Utilization of Survival Analysis to Predict Age of Natural Menopause for Working Women in Alexandria University

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Abstract: The occurrence and timing of reproduction-related events, such as menopause, play major roles in a woman's life. Late or early menopause has been implicated in risk of several chronic diseases in women. To study the age at natural menopause and determine predictors of the onset of menopause, a cross-sectional study was conducted in Alexandria University. A stratified random sample of 527 women aged 40-65 years was selected in two stages. In the first stage, five colleges were selected randomly from a list of all colleges. In the second stage, stratification was made according to job and the sample was allocated proportionally over strata. Two methods of survival analysis were used; the Kaplan-Meier method was used to estimate the median age at natural menopause and Cox-regression analysis was used to study the correlates of age at natural menopause. The mean current age of the study group was 47.23 ± 5.06 years, 26.8% were staff, 59.0% employees and 14.2% workers. The Kaplan-Meier estimate of median age at natural menopause was 51.4 years [95% CI: 50.9-51.9 years] with 75% censored [still menstruating or operative menopause]. Workers showed the lowest median age at natural menopause [49.5 years] followed by staff [51.4 years] and employees [52.0 years]. Cox-regression revealed that women with higher hazard of menopause at a given age are characteristically of low job category, consumers of red meat >once/week, with small amount of menstrual bleeding, not practicing sporting, with chronic illness, with >24 years age at first full-term pregnancy and with late age at menarche. Monitoring of the timing of age at natural menopause may be a useful instrument to assess the impact of intervention strategies aimed at changing practices related to family planning and contraception. It is important to recognize that the variables found to be predictive of age at natural menopause in this study may not predict it in all women. Application of the prediction equation to predict age at natural menopause for other groups of working and non working women is recommended to assess its validity.

INTRODUCTION

Women are crucial to social and economic development. Their health and well-being matters to themselves, to their families and to communities.[1]

Women make up more than half the population of the Mediterranean region. The role they play in caring for all family members is important. The biological role of women in reproduction followed by the cessation of the reproductive function through menopause needs specialized attention at every stage.

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