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Health Benefits Of Pregnancy And Child Spacing

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Abstract: *Pregnancy is what every woman or couple who desires a child wants to see. This is because it is pregnancy that brings about childbearing. Pregnancy and childbearing should be regulated and monitored for the good health of the woman. The central objective of this paper is discuss the health benefits of pregnancy and child spacing. The methodology applied was a qualitative descriptive method and based on secondary data. Our findings from empirical evidences show that the health benefits of pregnancy on the pregnancy woman include strengthening of the bones, reduces breast and ovarian and cancer risk in a woman, reduces painful menstrual periods, better sex life of the woman, and boast immunity. We further found out that the benefits that accrue from child spacing is not restricted to the mother. Newborns, infants, and children under five years old, mothers, men and entire society benefit. Conclusively, pregnancy and child spacing are matters of substantial national concern. Even the analysis and description of these phenomena, much less prescriptions for altering present trends, are highly controversial.*

Keyword: Health, Pregnancy, Child Spacing

1. INTRODUCTION

Pregnancy is a condition which is considered a blessing in a woman's life. Being a mother is said to be an ultimate phase of a woman's life that completes her life (Ghosh & Parida, 2018). And the steps women take with their health care providers before becoming pregnant can promote healthy pregnancy and birth outcomes for both mothers and babies. These include initiating certain supplements (e.g., folic acid, which reduces the risk of birth defects), quitting smoking, attaining healthy weight for women who are obese, and treating preexisting physical and mental health conditions (Aune et al., 2014; Institute of Medicine and National Research Council, 2009). After having a baby, it is a good idea to wait at least 18 months before getting pregnant again to maintain the best health for her body and her children. The 18-month rest period is called "birth spacing." When the time between pregnancies is less than 18 months, her body may not be ready to have a healthy baby. There are a number of methods women and men may choose to avoid an unplanned pregnancy during healthy birth spacing. They may choose to avoid having sex during the fertile days of a woman's cycle (such as a Calendar or Rhythm Method). They may choose a barrier method of birth control to keep the male's sperm from the woman's egg (such as a male condom, female condom, diaphragm or shield). A woman may choose a medication or hormonal method (such as the pill, injectables, patch, implants or ring). Each method varies in degree of effectiveness. All of these methods are reversible and allow the woman to resume trying to get pregnant after the healthy 18-month birth spacing period (Delware Health and Social Seri vies, 2011).

Studies from Nigeria (Sedgh et al., 2006) and Ghana (Amoako & Madise, 2008) have also reported that higher parity is associated with women's experiences of unintended pregnancy. The sex of index child and the length of birth interval are also important. Women whose index child was female were more likely to report their recent pregnancy as unintended as compared to women with a male child. With regards to birth interval, women whose previous birth interval was less than two years were more likely to report their previous pregnancy as unintended as compared to women with a previous birth interval of three or more years. Other studies have also shown that pregnancies which happen sooner after a previous birth are more likely to be unintended (Muller & Germain, 2007; Amoako & Madise, 2008; Johnson, Osama & Martin, 2004).

There is renewed programmatic interest in the effects of birth spacing on infant, child, and maternal health and survival because family planning programs have the potential to affect the timing of pregnancies. For example, in response to recent research that suggests that birth intervals of at least three years may be associated with better health outcomes for mothers and children, communication campaigns in several countries have already begun using a 3-year spacing message. USAID is currently supporting the Optimal Birth Spacing Initiative, which seeks to provide advice on how programs can best promote optimal spacing. Understanding the size of the effects of birth spacing and reasons for them and identifying the groups for whom they are greatest will provide useful information for guiding the formulation of the most effective policies to improve birth spacing (Davanzo et al., 2004).

The importance of birth spacing for health has been a keystone of both policymakers' and scientists' arguments for family planning. It is somewhat surprising, therefore, that so little has been done to quantify the relationships between birth spacing and health or to understand the mechanisms by which birth spacing might improve health for mothers and their children. In the clearest cut case, the effects of birth interval might be expected to be observable in both mortality and morbidity indexes, for both mothers and children. An examination of studies to date on this topic reveals far more information about children, specifically child mortality, than about mothers (Winikoff, 1987). While publications by the World Health Organization (WHO) and other international organizations

recommend waiting at least 2–3 years between pregnancies to reduce infant and child mortality, and also to benefit maternal health, recent studies supported by the United States Agency for International Development (USAID) have suggested that longer birth spacing, 3–5 years, might be more advantageous (WHO, 2007).

