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### Abstract

**Introduction:** The improvement of the quality of life in older people, from a bio-psycho-social approach, raises important family and professional decision-making concerns and controversy such as the best place to live old age and the last days of our lives. On the other hand, the gradual loss of the traditional family model of three generations' coexistence, the need for professional care in old age, and the ageism detaching us from the old age of others, are a triad that in some cases condemns the older people to an 'unwanted loneliness'. We aimed to know if there's a subjectivity bias in the family/nursing home living duality choice when it comes to the old age of our grandparents or the elderly people in general.

**Method:** In the framework of the 'Intergenerational Study', second-year medical students (2014 - 2016) of Barcelona were voluntary surveyed about their level of relationship with their grandparents and elderly people as well as their level of agreement on living old age in family or doing so in a nursing home (NH).

**Results:** A total of 83 students out of 140 participated in the survey. They were mostly girls (68%), all of them had lived with grandparents, usually relate to 1 - 2 older people, and up to 4 sporadically. Maternal grandparents, mainly the grandmother, were mostly chosen to answer the questions regarding grandparents. Divergence of opinions was shown with respect to end of life: 52% disagreed that most elderly people end their days in NH, 24% were neutral and another 24% agreed. Living old age in a NH was seen with greater displeasure for their grandparents (63%, exponential distribution) than for the other elderly people (38%, normal distribution), while they considered equally important to live old age as a family when it comes to their grandparents (90%) and another older person (93%).

**Conclusion:** The participants showed consensus that the old age be lived in the family environment. However, their criteria with regard to NH is much more flexible when it comes to outsiders. This is interesting in the health professional framework and highlights their dual subjectivity between family and future professional roles.

*Keywords:* Quality of Life; Ageism; Old Age; Loneliness; Family; Residential Age Care Facilities; Nursery Homes; Health Aging; Gender Perspective; Grandparents

#### Abbreviations

AD: Alzheimer's Disease; NH: Nursing Homes; WHO: World Health Organization; INE: Instituto Nacional de Estadística; ECH: Encuesta Continua de Hogares

### Introduction

'A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. This is how WHO defined health in the preamble to the International Health Conference held in New York exactly 73 years ago (June 19 to July 22, 1946) in which representatives of the 61 participating countries agreed to the Constitution of the World Health Organization [1]. Thereafter, a revised definition of health referred to its dynamic and resilient features that would ensure independent living [2]. On the other hand, ageing, defined by medical dictionaries as a 'biological process of getting old that involves a set of structural and functional changes that appear over time and that are not the result of diseases or accidents' does not yet incorporate this bio-psycho-social approach inherent not only with the concept of health defined by WHO, but also to that of today's multidisciplinary gerontology. At the same time, definition of healthy aging is also being revisited. Thus, according to the operational continuum of healthy aging it is considered that it should incorporate measures of functional health and limiting disease as opposed by the definitions of healthy aging requiring the absence of all disease [3]. Therefore, in the university teaching field, it is important to train our future biosanitary professionals under this broader approach and bio-psycho-social perspective. Both because of the professional implications that it has in an ageing population that presents a high comorbidity and because health persists being one of the main concerns, if not, the main one for the elderly people [4,5].

In these contexts, the improvement of the quality of life of older people, from a bio-psycho-social approach, raises important family and professional decision-making concerns and controversy such as the best place to live old age. More importantly, to consider where to reside during what will inexorably be the last days of our lives, and that with the increase of current life expectancy looms in very advanced ages. There are several factors to consider, but among them it would be worth noting the impact that psycho-social changes can have on that health defined in purely biological terms (antagonistic to disease) [6]. Among many others, the gradual loss of the traditional family model of three generations' coexistence, the need for professional care in old age and social ageism (discrimination of an age group) that disassociates us from the old age of others, they present the way as a triad that, in some cases, condemns the elderly to an 'unwanted loneliness'. In this sense, loneliness in the elderly, rather than social isolation (two different concepts), is a growing problem in today's ageing society at an accelerated rate. Loneliness in the elderly is already considered in mental health as a great risk factor [7,8]. Several studies also indicate that its impact on survival is greater than that of other well-established risk factors such as sedentary lifestyle and obesity, and comparable to tobacco use [9]. The role of the family and the delegation of care of our elders to third parties or in residential elderly care facilities/nursing homes raise a diversity of views among members of the same family. For more than three decades, this issue has been part (and still is) of the recurring family conflicts in what is called 'the family crises associated with old age' [10-12].

