Original Research

Women’s health: Explaining the trend in gender ratio in Iran over half a century (1956–2006)

F. Farzadi, B. Ahmadi, B. Shariati, M. Alimohamadian, K. Mohamad

Article info

Article history:
Received 18 August 2009
Received in revised form
24 November 2009
Accepted 3 January 2010
Available online xxx

Keywords:
Population
Women
Gender ratio
Life expectancy

Summary

Objectives: Changes in gender ratio generally reflect differences in mortality rates in men and women. Female mortality rates, on the other hand, can be used as an index of the trends in women’s health. This study looks at the trend in the population gender ratio from 1956 to 2006, with a focus on analysing mortality rates and hence the overall health of Iranian women over the last 50 years.

Study design: Cohort-type analysis using data from the last five population censuses in Iran.

Methods: Data were used to calculate gender ratios and analyse their trends over the 50-year period from 1956 to 2006.

Results: According to the 1956 Census, there were 98 men for every 100 women in the 25–34 years age group (male:female ratio = 0.98). In the next census, conducted 10 years later (1966), the gender ratio increased to 121 in the 39–44 years age group. The discrepancy increased in later censuses; this trend indicates that mortality in the 25–34 years age group was significantly higher in 1956–1966 compared with subsequent decades. The social and economic crises of the 1940s probably left women of reproductive age exceptionally vulnerable to a wide range of adverse health outcomes. The fact that the trend ceased in 1976 with no further increase in the gender ratio may be due to improving social conditions and greater effectiveness of healthcare programmes directed at women.

Conclusion: As life expectancy is calculated on the basis of the conditional probability of death over specific intervals, the apparent discrepancy between the current gender ratios and life expectancy data may be due to higher female death rates before 1976.

© 2010 The Royal Society for Public Health. Published by Elsevier Ltd. All rights reserved.
Introduction

Data from the 1996 Census in Iran indicate a preponderance of men aged 55 years and older, and therefore an increase in the male:female ratio. The next census, conducted in 2006, shows an even greater difference between the number of men and women aged ≥65 years. Paradoxically, it is believed that life expectancy is currently higher in women. In 1996, women’s life expectancy at birth and at 60 years of age was 69.6 and 17.9 years, respectively. The figures for men were 65.1 and 16.0 years, and this trend has continued. Considering the greater life expectancy in women and its higher rate of increase compared with that in men, one would expect to see a predominance of women in older age groups; however, population data show an incompatibility with this trend. This study uses demographic data from 1956–2006 to explain the discrepancy.

Methods

The age and gender pyramids of the Iranian population from the last five censuses (i.e. from 1956 to 2006) were analysed. Census data were used to compute the population gender ratio (the number of men for every 100 women) and follow its trend over the last 50 years. More specifically, cohort-type analyses of the gender ratio within specific age categories were performed.

Results

Table 1 shows the population and gender ratio for those aged 55 years and above in the 1996 and 2006 Censuses. It is evident that the male:female ratio is above 1, with the difference being more pronounced for the 65–74 years age group in 1996 and for the 75–84 years age group in 2006. Table 2 contains gender ratios for all age groups over the entire 50-year interval.

Discussion

The trend in gender ratio shows that prior to 1976, a significant proportion of women failed to pass from the 25–34 years age group to the 35–44 years age group. In other words, women born between 1921 and 1936 had significantly greater death rates compared with men in the same birth cohort. This may be explained, at least in part, by the social and economic strains caused by World War II, which had a disproportionate effect on women of reproductive age. A similar situation may well have existed before 1956, but lack of census data makes it difficult to verify this assumption. From 1966 onwards, particularly since 1976, death rates in these age categories decreased considerably.

This coincided with the successful completion of the trial phase of the Primary Health Care (PHC) Project in Iran, carried out in collaboration with the World Health Organization. This initiative laid the foundation for entirely new strategies in the provision of healthcare services in Iran. The post-revolution era in Iran provided an appropriate political atmosphere for public health initiatives aimed at improving access to health care, especially in remote and underprivileged areas, despite a whole range of social and political upheavals (e.g. the war with Iraq, economic sanctions, etc.). This, in turn, led to a PHC-centred approach to health in Iran, resulting in unprecedented levels of access to PHC in the mid-1980s, including remarkably good maternal and child health coverage for women. One corollary of these social and health developments was a significant improvement in women’s literacy and education, together with their greater participation in social and political life.

The changing trend may be attributed to better social and economic conditions, coupled with a cultural and political context that favoured greater access to health care for women. The overall effect of these changes and the improvements in health planning and healthcare delivery has

<table>
<thead>
<tr>
<th>Table 1 – Population and gender distribution of people aged over 54 years in Iran (1996 and 2006).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Census date</td>
</tr>
<tr>
<td>1996 population (n)</td>
</tr>
<tr>
<td>Gender ratio (male:female)</td>
</tr>
<tr>
<td>2006 population (n)</td>
</tr>
<tr>
<td>Gender ratio (male:female)</td>
</tr>
</tbody>
</table>

Please cite this article in press as: Farzadi F, et al., Women’s health: Explaining the trend in gender ratio in Iran over half a century (1956–2006), Public Health (2010), doi:10.1016/j.puhe.2010.01.001
Data from the Statistical Centre of Iran (SCI) show that the increase in life expectancy for the 1966–1976 decade amounted to 11 years, which is approximately twice the figure for the next two decades (5 years for 1976–1986 and 6.5 years for 1986–1996).8 These findings are most likely due to improvements in the overall health status of women. Other surveys performed by the SCI show an increase in life expectancy of 2.7 years (6.3%) for the 1958–1968 decade, 8.7 years (19.1%) for 1968–1978, 11.3 years (20.8%) for 1978–1988, and 1.2 years (1.8%) for 1988–1998.3

Conclusion

Computations of life expectancy are based on the conditional probability of death, and hence are not affected by death rates in the past. This explains why improvements in women’s health have not been accompanied by a population gender ratio in favour of women. Over the past few decades, life expectancy has constantly increased. The highest acceleration rates were observed before 1976, and the rise has been much slower in the subsequent decades. This illustrates the fact that once a certain level of health and life expectancy has been achieved at the population level, it becomes difficult to
maintain the same rate of increase in the long term. These findings show that there is no real discrepancy between women’s health status and their life expectancy. The relatively small number of females in the older age groups is simply a consequence of higher death rates and lower life expectancy of women in the decades preceding the 1976 Census, especially before 1956.

**Ethical approval.**

None sought

**Funding**

None declared.

**Competing interests**

None declared.

**REFERENCES**