2. METHOD

The paper adopted descriptive research design based on secondary data. The nature of data was qualitative. Secondary data were collected through content or documentary evidences from published and unpublished works, textual analysis from internet, libraries and archives inform of public health and medical books, magazines, newspapers, journals, government official publications, bulletins etc. Qualitative data were through transcription and were reported in themes and sub-themes.

3. LITERATURE REVIEW

3.1 Conceptualisation

3.1.1 Pregnancy

Pregnancy is the term used to describe the period in which a fetus develops inside a woman's womb or uterus. Pregnancy usually lasts about 40 weeks, or just over 9 months, as measured from the last menstrual period to delivery. Health care providers refer to three segments of pregnancy, called trimesters. The major events in each trimester are described below. The major events in each trimester are described below (Office on Women's Health, 2010).

- First Trimester (Week 1 to Week 12)
- Second Trimester (Week 13 to Week 28)
- Third Trimester (Week 29 to Week 40)

Medically, pregnancy is the state of carrying a developing embryo or fetus within the female body. This condition can be indicated by positive results on an over-the-counter urine test, and confirmed through a blood test, ultrasound, detection of fetal heartbeat, or an X-ray. Pregnancy lasts for about nine months, measured from the date of the woman's last menstrual period (LMP). It is conventionally divided into three trimesters, each roughly three months long (Davis, 2021). On the signs of pregnancy, for women who have a regular monthly cycle, the earliest and most reliable sign of pregnancy is a missed period. Sometimes women who are pregnant have a very light period, losing only a little blood. Other signs of pregnancy are as follows (The Department of Health, 2009):

- Feeling sick – you may feel sick, or even be sick. This is commonly known as ‘morning sickness’ but it can happen at any time of the day. If you are being sick all the time and cannot keep anything down, contact your GP.
- Changes in your breasts – your breasts may become larger and feel tender, like they might do before your period. They may also tingle. The veins may show up more and the nipples may darken and stand out.
- Needing to pass urine more often – you may find that you have to get up in the night.
- Being constipated.
- An increased vaginal discharge without any soreness or irritation.
- Feeling tired.
- Having a strange taste in your mouth – many women describe it as metallic.
- ‘Going off’ certain things, for example tea, coffee, tobacco smoke or fatty food.

From a legal point of view in some countries, there are some controversies and implications of defining when a woman is pregnant. According to both the scientific community and long-standing legal interpretation, a woman is considered pregnant only when a fertilized egg has implanted in the wall of her uterus; however, some definitions of pregnancy vary widely. The differences may be more than academic. However, debates over emergency contraception have put the question on center stage, with potentially serious implications. The question of when life begins is an eternal one, debated by philosophers and theologians for centuries, and likely destined to forever elude consensus. However, on the separate but closely related question of when a woman is considered pregnant, the medical community has long been clear: Pregnancy is established when a fertilized egg has been implanted in the wall of a woman’s uterus. The definition is critical to distinguishing between a contraceptive that prevents pregnancy and an abortifacient that terminates it. And on this point, federal policies of countries have long been both consistent and in accord with the scientists: Drugs and devices that act before implantation prevent, rather than terminate, pregnancy (Gold, 2005).

This is because not every act of intercourse results in a pregnancy. First, ovulation (i.e., the monthly release of a woman’s egg) must occur. Then, the egg must be fertilized. Fertilization describes the process by which a single sperm gradually penetrates the layers of an egg to form a new cell (“zygote”). This usually occurs in the fallopian tubes and can take up to 24 hours. There is only a short

window during which an egg can be fertilized. If fertilization does not occur during that time, the egg dissolves and then hormonal changes trigger menstruation; however, if fertilization does occur, the zygote divides and differentiates into a "pre-embryo" while being carried down the fallopian tube toward the uterus. Implantation of the pre-embryo in the uterine lining begins about five days after fertilization. Implantation can be completed as early as eight days or as late as 18 days after fertilization, but usually takes about 14 days. Between one-third and one-half of all fertilized eggs never fully implant. A pregnancy is considered to be established only after implantation is complete (Gold, 2005).

