One child family policy

Twenty five years of the one child family policy in China

F Festini, M de Martino

Problems and future prospects

Praised for saving China from a demographic catastrophe or blamed as a violation of a basic human right, the one child family policy (OCFP) is reaching its 25th year and a recent law[1] has confirmed this demographic strategy for the future. The government decision to limit the number of children to one per couple, taken in 1979, was a response to the threat that the country's massive demographic growth cast on the future of economic development and of living conditions of the Chinese people. The goal set was to limit the total population to about 1.2 billion for the year 2000 and to significantly reduce the natural increase rate.[2] The OCFP has been implemented—with some exceptions to the rule and a varying severity[3 4]—mainly through economic incentives and aids for families with a single child, and taxes, fines, and various social disadvantages for the families who do not abide by the rule,[5] together with a strong social pressure on women not to have a second pregnancy. The acceptance of the OCFP on the part of the people has been sometimes reported as difficult[5] as the rule seems to conflict with the deep rooted Confucian tradition that emphasises the importance of numerous offspring, in order to pass on the responsibility of supporting the old people and of perpetuating traditions. Coercion to oblige women to sterilisation, abortion, or insertion of IUDs has also been reported.[5 6]

A quarter century after its introduction the OCFP has achieved most of its objectives. The birth of 250–300 million Chinese has been prevented and the rate of natural increase dropped from 11.6 per thousand in 1979 to 8 per thousand in 2001. The population of China was 1273 million in the 2000 census and the total fertility rate fell from 2.8 in 1979 to 1.8 in 2001[7 8] well below the replacement rate of 2.1 children per woman. The falling fertility has opened a ''demographic window'',[9] which has kept the Chinese population within dimensions that have enabled the availability of sufficient resources and the maintenance of a satisfactory standard of living for everybody, and has boosted China's economic growth. Moreover, the attention on birth control brought the diffusion of a better health service for women, reduced the morbidity and mortality linked to pregnancy, and helped the women to escape from their traditionally subordinate role, giving them more opportunities of education, work, and careers.[10]

As a result of the OCFP, the average size of the family fell from 4.54 people in 1980 to 3.36 people in 2000 and a growing number of Chinese are only children: in Beijing 62% of the families have only one child and the national average of children in each family is 0.74.[11]

In past years concern was expressed about what would have become of this generation of only children, product of the OCFP. While on the one hand it has been emphasised that only children have benefited from the greater resources devoted to them (especially girls, freed from the competition with traditionally favoured sons),[3] many also hypothesised various potential psychological and social problems for this cohort of only children: the children belonging to the generation of the ''Xiao huangdi'' (Little Emperors) were forecast to be spoilt, at the centre of attention, hyper-protected, or insecure because burdened with excessive expectations by their parents, unwilling to measure themselves against their peers and to take on life's responsibilities.[12 13] The fear was that their psycho-social maladjustment would have had far reaching consequences for all Chinese society. These concerns have turned out to be groundless, as a recent study by Hesketh *et al*[14] carried out on Chinese adolescents, using several health, psychological, and social indicators, has shown that the Chinese only children do not suffer negative consequences in comparison with peers who have siblings; in contrast, being an only child seems to give them some advantages with regard to their capacities for social interaction.

Yet, there are two outcomes of the Chinese demographic policy that are now a cause of concern, as they seem likely to produce relevant changes in the social structure of China and consequences that are not entirely predictable but undoubtedly far reaching.