It is based on all this that in the academic aspects in the health field we consider it is important to know and analyze the degree of subjectivity/objectivity in the duality family/nursing home, as much as the analysis of living alone has also deserved. It is important to know whether such duality exists, as is intuited, that the criteria and the assessment is divergent when decision-making concerns the old age of our own grandparents than with respect to the old age of others, of the elderly in general, who are the potential patients in our consultations.

### Method

### Participants

For the purpose of the present brief report on the subjective opinion of participants on the best place/environment to live old age, the data presented collects the answers of medical students, boys and girls, of the elective subject 'Envellir bé-Ageing well' of the second year of the Degree of Medicine at the Universitat Autònoma de Barcelona, Spain.

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Data was treated anonymously from a recent sample obtained during two academic years (2014/15 and 2015/16). This study is part of the 'Intergenerational Study' of the 'Association Knowing Ageing - Ageing well' conducted by researchers from the Medical Psychology Unit, from the same university, which aims to investigate intergenerational relationships, particularly those that are established between grandparents and grandchildren and how they influence our way of valuing old age, ageing and our elders.

#### Instrument

The 'Intergenerational Study Questionnaire' is a survey that explores the knowledge and beliefs about ageing and the elderly, ageism, the intergenerational relationship within the family and the relationship with other elderly persons, as well as the opinion about one of the grandparents.

The sociodemographic data recorded to define the characteristics of the participants were: sex, age, places of residence and birth, as well as level of schooling (basic, medium, upper).

For the present analysis, we have collected the answers to questions inquiring about the level of relation with the elderly, before the current topic of interest is addressed. First, the participants were asked about their relation and their coexistence with each of their grandparents. Coexistence was defined to participants as "to have lived in the same house for more than one day, the night not being necessary". Thereafter, they had to choose one of them to answer the questions of the survey related to their own family. Secondly, the participants were asked with how many elderly people they had frequent contact/relationship/conversation and with how many it was just sporadic.

For the topic of interest, we have collected the questions concerning the participants' opinion on the importance of living old age as a family or doing so in a residential aged care facility or nursing home (residencia, in Spain), referring to the elderly in general and, subsequently, the same questions relating to a particular grandfather (the one previously chosen by the participant). The sentences on which the participant was asked the level of agreement were, on the one hand with respect to the older person of the social environment: "The majority of the older people end their days in a nursing home", "I think it is fine that families enter their elders in nursing homes", "It is important that people may pass old age as a family". On the other hand, with respect to the chosen grandparent: "I would not like my grandfather/grandmother to be in a residence" and "It is important that my grandfather/grandmother passes old age as a family". A 5-level Likert scale (Totally agree, Agree, Indifferent, Disagree and Totally Disagree) was used for the answers.

#### Procedure

The questionnaire was administered to the participants on paper, to be answered anonymously, from February to April. Participants were told that the data obtained in this study would be treated in a completely confidential manner, never used to be individually labeled, only those researchers associated with the survey would have access to the data and use it solely and exclusively for the purpose set out above. The participants returned their anonymous surveys inside a closed envelop which was posted to an auxiliary researcher in charge.

#### **Data analysis**

The data were evaluated for the entire sample, and in this paper are shown descriptively and analyzed with Chi-square. In all cases, statistical significance was set at *P*<0.05.

#### Results

The results present the data obtained from a sample of 85 voluntary participants out of a total of 140 possible (participation rate: 60.71%). The sociodemographic characteristics of the sample of participants was quite homogeneous as all of them were second-year medical students, the vast majority being born in Catalonia with some few coming to our university from other geographical areas (Galicia,

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Extremadura, Andalucía, Comunidad Valenciana). The age range of the participants was between 19 and 21 years old. In agreement with the feminized composition of the medical students university collective studied, they responded almost twice as much as girls (68.2%, n = 58) than boys (31.8%, n = 27).

With regard to the level of relationship the participant had with old people of their own family, the results show that in 100% of cases there was a coexistence with at least one grandparent, although most of them (91.8%, n = 78) didn't live with grandparents at the moment of the survey.