3.1.2 The Concept of Child Spacing

Child spacing, also referred to as birth spacing or birth control refers to the interval of time between the birth of one child and the birth of the next. This term is often used interchangeably with inter-pregnancy interval (IPI) which actually refers to the time between the end of one pregnancy—whether miscarriage or live birth—to the beginning of the next (Gleaton, 2021). Birth Spacing is the practice of waiting between pregnancies. A woman's body needs to rest following pregnancy.

Birth spacing has emerged since the early 1980s as a key concept to improve maternal and child health, triggering interest in birth spacing practices in low-income countries, and drawing attention to prevailing norms in favour of long birth intervals in West Africa (Duclos et al., 2019). Birth spacing refers to the time from one child's birth until the next pregnancy, also known as the inter-pregnancy interval. Pregnancies that start less than 18 months after birth are associated with delayed prenatal care and adverse birth outcomes, including preterm birth, neonatal morbidity, and low birthweight (DeFranco, SeskeL Greenberg & Muglia, 2015; Mayer, 1977; Orr ST et al., 2000).

Researches have shown that family planning can reduce about 25% to 40% of maternal deaths by preventing unplanned and unwanted pregnancies, and about 10% of child deaths by eliminating inter-birth intervals of less than two years (Campbell, O., & Graham, 2006; Cleland et al., 2006). For many years, studies demonstrated that when mothers space births at least 2 years apart, their children are more likely to survive and to be healthy. Infants spaced at least 2 years apart are also less likely to be premature, of low birth weight, and to be malnourished (Rutstein, 2005; Venugopal & Upadhyay, 2002; Cleland et al., 2006).

Recent studies also showed longer intervals are even better for infant and maternal survival and health than the two-year interval earlier suggested. A study on the relationship between pregnancy intervals and Perinatal Mortality showed that children born 3 to 5 years after a previous birth are about 2.5 times more likely to survive than children born before 2 years (Rutstein, 2005). Similarly, studies on maternal mortality and morbidity associated with pregnancy interval showed birth intervals of 3 to 5 years are healthier for mothers too (Venugopal & Upadhyay, 2002; Conde-Agudelo, A., & Belizan, 2000). Accordingly, the World Health Organization (WHO) technical consultation on birth spacing recommended a birth to conception interval of at least two years to reduce the risk of adverse maternal, perinatal and infant outcomes (WHO, 2007).

3.2 Empirical Review

3.2.1 Methods of Child Spacing

The main essence of child spacing is to control unwanted and unplanned pregnancy and childbearing by couples. This is because p**lanned pregnancies promote adequate birth spacing.**

This can be achieved through various methods, which according to Planned Parenthood of the Pacific Southwest, 2015) include:

i. **Permanent Birth Control:** A surgical procedure that makes a person who can produce sperm unable to cause a pregnancy or a person who can ovulate unable to become pregnant. Permanent birth control is not reversible and prevents pregnancy 99% of the time. While women can choose from bilateral tubal ligation in the hospital (aka "having your tubes tied") or a tubal block done in a health center, men may choose a vasectomy.

ii. **IUD (Non-hormonal/Hormonal):** A small t-shaped device that is placed inside of the uterus by a health care provider to prevent pregnancy 99% of the time. Less than 1 out of 100 women will get pregnant each year if they use an IUD. Available in non-hormonal (copper) and hormonal (plastic) options, the IUD is one of the most effective forms of birth control and can last anywhere between 3 to 10 years depending on which type you choose. Non-hormonal and hormonal IUDs work to prevent sperm from fertilizing an egg.

iii. **Implant (Hormonal)**: A small rod placed under the skin in the upper arm by a health care provider to prevent pregnancy 99% of the time. Less than 1 out of 100 women a year will become pregnant using the implant. The implant, which lasts for 3 years, releases the hormone progestin to stop the ovaries from releasing eggs, and it thickens cervical mucus, so it is difficult for sperm to enter the uterus.

iv. **The Shot (Hormonal):** An injection given by a medical professional of the hormone progestin in the arm or hip that lasts three months and prevents pregnancy 99% of the time. Less than 1 out of 100 women will get pregnant each year if they always use the shot as directed. The shot, also known as Depo-Provera, stops the ovaries from releasing eggs and thickens the cervical mucus, so it is difficult for sperm to enter the uterus.

