

## Research letter

## Use of postmenopausal estrogen replacement therapy from 1981 to 1997

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During the past 2 decades the health risks and benefits of estrogen replacement therapy (ERT) have been the focus of intensive research and scientific debate. Recommendations for its use by asymptomatic postmenopausal women are nevertheless still limited by many questions that remain unanswered.<sup>1</sup> Despite the uncertainty surrounding the overall impact of ERT on health, US data indicate that the prevalence of hormone use has been steadily increasing since the 1980s.<sup>2</sup> Longitudinal population-based data describing ERT use by postmenopausal women in Canada are lacking. We therefore examined the trends in the prevalence of estrogen use by peri- and postmenopausal women in Saskatchewan from 1981 to 1997.

We used Saskatchewan Health's computerized prescription drug plan database as the source of drug-dispensing information.<sup>3</sup> Women living in the province between 1981 and 1997 were selected from Saskatchewan Health records to participate in 2 population-based case-control studies,<sup>4,5</sup> and the control subjects formed a cohort of peri- and postmenopausal women for this analysis.

At the time of sampling, the women were 45 years of age or older, did not have a diagnosis of cancer (except for non-melanoma skin cancer and cancer of the cervix in situ), were registered with Saskatchewan Health for at least 5 years and were eligible for out-patient prescription drug plan benefits.

The study was approved by the Research Ethics Committee of the Jewish General Hospital, the University Advisory Committee on Ethics in Human Experimentation of the University of Saskatchewan and the Data Access Review Committee of Saskatchewan Health. All patient identifiers in the data released by Saskatchewan Health were removed, and the data were limited to the variables required for the analysis.

The type, strength and quantities

of estrogen dispensed to study subjects between 1976 and 1997 were compiled by Saskatchewan Health. For each woman in the study, estrogen dispensing data were available for at least 5 years beginning in 1976, or later if she had immigrated to the province at a later date, and were terminated at death, emigration from the province or the end of the case-control study, whichever came first.

The age-standardized prevalence rates of estrogen use were calculated for 1981, 1984, 1989, 1994 and 1997 using direct standardization. Saskatchewan census data from 1996 were used to provide the standard age distribution of women 45 years of age and older.<sup>6</sup> The age-specific proportions of women who had been dispensed at least one prescription of estrogen were also calculated for each of the 5 calendar years listed above.

The age-standardized prevalence of estrogen use increased substantially over time, from 5.1% in 1981, to 5.3% in 1984, 7.7% in 1989, 13.1% in 1994 and 15.4% in 1997. Increases in age-specific proportions of women re-

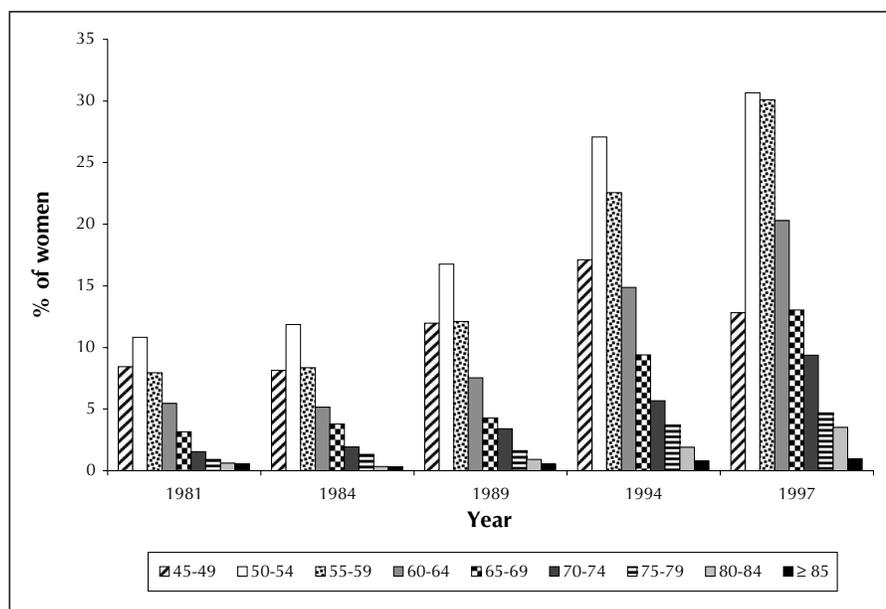


Fig. 1: Age-specific proportions of women 45 years of age and older who were dispensed at least one prescription of estrogen during 1981, 1984, 1989, 1994 and 1997.

ceiving at least one prescription of estrogen for the years 1981 ( $n = 28\ 261$ ), 1984 ( $n = 29\ 594$ ), 1989 ( $n = 29\ 708$ ), 1994 ( $n = 27\ 240$ ) and 1997 ( $n = 8836$ ) are shown in Fig. 1. The highest prevalence of ERT use occurred among women 50 to 54 years of age and ranged from 10.8% [95% confidence interval [CI] 9.8–11.8] in 1981 to 30.6% [95% CI 24.7–36.5] in 1997. An increase in estrogen use over time, however, was apparent in all age groups, even in women over 65 years of age.

Our data demonstrate that important increases have occurred in the prevalence of estrogen use during the study period. As expected, peak estrogen use occurred consistently among women between the ages of 50 and 54 years, coinciding with the onset of menopausal symptoms for most women. With the exception of the prevention of osteoporotic bone fractures,<sup>7</sup> the role of ERT in the prevention of various chronic diseases has yet to be clearly defined. Results from the Heart and Estrogen/Progestin Replacement,<sup>8</sup> and the Estrogen Replacement and Atherosclerosis<sup>9</sup> studies have challenged the hypothesis that ERT reduces the risk of coronary artery disease in women with existing heart disease. Whether these findings affect women's decision-making with regard to the use of hormone replacement therapy will be of interest to clinicians.

This article has been peer reviewed.

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Competing interests: None declared.

Contributors: Ms. Csizmadı initiated the study, reviewed the pertinent literature, planned the design and data analysis, interpreted the results, drafted the initial manuscript and revised the final paper. Ms. Benedetti was responsible for data management and computer programming and contributed to the revising of the paper. Drs. Boivin, Hanley and Collet contributed to the study design and data analysis and to the revising of the paper.

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