	Relation		Cohabitation		Chosen	
	n	%	n	%	n	%
None	0	0	11	12.9	0	0
Paternal grandfather	49	57.6	27	31.8	12	14.1
Paternal grandmother	64	75.3	37	43.5	18	21.2
Maternal grandfather	67	78.8	50	58.8	20	23.5
Maternal grandmother	79	92.9	60	70.6	35	41.2

Table 1: On the level of contacts and cohabitation with grandparents as well as the grandparent chosen to answer the survey.

As shown in table 1, relationship but mostly cohabitation were mainly established with maternal grandparents (Chi-square = 16.596, 1df, P = 0.0001 and Chi-square = 23.937, 1df, P = 0.0001, respectively). Thus, for grandfathers, being from maternal origin resulted in a higher level of relationship (Chi-square = 7.843, 1df, P = 0.0051) and cohabitation (Chi-square = 11.490, 1df, P = 0.0007). Similarly happened for grandmothers of maternal origin (relationship, Chi-square = 8.630, 1df, P = 0.0033; cohabitation, Chi-square = 11.620, 1df, P = 0.0007). These patterns of relationship /cohabitation were in agreement with the choice of one of the grandparents to answer the second part of the survey. Thus, maternal grandmothers were the most chosen, two-fold compared to maternal grandfathers (Chi-square = 5.268, 1df, P = 0.0217) or paternal grandmothers (Chi-square = 7.018, 1df, P = 0.0081). No differences of maternal/paternal origin were found with regards of the choice of grandfathers (Chi-square = 1.886, 1df, P = 0.1696). The ranking from closest to least close was: maternal grandmother (41.2%), maternal grandfather (23.5%), paternal grandmother (21.2%), paternal grandfather (14.1%).

	Fre	quent	Sporadic		
	n	%	n	%	
None	6	7	4	4.7	
Only 1 old person	13	15.3	5	5.9	
1 - 2 old persons	30	35.3	15	17.6	
3 - 4 old persons	26	30.6	30	35.3	
4 - 10 old persons	5	2.9	20	23.5	
> 10 old persons	5	5.9	11	12.9	

Table 2: On the level of contact/relationship/conversation with other elderly people.

With regard to their relationship with older people (Table 2), there was a distinction between frequent and sporadic contacts/ relationships. Thus, participants were usually related to 1 - 2 older people, while the range increased to 4 when sporadically.

End of days in NH % n Total agreement 2 2.4 Agreement 18 21.2 23.5 Indifferent/Depends 20 Disagreement 34 40 Total disagreement 11 12.9

Table 3: On the use of nursing homes by older people in the last days of their lives.

When participants were requested about the level of agreement with the sentence "The majority of the older people end their days in a nursing home" (Table 3) it is interesting to note that the participants showed divergence of opinions, with responses showing a distribution biased to the right. Thus, 52.9% of participants disagreed that majority of older people finish their days in nursing homes (40% disagreement + 12.9% total disagreement), 23.5% participants choose 'indifferent/depends' and 23.6% were in agreement with the statement (21.2% agreement + 2.4% total agreement).

	Elderly people				Grandparent			
	Nursing homes		Family		Nursing homes		Family	
	n	%	n	%	n	%	n	%
Total agreement	3	3.5	48	56.5	3	3.5	47	55.3
Agreement	21	24.7	31	36.5	12	14.1	30	35.3
Indifferent/Depends	29	34.1	4	4.7	17	20.0	8	9.4
Disagreement	23	27.1	1	1.2	22	25.9	0	0
Total disagreement	9	10.6	1	1.2	31	36.5	0	0

**Table 4:** On the opinion of living old age in nursing homes when referring to the elderly people in general or to their own grandmother/grandfather.

With regards of the participants' opinion on living old age in nursing homes or as a family (Table 4), old age in a nursing home was seen as more displeased when referring to their own grandparents (62.4% = 25.9% disagreement + 36.56% total disagreement) than for the elderly people in general (37.7% = 27.1% disagreement + 10.6% total disagreement) (Chi-square = 10.580, 1df, *P* = 0.0011). Also, a normal distribution in the level of responses in the Likert scale were seen for elderly people, with majority of the responses in the 'Indifference or depends' (34.1% of participants vs. only a 20% when referred to a grandparent, Chi-square = 4.287, 1df, *P* = 0.0384). An exponential curve towards 'Total disagreement' was shown in the case of grandparents.

