

Editorial

## Depo-Provera and skeletal health: reviewing the evidence; developing and disseminating a consensus

Since the approval of injectable medroxyprogesterone acetate (DMPA, Depo-Provera®) in the United States in 1992 [1] and Canada in 1997 [2] and the subsequent “black box” warnings in both countries [3,4], DMPA has been the object of more than a hundred publications, including many focusing on its impact on bone mineral density. Apart from these scientific publications, articles in the Canadian lay media have raised concerns, potentially influencing clinician behavior and women’s contraceptive choices and usage.

Contraceptive methods are widely available in Canada and Quebec, and injectable birth control with DMPA is used by 2.4% and 2% of women using contraceptives in the country and province, respectively [5–8]. Despite this low prevalence, several individuals in Canada and in the province of Quebec have vocally expressed their concerns about the safety of DMPA. As an example, in the fall of 2007, a health professional expressed dissatisfaction about the content of a brochure for parents about adolescent health and sexuality produced by the Ministry of Health and Social Services (MSSS) of the province of Quebec in which double protection (condoms along with hormonal contraception) was promoted and contraceptive methods briefly described with additional references. She then contacted the lay press, claiming that the ministry should have published the black box warning of Health Canada on DMPA in its entirety in the brochure. The lay press picked up this issue and created an uproar by publicly exposing the controversy among health care professionals; in a fiery newspaper article [9,10], the journalist questioned the scientific integrity of physicians counselling the MSSS on this matter and interviewed several professionals and nonscientists who opined (based on the black box warning) that DMPA caused harm to the skeletal health of users. Following this media tsunami, physicians from fields other than women’s health (bone health specialists) weighed into question the ministry about the brochure and asked for appropriate explanations and research about the potential impact of DMPA on skeletal health. Moreover, based on anecdotal reports, nurses in

school and in youth clinics, as well as general practitioners and several gynecologists were then directed to cease recommending DMPA or restrict its use: stopping DMPA after 2 years of use, ordering dual X-ray absorptiometry prior to refilling a prescription for DMPA or suggesting the use of bisphosphonates or estrogen supplements for adolescent DMPA users.

Meanwhile, more than one quarter of French-speaking Canadian women between the ages of 15 and 50 have already had at least one unplanned pregnancy in their lives [5]. In Quebec, 44% of these pregnancies were terminated by an elective abortion [5]. The abortion rate in Quebec increased constantly from 1975 to 2000 and has remained stable since [11]. Quebec has the second highest abortion rate in Canada, after the Northwest Territories (19.1/1000 women aged 15–44 years in 2004) [12]. The teenage pregnancy rate in Quebec also consistently increased from 1975 to 2000 and, in spite of a slight decline recently, remains above the rate for Canada (34.1/1000 in Quebec versus 30.5/1000 in Canada among women aged from 15 to 19 years in 2004) [12].

To address this situation and provide evidence-based recommendations to physicians and the public regarding contraceptive use of DMPA and its potential impact on bone health, the National Institute of Public Health of Quebec, from whom the MSSS takes advice, organized a scientific meeting with representatives of all medical associations involved in family planning, obstetrics and gynecology and specialties interested in bone health. The objectives of this meeting were to review the scientific literature on the topic using the study classification method according to the level of evidence [13] to ascertain perspective and reach a consensus on the issue of the potential impact of the use of DMPA injectable contraception on skeletal health within the context of unmet contraceptive needs among women of Quebec.

Although physicians from different disciplines do not commonly come together to share their specific knowledge, this scientific meeting proceeded in a collegial fashion. A consensus position was reached within a day

and was subsequently supported by the medical associations of each representative. This consensus position acknowledged that women should be informed that the use of injectable DMPA is a cost-effective contraceptive option, associated with a slight decrease in bone mineral density which is largely, if not completely, reversible. It recommended that no absolute limit be placed to the length of time DMPA can be used, regardless of a woman's age, and that measuring bone mineral density is not recommended among users of DMPA for contraceptive purposes. It also gave guidelines for special groups of women at risk of osteoporosis who may need to use DMPA.

This document was then shared among all concerned specialties as well as general practitioners, nurses and appropriate organizations interested in family planning. A scientific document has been produced and is published in this issue of the journal *Contraception*. A constructive next step would be that the US Food and Drug Administration (FDA) and Health Canada consider revising their black box warnings to reflect current science concerning DMPA use and skeletal health. Concerns regarding the FDA's black box and DMPA have previously been described [14]. It is our hope that the Quebec consensus statement will encourage clinicians to help their patients make evidence-based decisions regarding injectable contraception. If the FDA and Health Canada were to revise their DMPA labeling to reflect current science, this would go a long way towards helping our patients make sound contraceptive decisions, which minimize unintended pregnancy and resulting induced abortions.

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