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Who is afraid of low fertility? Implications for support in later life

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Introduction

Concerns regarding the costs of population ageing have led to substantial changes in long-term care policies (defined as both institutional and public or private home care) in many industrialised societies. Reforms have largely sought to reduce institutional care (e.g. residential home provision) and access to home care (e.g. community nursing, home help and meals) by targeting services to the most disabled older individuals (OECD 2005). The implicit assumption underlying these policy changes is that the family will be willing and able to take on the care of frail older relatives. At the same time, it has been suggested that the declines in fertility that have accompanied population ageing will contribute to potential declines in the availability of children to provide care. Rosenthal (2000) points out that these changes often promote "doomsday" thinking about the future of informal caregiving, focusing on the shrinking pool of adult children to be caregivers, and the growing number of years that older parents may need care (Rosenthal 2000). While some of these concerns may be overstated, the increasing size of the older population and the confluence of structural and social changes in the family do mean that the demand for caregiving is likely to increase while the supply of traditional family caregivers may diminish (Pickard *et al.* 2000). Thus, understanding the impact of family structure on formal support (e.g. availability of adult children and partners) in later life is critical policy issue. To date, while several U.S. studies have shown that family members (in particular, spouses and children) significantly reduce the risk of institutionalisation (Aykan 2003, Boaz & Muller 1994, Cagney & Agree 1999, Freedman 1996), few of these studies have examined the situation in Europe (Grundy & Jitlal 2007). Moreover, little research has investigated the relationship between family structure and the use of formal services in Europe (Bowling *et al.* 1991, Glaser *et al.* 2006, Larsson & Silverstein 2004, Shea *et al.* 2003) although this relationship has been investigated more widely, once again, in North America (Aykan 2003, Barrett & Lynch 1999, Choi 1994, Soldo 1985, Soldo *et al.* 1990). Moreover, there is a widespread assumption that the fertility declines that have occurred over the past 40 years, especially in Southern Europe, are likely to lead to increasing use of public services among frail older people who have traditionally relied on families for support. It has been suggested that those with more children may be more likely to rely on families for support whereas those with fewer children may be more likely to turn to the public/private sector.

Employing data from the English Longitudinal Study of Ageing and the 2003 Indagine Multiscopo Famiglie e Soggetti Sociali (IMF) our aim is to investigate the relationship between family structure and two types of formal support: residence in institutions and receiving either public or private home care. Using the English data we examined, from the older person's perspective, the association between number of children and union status, and expectations for moving into a nursing home in the next 5 years. In addition, we also examined the relationship between family structure and the use of public or private home care among those who needed assistance with activities of daily living (ADLs) and instrumental activities of daily living (IADLS).

In Italy, from the adult child's perspective we explored the association between number of siblings and whether the parent lives in a communal establishment or with a private full-time carer (known as a "badanti"). We examined whether having additional siblings (in comparison to being an only child) influenced outcomes for formal support for older parents. With the Italian data we also examined whether there were significant differences in intergenerational transfers between children with parents living in the community in comparison to those whose parents received public or private home care.

Background

What type of help older people receive depends on key demographic variables which affect people's opportunities for living with other family members or of receiving help from them and key among these is the existence of adult children and partners. Previous work has shown that there are few differences between Britain and Italy in family characteristics of older people (e.g. mean numbers of living children are very similar among older age groups) (Glaser & Tomassini 2000).

Most of the evidence for the relationship between family structure and institutional care is largely North American (Aykan 2003, Boaz & Muller 1994, Cagney & Agree 1999, Freedman 1996). Two relatively recent European Studies also examined the influence of family structure and institutional care (Grundy & Jitlal 2007, Larsson & Silverstein 2004). This literature generally shows that older people with children are less likely to be in institutions even when other factors such as health are taken into account.

The evidence for the association between children and public or private home care is more mixed: no relationship observed in some studies (Choi 1994), whereas in others children were associated with reduced use (Barrett & Lynch 1999, Soldo 1985, Soldo *et al.* 1990). In Britain, although some research has examined factors associated with home care (Arber *et al.* 1988, Boniface & Denham 1997, Bowling *et al.* 1991, Davey & Pastios 1999, Glaser *et al.* 2006, Stoddart & Sharp 2002, Tomassini *et al.* 2007), only in three of these were family characteristics other than marital status or living arrangements considered (Bowling *et al.* 1991, Glaser *et al.* 2006, Tomassini *et al.* 2007). Bowling and colleagues (1991) investigated the use of district nursing, home help and meals on wheels in three samples of older people living in London and found no significant relationship with number of living children, with one exception: children significantly reduced the use of home help services among those aged 85 and over in Hackney. In a study using the longitudinal British Household Panel Study number of living children showed no significant association with first use of domiciliary care services among those aged 70 and over (Glaser *et al.* 2006). Tomassini and colleagues (2007), in comparative study of Britain and Italy, found number of children to have no significant association with home care service use (Tomassini *et al.* 2007).