v. **The Vaginal Ring (Hormonal)**: A flexible ring that is inserted into the vagina each month for three weeks at a time that prevents pregnancy 99% of the time. Less than 1 out of 100 women will get pregnant each year if they always use the ring as directed. The vaginal ring releases hormones that stop the ovaries from releasing eggs and thickens cervical mucus, so it is difficult for sperm to enter the uterus.

vi. **Patch (Hormonal):** The patch is applied (like a sticker) weekly anywhere on the skin (except for the breasts) and prevents pregnancy 99% of the time. Less than 1 out of 100 women will get pregnant each year if they always use the patch as directed. The patch releases hormones that stop the ovaries from releasing eggs, and it thickens cervical mucus, so it is difficult for sperm to enter the uterus.

vii. **The Pill (Hormonal)**: A pill that should be taken at the same time every day for maximum effectiveness, which is often used to reduce cramping and bleeding during periods and that prevents pregnancy 99% of the time. Less than 1 out of 100 women will get pregnant each year if they take the pill each day as directed. The pill releases hormones (progestin-only or a combination of hormones) to stop the ovaries from releasing eggs and thickens cervical mucus, so it is difficult for sperm to enter the uterus.

viii. **Condoms (Non-hormonal)**: Available in latex or polyurethane, condoms, which prevent pregnancy 98% of the time, are placed over an erect penis to stop sperm from entering the vagina during ejaculation. 2 out of 100 women whose partners use condoms will get pregnant if they always use condoms correctly. Insertive and female condoms are inserted into the vagina and prevent pregnancy 95% of the time. This means that 5 out of 100 women will become pregnant if the insertive condom is always used correctly. Not only are condoms arguably one of the most affordable, accessible forms of birth control, they also protect against sexual transmitted diseases (STDs).

ix. **Emergency Contraception (Hormonal & Non-hormonal)**: Emergency contraception can be used up to five days after unprotected sex. It can come in the form of a pill or copper IUD, which have varying degrees of effectiveness. Emergency contraception prevents pregnancy from occurring by preventing ovulation and thickening cervical mucus, but it does NOT cause an abortion.

x. **Spermicide:** Made with sperm-killing chemicals, spermicides such as foams, suppositories or film (used separately, not in combination) prevent pregnancy 82% of the time. 18 out of 100 women will get pregnant each year if they always use the spermicide as directed. Placed inside the vagina shortly before sex, spermicides block the cervix and keep sperm from joining with an egg.

xi. **Fertility Awareness/ Natural Family Planning (Non-hormonal)**: Natural family planning involves a woman tracking her monthly cycle from her period through ovulation to determine when she is most and least likely to get pregnant. When used correctly, this method prevents pregnancy 76% of the time. 24 out of 100 women who use natural family planning will have a pregnancy if they use the method correctly.

xii. **Withdrawal/Pull-out Method (Non-hormonal)**: Withdrawal prevents pregnancy 73% of the time by pulling the penis out of the vagina before ejaculation. 27 out of 100 women whose partners use withdrawal will become pregnant each year, even if used correctly. Remember, there is always a chance of pregnancy if sperm is introduced to the vagina.

4. DISCUSSION

4.1 Health Benefits of Pregnancy

Pregnancy comes with lots of successive changes in the physiology of a woman. Most of these changes are detrimental for the woman and many of these changes are not very pleasant experience. However, the good news is that pregnancy comes with some beautiful experiences as well as some real health benefits for the would be mother. Pregnancy induces some beneficial health changes in the woman (Ghosh & Parida, 2018). Our empirical findings on the health benefits of pregnancy on a girl child are discussed in this section of the paper.

4.1.1 Pregnancy Strengthens Bones

Some studies suggest that pregnancy may be good for bone health overall. Some evidence suggests that the more times a woman has been pregnant (for at least 28 weeks), the greater her bone density and the lower her risk of fracture (National Institutes of Health Osteoporosis and Related Bone Diseases National Resource Center, 2018). Ghosh and Parida (2018), in the same vein, agree that During pregnancy, calcium supplement and consumption of calcium rich foods for good built of bones of the growing baby enhances the process of strengthening of bones of mother's body. Specially, the hip bones get stronger.