The first of these outcomes is the change of the sex ratio at birth (SRB)—that is, the proportion of male live births to female live births. The normal SRB ranges between 1.03 and 1.07.[15] In 1980, the SRB in China was about 1.07; in the following two decades it progressively increased to arrive, according to the 2000 census, to the alarming proportion of 117 newborn boys for every 100 newborn girls.[16 17] This ratio is higher in rural districts than in urban areas and in some areas, for example Guangdong the SRB reached 1.43.[18] There is little doubt that this abnormal SRB is a direct effect of the OCFP. In China there is a deep rooted traditional preference for the son, labour force who ensures a serene old age for his parents and carries on the family line; it is well known that a cultural preference for sons, combined with a fast reduction of the fertility rate, gives rise to an increase of SRB.[16 19 20] This is also suggested by experiences in other Asian countries, where however the drop in fertility has different causes. In China, the rapid drop in fertility was a programmed and desired effect of OCFP, the tendency goal of which was, indeed, a fertility rate of 1. The role of OCFP in determining a changed sex ratio is confirmed by a recent study that showed that the SRB of an entire cohort of babies born in Italy to Chinese recent immigrants over a decade is normal.[21] In general, in China couples are encouraged by tradition and by social environment to act so that the only allowed child will be male. This is achieved mainly through selective abortion of female fetuses, made possible by prenatal identification of the sex through ultrasound scan, and by the increasing availability of this diagnostic procedure in China.[3 22 18] This practice has become widespread and has been specifically forbidden, although it is easy to get round the prohibition. Underreporting of births of girls is not likely to have a relevant role in the changed SRB but a relevant female early mortality ratio, more than twice as high as male mortality, has been recently reported in a rural area,[23] which is likely to make the gender imbalance even worse. Whatever the causes may be, the surplus of boys is particularly striking, and in the next years in the areas in which the SRB are now highest, up to one quarter of men will not be able to find women to marry and to create a family. It has been forecast that, from the first decade of the century, approximately 1 million men each year will be unable to find a female partner.[24 25] Anecdotal evidence of the shortage of women to marry is emerging in some rural areas of China,

from which there are reports of kidnappings and trade in women, of frequent marriages between blood relatives, and even of rural villages with no girls and single women at all.[17 26] There is no historical precedent for a society with such a high surplus of men: in the past, especially after wars, the opposite phenomenon of a surplus of women often emerged. The potential consequences of this dramatic gender imbalance is still an open question: by a demographic point of view it can be hypothesised that the marrying age of women will fall progressively to adolescence, that the ethnic minorities—to which the OCFP was not applied and therefore have lower SRB[27]—will be absorbed by the Han ethnic majority, and, finally, that there will be a stimulus towards male emigration and female immigration.[28] By the sociological point of view it has been hypothesised that such a numerous cohort of Chinese surplus men (''Guanggun''—that is, bare branch), socially and biologically frustrated by the impossibility of creating a family, will have a higher risk to be prone to socially disruptive behaviours bringing to an increase of violence and crime, which raises concerns about China's future internal security.[25] The impact of the forced bachelorhood on the mental health of Chinese surplus men, also raises questions that will have to be faced in the coming years.

The changed SRB, anyway, is not just a male issue: it represents first of all a form of discrimination against the female gender. The Chinese government has intervened for a couple of years now to cope with this problem, with a ''Care for girls'' campaign aimed to tackle the sex disproportion through the elimination of the cultural discrimination against girls in rural and underdeveloped areas[18] Future years will show us if this measure will be effective in alleviating China's gender imbalance.

The second problematic consequence of the OCFP is the aging of the population.

In 2000 the over 60s accounted for over 10% of the population, and China consequently became an ''aging society''. The percentage of the population of over 65 years of age, which in 1982 was 4.9% rose to 7% by 2000, while the old age dependency ratio (the ratio of over 65s to the working age population) rose from 7.98 to 10.[8 29] Forecasts for the future are a cause of concern: the growth of China's elderly population will be about 3% per year for the next 30 years, around 2025 to 2030 the over 65s will account for 15% of the population and will continue to increase, reaching 22% in the 10 years following. The old age dependency ratio will rise to about 25 in 2030 and to 35–40 in 2050.[29] In 2050 the over 60s will account for a quarter of the population.[30]

This scenario depends in large part on the Chinese demographic policies. The increase in the proportion of older people and in the old age dependency ratio appears indeed to be a direct consequence not only of the physiological increase in longevity, but also of the comparatively short time in which a significant reduction of birth rate and of fertility rate has taken place.[29 31] This has determined, in the span of just one generation, an alarming disparity of numbers between one generation and the next.