Methods

English Longitudinal Study of Ageing

We used data from the English Longitudinal Study of Ageing (ELSA), the first longitudinal study of ageing in the UK and the 2003 Indagine Multiscopo Famiglie e Soggetti Sociali (IMF). ELSA is a nationally representative longitudinal study based on 12,000 people aged 50 and over (and their

younger partners) in private households in England. The original sample was drawn from respondents who had previously participated in the Health Survey for England (an annual nationally representative cross-sectional household survey) in 1998, 1999 or 2001. ELSA includes detailed measures of health, economic and social circumstances, as well as information on living kin and receipt of help. The original level of non-response from the HSE was 67 to 70 per cent (Taylor et al. 2007). No direct contact was made with respondents in the HSE who refused to be re-contacted. Individual response at wave 1 in ELSA was about 64 per cent while the highest level of non-response was from households, so weights were created to take into account household non-response (Taylor et al. 2007). The level of non-response at the second wave was 78 per cent. This report uses the longitudinal weight as the analyses are based on those present in both waves.

Our sample was chosen from those aged 60 and over who responded at Waves 1 (2002-2003) and 2 (2004-2005). We restricted our sample to parents and to those who had been married (only very small numbers of never-married respondents had children in this age group). We also only included those who had information on living children in Wave 1, and marital status, health, expectations for nursing home entry, and help received from public or private home care at Wave 2 (n=4,678). In analyses of public and/or private home care, the sample was further restricted to those who needed help with a selected list of ADLS and/or IADLS (n=3,244).

2003 Italian Indagine Multiscopo Famiglie e Soggetti Sociali IMF

The Italian IMF survey is carried out every 5 years and is based on a nationally representative sample of the private household population. The sample size is around 60,000 people and the response rate is generally high (over 90 per cent). Our sample included those who were aged 40 or older and who had a living mother or father (depending on the analysis performed) (N=9,740). For people with parents still alive the questionnaire included a question on the living arrangements of each parent: the respondent had the possibility of selecting different options including living in communal establishment or living with a “badante”. The questionnaire also collected information on whether the respondents had living brothers or sisters.

Analysis

Dependent Variables

Roughly comparable measures of formal support were available in the two surveys. These include: living in communal establishments, expectations of entry into a nursing home, and a measure of public or private home care. In Wave 2, ELSA collected for the first time information on expectations for the future including whether respondents expected to move to a nursing home in the next five years (expressed in terms of percentages). Given that around 45 per cent of respondents stated that there was a 0 per cent chance of moving into a nursing home in the next five years, it was decided to create a binary variable categorizing respondents into either a zero or a low chance of entry into a nursing home (x=0) versus those who expressed that there was a 20 per cent chance or greater that they would enter a nursing home in the next 5 years (x=1). In the Italian data a binary variable was created categorizing adult children into those who had a mother living in the community (x=0) versus those who had a mother living in an institution (X=1).

In Wave 2 respondents were asked a series of questions about whether they had any difficulties doing a series of ADLs and/or IADLs (excluding those difficulties expected to last less than three months); in addition, mobility difficulties were also included. If respondents answered yes to any of the ADLs and/or IADLs and/or the questions on mobility difficulties they were then asked if they received help from anyone, and if yes, they were asked to identify who (respondents were told to include their partner and anyone else in the household). Those who answered that an unpaid volunteer, a privately paid employee or a social or health service worker provided assistance were considered to have received help from formal services at home with ADLs and/or IADLs.

The Italian IMF asked adult children about a long-term carer that co-resided with the cared for older person, excluding those who had a full-day carer that did not stay the night. Using this information a binary variable was created distinguishing adult children with living parents who had such a carer (a bandante) versus those who did not.

Independent Variables

We investigated two indicators of family structure: number of children (expressed as three dummy variables 2, 3 and 4+ with 1 as the reference category) and union type (that is, distinguishing respondents who were widowed, separated or divorced from the reference category, those who were cohabiting or married). The other covariates are not necessarily comparable between the two surveys but were included given their importance in previous studies.

For England, information on children was collected from the household and child rosters in Wave 1 and information on union type from Wave 2. In Italy, as the adult child was the unit of analysis, number of siblings was considered.

