Progestin-only contraceptives: effects on weight

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An updated version of this systematic review has been published and can be found online at www.cochrane.org. We will soon update the below RHL summary to reflect the updated findings of the systematic review.

Limited available data show that there was no significant difference in weight change in women using progestin-only contraceptives compared with women using other steroid hormonal methods. Although there was a marginal (< 2 kg) increase in weight at one year in progestin-only contraceptive users compared with users of non-hormonal methods and those not using contraceptives, this finding should be interpreted with caution given that the evidence is not based on randomized controlled trials.

RHL Commentary by Buppasiri P

1. Introduction

Progestin-only contraceptives are generally used by women who either themselves choose these methods or those who are advised not take estrogen-containing hormonal contraceptives. Progestin-only contraceptives are effective in preventing pregnancy (1) and are available in the form of progestin-only pills, injectables, implants or a progestin-releasing intrauterine device (IUD). Weight gain is one of their most commonly perceived side-effects, which can lead to early discontinuation of these methods. Data on weight gain among users of progestin-only methods are inconsistent (2). The review aimed to compare body weight changes between progestin-only contraceptives and other methods or no contraceptive use.

2. Methods of the review

The review authors did not expect to find many randomized controlled trials on this topic. Therefore, they sought to include all studies that had compared (observational studies, case–control studies or retrospective chart reviews) progestin-only contraceptives for contraception with another contraceptive (varying in formulation, dose, and regimen) or no contraceptive to evaluate an effect on weight change. These included comparisons of a progestin-only contraceptive with a combination contraceptive as well as comparisons of two different types of progestin-only contraceptives. The inclusion criteria required the exposure duration to be at least three cycles. The review authors excluded studies with a focus on women with special health problems and studies on the non-contraceptive benefits of progestin-only contraceptives.

Data searching procedures recommended by the Cochrane Collaboration were followed. For measuring the outcomes, the authors focused on mean change of weight, body mass index (BMI) or percentage body fat. If
the outcomes were followed up for less than one year, the data for the last measure were used. If data were reported for multiple points in time up to one year, midpoint and one-year data were used. If data were collected for more than three years, one-year data as well as the midpoint and last measure were used. Assessments were made of heterogeneity in the included studies and sensitivity analysis was performed. As the included studies were not all pure randomized controlled trial, the strength of the available evidence was regarded as limited.

3. Results of the review

Fifteen studies were included in the review with 8440 participants. The studies had been conducted in many different parts of the world. Owing to differences in the studies in terms of the contraceptive methods studies, weight change measures and studies designs, a meta-analysis could not be performed. The number of participants varied from 32 to 3172 in the included studies. In addition, the quality of evidence, judged by the authors based on study design, varied from high to very-low-quality. In most included studies, the injectable contraceptive depot-medroxyprogesterone acetate (DMPA) was the most common contraception method compared with other methods, different dosages, or with another type of progestin-only contraceptive. There was no significant weight gain with different methods of progestin only contraceptives (oral, injection or implant), but there was a slight weight gain with DMPA use compared with non-hormonal IUD (2.28 kg in one year). Norplant users also increased weight when compared with users of non-hormonal methods or with women not using contraception (mean difference 0.74; 95% confidence interval 0.52–0.96). Increase in body fat and a decline in lean body mass were noticed in the DMPA group when compared with users of non-hormonal methods or with those not using contraception. Mean weight gain was less than 2 kg at one year in most studies.

4. Discussion

4.1 Applicability of the results

Limited available data show that there was no significant difference in weight change in women using progestin-only methods compared with women using other steroid hormonal methods. Although there was a marginal (< 2 kg) increase in weight gain at one year in progestin-only contraceptive users compared with users of non-hormonal methods of those not using contraceptives, this finding needs to be interpreted with caution given that the evidence is not based on appropriately sized randomized controlled trials. The findings of this review are applicable to women in all settings.

4.2 Implementation of the intervention

Long-term use of steroid hormonal contraceptives, such as progestin-only contraceptives, has been associated with mineralocorticoid effect (3). Therefore, it is not a surprise that some studies showed marginal weight gain changes. Hence, it may be advisable to inform long-term users about possible weight change related to progestin-only contraceptives. Because the benefits of contraception outweigh the risk of side-effects such as weight gain, women should be counseled appropriately and not discouraged to use progestin-only methods.

4.3 Implications for research

Since it would be unethical to give placebo to a woman who needs contraception, it would be difficult to conduct randomized controlled trials on this research question. Thus, most studies compare weight gain in different methods or dosages of contraceptives. Large, prospective, matched case–control studies comparing use of progestin-only contraceptive and non-hormonal or no contraception over longer periods of time than 12 months should be conducted to strengthen the evidence.
References


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