Aging of the population is a well known phenomenon in industrialised countries, which tackle it with difficulty. China, in contrast, which is still largely a developing country, seems to be unprepared to this phenomenon as a solid pension system has not been developed yet. Currently, only 17% of older Chinese have some form of pension and more than 70% rely only on the support of their children.[32] According to Chinese tradition it is indeed the duty of children to support their parents and grandparents in old age. Nowadays therefore, the problem seems to be the disproportion of numbers between the generation that needs to be supported and the one that is responsible for their support: more and more couples will be composed by two only children spouses and within about 30 years, they will account for 70% of Chinese couples.[33] As an example, this means that a couple of single children in their working age may have to support one child and four parents, as well as up to eight grandparents, without the help of any sibling, according to the ''1-2-4-plus'' formula that scares the Chinese demographers. This potentially disproportionate burden is likely to cause many problems to Chinese families, which may appear even more serious if we consider that the lengthening of life expectancy—in 2050 the over 85s will be about 166 million, over a tenth of the population[29]—will increase the prevalence of cardiovascular disease, cancers, chronic degenerative illness, and permanent invalidity among the elderly population,[34] and that, with the introduction of the market economy, the access to the health services in China is becoming more difficult than in the past.

The demographic bonus that China is receiving thanks to the decrease of fertility is a favourable circumstance to cope successfully with the problem of population aging. Yet, it is necessary that resources made available by the decrease of the demographic pressure are effectively invested in health and social security and that proper attention is given to the importance of creating without delay an adequate pension system or other forms of support of the elderly population.

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REFERENCES

1 **Anonymous**. No relaxation of Chinese ''one couple, one child'' policy. *People's Daily, Beijing* 2002;2 Sep. http://www.english.peopledaily.com.cn (accessed 25 Dec 2003).
2 **Hao Y**. China's 1.2 billion target for the year 2000: ''within'' or ''beyond''? *Australian Journal of Chinese Affairs* 1988;**19/20**:165–83.
3 **Hesketh T**, Zhu WX. The one child family policy: the good, the bad, and the ugly. *BMJ* 1997;**314**:1685–7.
4 **Lin F**. Evolution of China's family planning policy and fertility transition. *China Popul Today* 1998;**15**:3.
5 **Kane P**, Choi CY. China's one child family policy. *BMJ* 1999;**319**:992–4.
6 **Bernman J**. China attempts to soften its one-child policy. *Lancet* 1999;**353**:567.
7 **China Population Information and Research Center**. Basic population data of China 1949–2000 and major figures of the 2000 population census (no 1) 28 Mar 2001. http://www.cpirc.org.cn (accessed 9 Sep 2003).
8 **UNICEF**. Demographic indicators. http://www.unicef.org/infobycountry/china_statistics.html (accessed 1 Sep 2003).
9 **Marshall A**, ed. *The state of world population 2002*. New York: United Nations Population Fund, 2002:20–4.
10 **Zhu WX**. The one child family policy. *Arch Dis Child* 2003;**88**:463–4.
11 **China Population Information and Research Center**. China being listed among countries with a low birth rate. CPIRC news release. http://www.cpirc.org.cn/e-view2.htm (accessed 9 Sep 2003).
12 **Chen B**. A little emperor. One-child family. *Integration* 1994;**39**:27.
13 **Jing Q**, Wan C, Over R. Single child family in China: psychological perspectives. *Int J Psychol* 1987;**22**:127–38.
14 **Hesketh T**, Qu JD, Tomkins A. Health effects of family size: cross sectional survey in Chinese adolescents. *Arch Dis Child* 2003;**88**:467–71.
15 **Davis DL**, Gottlieb MB, Stampnitzky JR. Reduced ratio of male to female births in several industrial countries. *JAMA* 1998;**279**:1018–23.
16 **Gu B**, Roy K. Sex ratio at birth in China, with reference to other areas in East Asia: what we know. *Asia Pac Popul J* 1995;**10**:17–42.
17 **Plafker T**. Sex selection in China sees 117 boys born for every 100 girls. *BMJ* 2002;**324**:1233.
18 **Anonymous**. Gender imbalance prompts more care for girls in China. *People's Daily, Beijing* 2003;24 Oct. http://www.english.peopledaily.com.cn (accessed 25 Dec 2003).
19 **Poston DL Jr**, Gu B, Liu PP, *et al*. Son preference and the sex ratio at birth in China: a provincial level analysis. *Soc Biol* 1997;**44**:55–76.
20 **Li N**, Feldman MW, Li S. Cultural transmission in a demographic study of sex ratio at birth in China's future. *Theor Popul Biol* 2000;**58**:161–72.