Other covariates in the analyses based on the English data included age, gender, possession of an educational qualification, housing tenure and social class in Wave 1. These socio-economic characteristics have all been identified as key determinants of late-life support in previous studies. Age was coded as a dichotomous variable (with those aged 60–74 as the reference category) and sex as a binary indicator with male as the reference group. Individuals with higher educational levels were distinguished from those with lower levels. In England, older people with no educational qualifications were distinguished from the reference group, respondents with any of the following: 'O' levels or above, clerical, commercial or trade qualifications. Housing tenure was defined as not living in an owner-occupied dwelling (largely social sector tenants) versus the reference group, owner-occupiers, with or without a mortgage. A binary variable captured those in manual occupations, with the reference group being non-manual ones. In general this was based on the last or usual occupation held.

Limiting-long term illness was included in the models as those in need of help are likely to have a higher odds of living with others and of receiving help (Glaser & Tomassini 2000). A binary variable was created capturing whether respondents reported a limiting-long term illness that limited their activities in any way in Wave 2.

In Italy in addition to controlling for sex, age, education, tenure status, region, number of children, the health status of the respondent and the health status of the parent considered in the analysis were also included. Both these measures capture the presence of limiting illnesses; the absence of such illnesses was coded as x=0. Additionally, the area where the respondent lived was included given the substantial differences in the spread of institutional care facilities in Italy (with the availability of such institutions being greater in the North). The number of siblings is of interest as it is crucial for understanding how the presence of brothers and sisters may affect the odds of parents residing in institutional or receiving private care.

Analysis

We used logistic regression to model the two types of long-term care. For England, analysis of public and/or private help received at home was restricted to those who reported difficulties with the ADL and/or IADL measures specified (and mobility difficulties).

We report the odds ratios for the estimated parameters, 95 per cent confidence intervals and levels of significance. In interpreting the odds ratios, recall that each represents the effects of a given explanatory variable on the odds of for example, receiving institutional or public and/or private home care. When the odds ratio is larger than 1, there is a positive relationship between the explanatory variable and the outcome; when the odds ratio is smaller than 1, a negative association.

Table 1. Odds ratios (95 % confidence intervals) expectations of moving into a nursing home in the next five years, parents 60 and over, England

Variable	
Female	0.85* (0.73-0.98)
Age	
Age 75 and over	1.71*** (1.45-2.02)
Education	
Low education	0.89 (0.76-1.05)
Social class	
Manual	0.79*** (0.68-0.91)
Tenure status	
Not home owner	1.12 (0.94-1.35)
Children	
2 children	0.93 (0.77-1.13)
3 children	0.83 (0.67-1.03)
4 or more children	0.82 (1.14-1.51)
Health	
Limiting long-term illness	1.31*** (1.14-1.51)
Marital Status	
Widowed	1.01 (0.84-1.21)
Separated/divorced	0.92 (0.79-1.22)

*Note: *p <. 05; **p<.01; ***p<.001*

Preliminary results for England

In England, 29 per cent of respondents aged 60 and above reported a 20 per cent chance or higher of moving into a nursing home in the next five years. This is much higher than the percentage of older people in broadly similar age groups who currently reside in communal establishments.

While the latest Census data for England and Wales showed relatively high percentages of men and women aged 85 and over in communal establishments (that is, 15 per cent for men and nearly a quarter of women) the percentage of those 65 and over in institutions was only about 4 per cent (Tomassini 2006). Among those who needed assistance with ADLS and/or IADLS 11 per cent reported that they received such assistance from public or private home care.

In Table 1 we present results for parents aged 60 and over using the ELSA data. The findings show that number of children showed no significant association with a greater than 20 per cent chance of moving to a nursing home in the next 5 years; whereas those with a limiting long-term illness which restricted their activities were significantly more likely to report a higher chance of entering a nursing home in the next 5 years.

Table 2 presents results for the multivariate analysis of receipt of home care among parents aged 60 and over who reporting being in need of assistance with ADLs and/or IADLS. With the exception of those with four or more children, there is no significant association between number of children and receipt of public and/or private home care. This is in keeping with other studies that have found that having children does not affect the use of community care services (Glaser *et al.* 2008, Glaser *et al.* 2006, Tomassini *et al.* 2007).

