



OFFICE OF THE WHO REPRESENTATIVE IN THE PHILIPPINES
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In reply please refer to: WP/2011/0622/cd (MCN)
Prière de rappeler la référence:

Honourable Edcel C. Lagman
Representative, 1st District of Albay
House of Representatives
Quezon City

6 June 2011

Dear Congressman Lagman,

This refers to your letter dated 2 June 2011 requesting this Office for expert and official opinion on three issues. Please be informed that we have forwarded your request to WHO Headquarters in Geneva, and our answers to the three (3) questions are as follows:

Question 1: While it is generally acknowledged that the two mechanisms of contraceptives consist of (a) preventing ovulation; and (2) preventing the sperm from fertilizing the egg, some say there is a third mechanism, which is to prevent the implantation of the fertilized ovum. Has this "third" mechanism been validated by clinical studies or is this a gratuitous claim by some pill and IUD manufacturers for commercial reasons?

Answer: To date, there is no scientific evidence supporting the contention that hormonal contraceptives and IUD prevent implantation of the fertilized ovum. While hormonal contraceptives directly or indirectly have effects on the endometrium that may hypothetically prevent implantation, there is already strong evidence on the primary mechanism of action of the following contraceptives:

1. Combined oral contraceptives work primarily by preventing the release of eggs from the ovaries (ovulation) (WHO, 2007; Mishell et al. 1977; Killeck et al. 1987; Rivera et al. 1999).
2. Progesterone only contraceptives work primarily by thickening cervical mucus (this blocks sperm from meeting an egg) and preventing the release of eggs from the ovaries (ovulation) (WHO, 2007; Rivera et al. 1999; Moghissi et al. 1973).
3. Levonorgestrel emergency contraceptive pills (ECP) works primarily by preventing or delaying the release of eggs from the ovaries (ovulation). It does not work if a woman is already pregnant (WHO 2007; Marions L et al. 2002; Durand M et al. 2001; Croxatto HB et al. 2004).
4. Copper-bearing Intrauterine Devices (IUD) work primarily by causing a chemical change that damages sperm and egg before they can meet (WHO, 2007; Ortiz 1996; Seseu and Carnacho-Ortega 1972; Ullman and Hammerstein 1972). There were NO fertilized or normally dividing eggs recovered from women using the copper-bearing IUD in contrast to women who were not

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Encl: References

cc: Dr M. Castillo

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using contraception. (Alvarez et al. 1988). In addition, human chorionic gonadotropin (hCG), the hormone that increases in pregnancy, was absent in the serum of women of use IUDs (Segal et al 1985). Lastly, IUD users have a marked decrease in the risk of ectopic pregnancies, which implies that IUDs inhibit fertilization (Grimes, 2004). Thus, the available evidence supports the hypothesis that the primary mechanism of action of copper-bearing IUDs in women is the prevention of fertilization and not the destruction of embryos in the uterus.

Question 2: Does the thinning of the endometrium by hormonal contraceptives have any contraceptive effect?

Answer: The answer is not known to date.

Although it is known that there are changes in the endometrium during combined oral contraceptive (COC) use, no evidence to date has supported the hypothesis that these changes lead to disruption of implantation. Given the high efficacy of COCs in preventing ovulation, interference with implantation is not likely to be a primary mechanism of contraceptive action because there would not have been fertilization in the first place.

Progestin-only methods also cause changes in the endometrium. However, these changes show great variability among patients, from atrophy ("thinned out") to normal. There is no direct evidence that suggests a relationship between endometrial structure and contraceptive effectiveness of these methods.

Question 3: If there is fertilization and subsequent implantation, will continued use of contraceptives result in abortion or harm the fetus?

Answer: No. There is no evidence of risk of congenital anomalies from combined oral contraceptives and progestin only contraceptives. There is no evidence of abortion from combined oral contraceptives and progestin only contraceptives. (WHO 2007; Bracken 1990).

Good evidence shows that Levonorgestrel emergency contraceptive pills (ECPs) will not cause birth defects and will not otherwise harm the fetus if a woman is already pregnant when she takes ECPs or if ECPs fail to prevent pregnancy. Levonorgestrel does not have any detectable effect on the endometrium (uterine lining) or progesterone levels when given after ovulation. Levonorgestrel is not effective once the process of implantation has begun, and will not cause abortion (WHO 2007; Marions L et al. 2002; Durand M et al. 2001; Croxatto HB et al. 2004).

Thank you.

Yours sincerely,

M. M. M. M.
for Dr Soe Nyunt-U
WHO Representative

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