21 **Festini F**, Taccetti G, Cioni ML, *et al*. Sex ratio at birth among Chinese babies born in Italy is lower than in China. *J Epidemiol Community Health* 2003;**57**:966–7.
22 **Kristof ND**. China: ultrasound abuse in sex selection. *Womens Health J* 1993;**4**:16–17.
23 **Wu Z**, Viisainen K, Wang Y, *et al*. Perinatal mortality in rural China: retrospective cohort study. *BMJ* 2003;**327**:1319–22.
24 **Tuljapurkar S**, Li N, Feldman MW. High sex ratios in China's future. *Science* 1995;**267**:874–6.
25 **Hudson V**, Den Boer AM. A surplus of men, a deficit of peace: security and sex ratios in Asia's largest states. *International Security* 2002;**4**:5–38.
26 **Nanliang HB**. In rural China, it's a family affair. *Time Magazine* 2002;159. http://www.time.com (accessed 18 Aug 2003).
27 **Zhang J**. The imbalance of sex ratio at birth, and its causes and countermeasures in China. *China Population Research Newsletter* 1998 Jun:1–2.
28 **Livi Bacci M**. Le bambine cinesi mai nate (Chinese never-born girls). *La Repubblica* 2003 24 Mar:18.
29 **Sun F**. Ageing of the population in China: trends and implications. *Asia Pac Popul J* 1998;**13**:75–92.
30 **China Population Information and Research Center**. CPIRC news release. China sticks to population control policy in new century. http://www.cpirc.org.cn/e-policy4.htm (accessed 12 Sep 2003).
31 **Peng P**. Causes and consequences of fertility decline in China. *China Popul Today* 1998;**15**:5–6, 10.
32 **Anonymous**. China's aging population expanding fast. *People's Daily, Beijing* 2002; 15 Aug. http://www.english.peopledaily.com.cn (accessed 25 Dec 2003).
33 **Liu H**, Liu Y. Only children and the marriage structure in the future. *Chin J Popul Sci* 1996;**8**:395–402.
34 **Woo J**, Kwok T, Sze FK, *et al*. Ageing in China: health and social consequences and responses. *Int J Epidemiol* 2002;**4**:772–5.