Table 2. Odds ratios (95 % confidence intervals) of receipt of public and/or private home help, parents aged 60 and over in need of assistance with ADLs/IADLs, England

Variable	
Female	1.76*** (1.30-2.39)
Age	
Age 75 and over	3.62*** (2.70-4.87)
Education	
Low education	1.11 (0.84-1.48)
Social class	
Manual	0.67** (0.50-0.88)
Tenure status	
Not home owner	1.03 (0.76-1.40)
Children	
2 children	1.01 (0.73-1.41)
3 children	0.84 (0.57-1.23)
4 or more children	0.57* (0.37-0.88)
Health	
Limiting long-term illness	3.01*** (2.27-4.0)0
Marital Status	
Widowed	2.40*** (1.78-3.22)
Separated/divorced	1.82* (1.04-3.18)

*Note: *p <. 05; **p<.01; ***p<.001*

Preliminary results for Italy

In Italy, the proportion of people aged 40 and over with a mother still alive and resident in a communal establishment was 2.1 per cent. This proportion is low compared to other developed countries, but consistent with figures found in other Southern European countries (Glaser *et al.*

2004). The proportion of respondents who have a father living in an institution is even lower at 0.9 per cent, due to the fact that older wives often take care of frail husbands. Given the low proportion of fathers residing in communal establishments we focused on mothers only.

The proportion of respondents who have their mother living with a badante is around 1.0 per cent. We initially compared the frequency of contact among children who have a mother in institutional care with those who have a mother living in the community. The proportion of adult children who see their mother at least once a week is not significantly different between those whose mother was in a communal establishment and those whose mother was living in the community (69 versus 79 per cent); suggesting little difference in intergenerational transfers in Italy by whether the mother is institutionalized or not. The similarity in the percentage of children who maintained frequent contacts with their mothers is more surprising given the fact that a high percentage of those who had a mother living in communal establishment did not live in the same local authority as their mother.

Table 3. Odds ratios (95 % confidence intervals) of having a mother in institutional care, children aged 40 and over with a living mother, Italy

Variable	
Female	0.99
Age	1.06***
Education	
Low education	1.11
Tenure status	
Not home owner	2.24
Children	1.01
Siblings	0.76
Health	
Limiting long-term illness	0.89
Limiting long-term illness of mother	9.10***
Region	
Centre	1.39
North	3.75***

*Note: *p <. 05; **p<.01; ***p<.001*

Table 3 presents the results of the logistic regression of mother's institutional care among adult children aged 40 and over in Italy. Only three covariates showed a significant effect on the odds of having a mother in an institution: age of respondents (that is, a proxy for mother's age), the presence of limiting long-term illnesses among mothers, and living in the North of Italy. Number of respondents' own children (representing potential competing demands) or number siblings (with whom the adult child could share the mother's care) showed no significant association with the odds of the mother living in a communal establishment. Socio-economic indicators such as level of education and tenure were not significantly associated with having a mother in an institution. The increased odds associated with living in the North of the country underlines the higher level of the availability of communal establishments as they are more widespread in the North in comparison to the Centre and the South of the country.

Table 4 shows the effects of selected covariates on the odds of mothers living with a badante (either Italian or foreign). Again, demographic variables such as presence of siblings or children do not significantly change the odds of having the mother living with a badante. The only significant variables in the model are the presence of severe disabilities, and lower educational level.

Education is likely to be a proxy for socio-economic status; people with fewer economic resources are less likely to pay or to contribute toward the payment of a private carer.

Conclusion

We addressed two key questions dealing with the implication of selected demographic trends on long-term care strategies for older people. It appears that in England, as in Italy, living in a communal establishment or having a full time carer is largely driven by need (e.g. health and age). Supply of services is also likely to play a role in Italy, given the fact that living in the North of the country increased the odds of having a parent in a communal establishment. In Italy, having children and siblings did not significantly change the odds of older mothers living in a communal establishment. Finally, in Italy having a mother in institution showed not significant relationship with contact frequency.

Table 4. Table 3. Odds ratios (95 % confidence intervals) of having a parent living with a badante, children aged 60 and over with a living parent, Italy

Variable	
Female	1.14
Age	1.02
Education	
Low education	0.32***
Tenure status	
Not home owner	0.79
Children	1.29
Siblings	1.05
Health	
Limiting long-term illness	1.48
Limiting long-term illness of mother	4.50***
Region	
Centre	0.95
North	0.05

*Note: *p <. 05; **p<.01; ***p<.001*

Several conclusions may be drawn from these preliminary analyses. First, the crucial factor associated with institutional care in both countries is the health status of older person and not the number of children. This is an important point since reductions in fertility occurring in the next two decades in most of developed countries reflects a reduction in high parity fertility and not necessarily in the increase of childlessness (Kalogirou & Murphy 2006). Second, the decision to employ a permanent carer for a frail parent in Italy is not dependent on the number of children, but again is largely determined by the presence of severe disabilities and economic resources. Future work in Italy will explore who pays for private care (that is, whether adult children or the older parents themselves).

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