There is research by Onto Orthopedics in the United State of America that further suggests that the more times a person has been pregnant, the greater their bone density will be. This is beneficial for long term health because it means that the chance of this person experiencing a bone fracture is decreased. This can also have an impact on how likely a person is to develop osteoporosis. First of all, it has been observed that pregnant people are better able to absorb calcium from food than people who are not pregnant. The body's ability to do so is even greater in the final few months of pregnancy, when the babies need for calcium is at its highest. Furthermore, estrogen is produced in higher amounts within a pregnant body, which serves to protect and maintain the health of the bones. Additionally, the body can be seen to recover any damage to bone loss quite quickly after the birth of the child. The rate at which this happens may be slower if breastfeeding is taking place. These facts therefore support the notion that pregnancy can help to protect and improve the overall health of the bone (Onto Orthopedics, 2016).

National Institutes of Health Osteoporosis and Related Bone Diseases National Resource Center (2018), further states that pregnancy appears to help protect most women's calcium reserves in several ways:

i. Pregnant women absorb calcium from food and supplements better than women who are not pregnant. This is especially true during the last half of pregnancy, when the baby is growing quickly and has the greatest need for calcium.
ii. During pregnancy, women produce more estrogen, a hormone that protects bones.
iii. Any bone mass lost during pregnancy is typically restored within several months after the baby's delivery (or several months after breastfeeding is stopped).

4.1.2 Reduction in Breast and Ovarian Cancer Risk

There are myriad of research findings that shown that pregnancy has more of positive impacts on a girl child than the negative effects. Sarah McCraw Crow in her study on the surprising benefits of pregnancy reveals that pregnancy may be an effective protector against breast and ovarian cancers. The report has it that the more pregnancies you go through -- and the younger you start having babies -- the greater the effect. In addition, some research has found that breastfeeding for more than three months can also lower your risk of certain cancers (Crow, 2002). Further research finding have shown that that women who have given birth to five or more children have significantly reduced risk of breast cancer compared to those women who have not been pregnant (Lambe, Hsieh, Chan et al., 1996). Surprisingly, it has been found that women who suffer from preeclampsia during the period of their pregnancy, have lowered risk of developing breast cancer (Opdahl, Romundstad, Alsaker, & Vatten, 2012). Women with full term pregnancy have been fund to have reduced risk of ovarian cancer (Hankinson, Colditz, Hunter., et al., 1995), endometrial cancer and other types of cancers also (Titus-Ernstoff, Perez, Cramer et al., 2001).

In another development, Colditz, Baer and Tamimi (2006), in their studies also confirm that women who have been pregnant are less vulnerable to cancer. Pregnancy and breast feeding period reduces number of menstrual cycles in a woman's life. Thus, pregnancy and breast feeding causes reduced exposure of women to endogenous sex hormones, oestrogen and progesterone in her life time. This reduces the risk of occurrence of breast cancer and ovarian cancer in women who have been pregnant in her life time compared to those who have never been pregnant. An interesting recent finding by Ghosh and Parida (2018) about ovarian cancer occurrence is that women who conceive and give birth to their first child at an age above thirty years are at reduced risk of developing ovarian cancer compared to those women who give birth to their first child at less than twenty years of age.

4.1.3 Less Painful Menstrual Periods

Some women who have suffered through heavy or painful menstrual periods before getting pregnant can actually see an about-face post-childbirth—especially those who have endometriosis. With endo, there are a lot of structural things that are wrong in the pelvis," says Toronto naturopath Pamela Frank, "and some of those improve when everything—the ligaments, the tissue, the adhesions—relaxes to deliver the baby. Unfortunately, not all women experience this kind of relief (Phelan, 20170).

4.1.5 Better Sex

Pregnancy hormones are responsible for some pretty miserable symptoms, including bloating, heartburn, weird skin rashes and excess facial hair. But there's one side effect that ought to make you smile: Testosterone and estrogen, sex hormones produced by your baby-to-be, and progesterone, which your body ramps up during pregnancy, might just boost your sex drive. And during the first and second trimesters, all that extra blood flow pumps up your pelvic region, making it feel perpetually engorged and sensitive

— which may make it easier for you to reach orgasm (even multiple times). Although the pleasures of lovemaking can fall off in the first few months of mamahood (when breastfeeding hormones, lack of sleep and baby-care duties take their toll on your libido) doing your Kegels can help keep the blood flowing down there. Do them everywhere, day and night (and don't forget to do them when you're doing "it" too). (What to Expect Project, 2019).

