toxins, presentation of the balls to over the top warm, hormonal disarranges, testicular injury and ejaculatory/erectile disarranges among a few others. In any case, to date, there has been restricted documentation of considers that total and rank these potential causes and chance components in ways to empower the improvement of a agreement of the causal pathway for male infertility, and the distinguishing proof of straightforward preventive and treatment methodologies. Whereas the recognized hazard variables and causes have been more broadly characterized, the isolation of designs of causes and hazard variables will empower the detail of more lines of inquire about and advancements that will pinpoint the real components and forms driving to the current decrease being experienced in male fertility.

It is inside this setting that this scoping survey of distributed considers on the causes and hazard factors for male barrenness within the universal writing has been conducted. The destinations of the ponder are twofold: 1) to recognize distributed ponders on causes and chance variables for male infertility and pinpoint the driving causes reported around the world; and 2) to distinguish crevices within the writing relating to the causes and hazard components for male infertility empowering more centered inquire about and advancements. We hypothesize that climatic and natural variables would highlight as driving causes and chance variables for male infertility, due to the gigantic changes that have taken put in these spaces in later a long time, with the coming about affect on sperm generation and practicality. We accept that this exploratory inquire about will empower the distinguishing proof of novel approaches for anticipation and the essential treatment of male infertility.

Stigma

Social hypothesis clarifying stigma appears that fundamental social imbalances (such as those of sexual orientation) support stigma [7]. To begin with, certain groups are socially recognized and named based on issues of social significance in a certain verifiable and social setting (e.g. those who can or cannot/do not have children). Moment, negative judgements or qualities are distributed to these groups, making these groups “undesirable”, “irresponsible” or indeed “immoral” and a “threat” to the texture of society. Third, such naming and stereotyping make a chain of command of worth, in terms of a qualification between “them and us”. The fourth component is that the vilified groups, such as “women or men who are infertile”, can be embedded into a status progression of imbalance, legitimizing sanctions and vilification. These four components of stigma are supported by a fifth, the control inferred from existing social imbalances, such as those based on gender or class. Disgrace is ordinarily more brutally ordered on those in as of now minimized groups. Stigmatisation polices the ethical and social arrange and can hence be translated as the effort of control to support social standards and existing imbalances. Vilification has a few shapes: intrapersonal or disguised stigma; expected shame; interpersonal or sanctioned shame (verbally or physically ordered) and basic disgrace (e.g. lawfully or inside health offices).

In numerous LMICs, ladies are more regularly faulted for a couple’s failure to have a child than men, indeed in case male barrenness causes the issue. Sexual orientation imbalances and ideas of manliness offer assistance clarify women’s more noteworthy burdens of infertility stigma, men’s particular encounters of disgrace, and their more restricted engagement with richness care. Commitments of parenthood are profoundly revered in patriarchal standards: ladies must have children to be considered “proper” adult women and accomplish status and are seen as “gender non-performers” when they don’t acclimate. Men frequently still have other ways to get status, in specific through the collection of riches. Infertile and childless ladies are frequently shunned and feel confined, or self-isolate out of shame, and this is often exacerbated when infertility is accepted to have brought about from STIs or risky premature birth. Men may take off their spouses to remarry (now and then influenced by their families), and women may confront hint accomplice viciousness or abuse by inlaws. Infertility stigmatisation is hence replicating matrilineal or patriarchal control structures that look for to stifle and control women’s bodies. Women’s positions and encounters of infertility-related stigma in LMICs, be that as it may, may vary agreeing to, among other things, their levels of instruction, social lesson, the overwhelming connection framework in their society (matrilineal of patrilineal), and individual circumstances.

At the same time, in different cultural contexts, the failure for men to ended up a father could be a fundamental challenge to overwhelming ideas of manliness. As a result, barren men moreover confront stigmatisation, regularly within the frame of disguised shame. Men may feel castrated, and more so since male infertility is regularly – wrongly – likened with sexual impotence. To secure their husband’s manly notoriety, a few ladies claim that the richness issue lies with them. Prevailing

ideas of masculinities and the coming about non-acceptance and shame might dishearten men from locks in in fruitlessness examinations or treatment. Social science inquire about on masculinities in LMICs, be that as it may, too uncovers conceivable outcomes for shame relief intercessions and bolster for men to way better adapt with barrenness. It illustrates men’s office to reconsider and refashion manly values in their communities amid distinctive stages of life to suit healthrelated issues such as HIV or infertility.

Conclusion

Life situations and the biological clock are different for every woman. Today’s lifestyle is increasingly stressful and oriented towards success, careers and other achievements. All these are the reasons why modern women decide to have a family later and later. We must be aware of the fact that fertility declines with age. Fertile years are very different for individuals, so some women can get pregnant without problems even after the age of 40, while some have problems already in their early thirties. The level of fertility varies from woman to woman, so it is not possible to predict when the chances of conceiving for each of them are greatest or when problems with conception will appear. It is okay for each of us to follow our wishes and decide independently and consciously whether and when to start a family.

References

1. Cooke ID. Infertility: the problems and their solutions. <https://www.ncbi.nlm.nih.gov/nlmcatalog/101014503>. 1983.
2. Balen AH. *Infertility in Practice, Fifth Edition*, CRC Press, Informa UK Limited. Abingdon, UK. 2023. 13-15.
3. Cates W, Wasserheit JN, Marchbanks PA. Pelvic inflammatory disease and tubal infertility: the preventable conditions. <https://www.ncbi.nlm.nih.gov/nlmcatalog/101062395>. 1994.
4. Davis O. Infertility Evaluation in Chung PH, Rosenwaks Z (eds) *Problem-Focused Reproductive Endocrinology and Infertility*. Springer Nature Switzerland AG, Cham, Switzerland. 2023. 89-91.
5. Devettere RJ. *Practical Decision Making in Health Care Ethics - Cases and Concepts, Third Edition*. Georgetown University Press, Washington, USA. 2010. 246-247.
6. Okonofua FE, Ntoimo LFC, Omonkhua A, Ayodeji O, Olafusi C, et al. Causes and Risk Factors for Male Infertility: A Scoping Review of Published Studies, *International Journal of General Medicine*. 2022. 4: 5985-5997.
7. Trudie Gerrits, Hilde Kroes, Steve Russell, Floor van Rooij. Breaking the silence around infertility: a scoping review of interventions addressing infertility-related gendered stigmatisation in low- and middle-income countries, *Sexual and Reproductive Health Matters*. 2023. 31:1.