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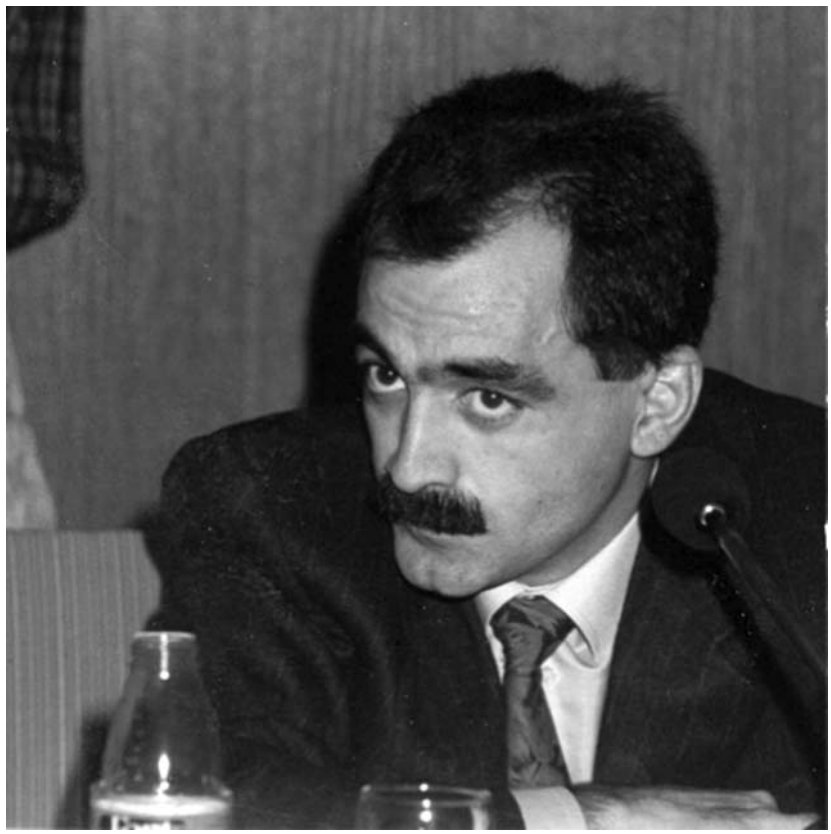
Patxi Catalá, founder of the Andalusian School of Public Health*



On 9 November 2003, at 54 years, Dr Francisco Javier Català died, known as *Patxi* for the many friends conquered by his seductive looks and his professional activity. His death came prematurely after a long illness, which, much to his regret, he transformed into another of the many episodes in which his lack of conformism shined. A battle that witnessed to his limitless love for life until the very last week and that didn't prevent him enjoying it until the sudden outcome, when the last breath was already escaping from his body.

Patxi was born in Navarre, lived his youth in Madrid, and reached maturity in Andalusia. He made compatible his study of medicine at the Universidad Complutense of Madrid with a political activity that took him to the Carabanchel prison, an experience which he didn't flaunt, although he kept the affectionate memory of people he met there and the much time that he devoted to literature, one of his favourite interests.

His social consciousness determined his early vocation for the public health, from his student days, and that later took him to the General Directorate of Public Health. After the restoration of the Ministry of Health, he became one of the most outstanding representatives of the generation of epidemiologists and public health practitioners that stood out during the period of transition to democracy in Spain. Later he carried out the responsibility of Deputy Director of Epidemiology in the Ministry of Health until the mid-eighties, when he was appointed for leading the project of creating the Andalusian School of Public Health (*EASP, Escuela Andaluza de Salud Pública*).

The EASP, inaugurated in 1985, was the first of the schools of public health created by the new Autonomous Communities (Regions) of Spain, and the one that has best survived the difficulties of a health system disproportionately focused on the care sector. *Patxi* had been the soul of the EASP, and had continued serving it until the last moment. He was able to build the EASP from scratch into a reference for Andalusian, Spanish, and international public health.

A man of action, *Patxi* knew to counteract the sterility of rhetoric and doctrinal controversies, with the research and educational activities that the health system needed most. In this way public health could assume front line responsibility and leadership over the whole health system, with an effective contribution to the improvement of the population's health and the rationalisation of the health organisations. A contribution that is already confirmed by a generation of public health practitioners and health services managers from all over the world. Not in vain international cooperation is one of the main areas of the *EASP*.

Dr Catalá was a founding member of the Spanish Society of Epidemiology (SEE) and of the Spanish Society of Public Health and Health Administration (SESPAS); his legacy has left a deep impression among the epidemiologists and the Spanish public health community that his physical disappearance won't be able to erase.

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