4.1.5 Improves Immunity

The immune system of the expectant mother adjusts so as to prevent the body from rejecting the growing fetus. Natural killer cells and neutrophils actions have been found to be increased during pregnancy (Greenwood et al., 2000) It has also been reported that the early labor may be triggered by inflammatory immune response. Studies conducted in experimental mice have revealed that the expression of genes that are responsible for coding chemokines get switched off in the tissue around the fetus and placenta thereby turning off certain immune signals, thus preventing the mother's immune system from attacking the fetal cells. Studies show that the pregnancy hormones help to cure certain chronic pathological conditions in the mother during her days of pregnancy. Unfortunately, most such healing is temporary and some are found to be relapsed after few months of giving birth to baby (Robinson & Klein, 2012).

The Th1/Th2 immune shifts in pregnancy are well established and have provided a platform to further study the immune system (Racicot, Kwon, Aldo, Silasi, & Mor, 2014). This has led to refining our understanding about the immune system and the development of a new paradigm regarding pregnancy and immune function. This newer theory proposes that the immune system during pregnancy is a functional and active system, wherein not only a maternal immune response exists but also a fetal–placental immune response, which in combination is powerful in defending both the mother and the fetus. (Mor & Cardenas, 2010; Racicot et al., 2014). Though pregnancy is a time period that poses a risk of increased susceptibility to infectious diseases, and the maternal immune system is solely responsible for defending against infectious microorgan-isms and protecting the fetus because both the fetal and the placental responses are limited (Jamieson, Theiler & Rasmussen, 2006; Racicot et al., 2014).

4.2 Benefits of Child Spacing

The benefits that accrue from child spacing is not restricted to the mother. Newborns, infants, and children under five years old, mothers, men and entire society benefit. Jordan Higher Population Council (2013) identifies the following benefits of child spacing.

4.2.1 Benefits to Newborns, Infants, and Children Under Age Five

i. Child spacing reduces the risk of
   - Pre-term births, low birth weight, small size for gestational age, and, in some populations, stunting or underweight conditions.
   - Death for newborns, infants, and children under age five.

ii. Allows young children to experience the substantial health benefits of breastfeeding for longer periods.

4.2.2 Benefits to Mothers

i. Gives mothers more time to prepare physically, emotionally, and financially for their next pregnancy, if they choose to have one.

ii. Helps mothers avoid pregnancy-induced high blood pressure and associated complications like preeclampsia, obstructed and prolonged labor, iron-deficiency anemia, and maternal death.

iii. Provides mothers with enough time before becoming pregnant again to focus on their newborns, husbands, and other children

4.2.3 Benefits to Fathers

i. Helps fathers safeguard the health and well-being of their wives and children.

ii. Allows fathers time to plan financially and emotionally for their next child, if the couple chooses to have one.

iii. Contributes to a father's sense of satisfaction from supporting his wife in making decisions that are in the family's best interests.

4.2.4 Benefits to the Society

Benefits communities because it reduces the incidence of death and illness among mothers, newborns, infants, and children. In doing so, it can contribute to poverty reduction and improve a community's quality of life

5 CONCLUSION

Pregnancy and child spacing are matters of substantial national concern. Even the analysis and description of these phenomena, much less prescriptions for altering present trends, are highly controversial. And it is all too easy to avoid or to deal only obliquely with issues that arouse so many deep-seated emotions and convictions. There is, nonetheless, broad agreement that the personal and public costs resulting from unintended pregnancies and untimely birth are far too high to countenance an indifferent response (Hofferth & Hayes, 1987). Having a baby is an amazing experience, but who knew it could be so good for a girl child health too? Though it will the woman sleep less and eating right and staying fit can be tough, however, the health benefits of pregnancy and child spacing can more than make up for these temporary challenges, which will of course, ease up anyway, as your girl child gets older. One of the biggest benefits include an opportunity to really focus on your own well-being. Once a woman is expecting a child, prenatal exams allow her doctor to keep close tabs on her body to make sure it is as healthy as it can be (What to Expect Project, 2019).

Conflict of Interest: The authors declare that they have no conflict of interest.

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