In contrast, their consideration on the importance to live old age as a family was similar when it comes to their grandparents (90%) than when it refers to another older person (93%) (Chi-square = 0.257, 1df, P = 6121), with a clear position on the 'total agreement' answer (55.3% and 56.5%, respectively). Still, it is interesting to note that the answers referring to the grandparent were polarized, with null answers in the disagreement (n = 0) and total disagreement (n = 0) for the family environment.

#### Discussion

Although the sample was small and relegated to a specific group, it is interesting to note that all the students who voluntary participated in the study had lived with grandparents and a vast majority also considered important that old age be linked to the family environment.

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This was stated, referring to elderly people in general and to those that were part of their own family nucleus. In fact, although the longterm care regimes are changing in Europe, Spanish and Italian models are usually labeled as familialist or family-based care models [13]. It cannot be ruled out, however, that there was a bias for social desirability, given the intrinsic value of the concept of family and the academic context where the survey was performed. Also, by the fact that the questionnaire asked (and therefore recalled) the participant to refer to the degree of coexistence with his/her grandparents and from among them to choose one on which the questions will be answered. However, this consensual opinion for both groups of elderly people (family and others) is interesting to highlight in the actual worrying social scenario when it comes to older people living in 'unwanted loneliness' and the impact that it has on their health [8]. According to the Continuous Household Survey (ECH, 2018) prepared by INE, the Spanish Statistical Office, the latest figures show a total of 4.7 million people living alone in our country, with an increase of 1.0% compared to the previous year (14). Of these, almost half (43.1%) were over 65 years old, with a majority representation of women (71.9%). The global perspective is no better [15].

Maternal grandparents were referred by the participants as those with whom they had highest relationship and, mostly, cohabitation. This also benefited grandfathers, as those from maternal origin were reported with higher relationship and cohabitation as compared with those of paternal origin. This would be in agreement with the traditional role of grandmothers offering support to their daughters for their grandchildren care and/or the mother's recall of parenting by her own mother [16,17]. On the other hand, in the present study, the preeminence of maternal grandmothers in the relationship/cohabitation, as reported by students, was clearly predictive of their choice of one of the grandparents to answer the second part of the survey. Again, the preference benefited maternal grandmothers as compared to maternal grandfathers or paternal grandmothers. Thus, as reported in the *Avon Longitudinal Study of Parents and Children* and other studies, the usual ranking from closest to least close, that is: maternal grandmother, maternal grandfather, paternal grandmother, paternal grandfather, was also found here [16,17]. Other factors than the role of early bonding or multigenerational living also can explain differences in the closeness of grandchildren and grandparent (i.e., evolutionary theory, three-generation attachment, geographical closeness, socio-economical status, health and personality, effect of divorce, etc) [16-18]. Still, in the present work, the level of preference to be chosen to answer the second part of the survey suggest the role of care as the one benefiting this preference, while maternal/paternal gender effect was more neutral with regards to grandfathers, at least in this sample.

With regard to the level of contact the participants have with the elderly population in general, the data indicates that it is scarce as compared to what they will have to handle in the near future at the professional level. Thus, the aging population and the high multimorbidity in the elderly patients will make them to be usual in the patient lists of many medical specialties [19]. This means that students' knowledge of old age and the aging process from their family/social environment is low. Hopefully, over the next decade, this ageing of population will also compass an increase of their level of contact and knowledge of aging in the professional healthcare environment. However, opportunities to learn about a healthy aging are diminished by this low level of familiarity/sociability but a relationship with the elderly skewed by a medical professional bias. If the Statistical office's forecasts are met, the number of elderly people in 2050 will be 16 million, half of them elderly over 80, with an increase of centenarians 13 times higher than the current one (172,000 people, in 2050). In order to promote the real (unbiased) vision of active and healthy ageing, we should enhance the contact of our young people with older people in non-professional health settings and encourage the prevention of overdiagnosis that this age group is currently considered to have [20]. Something, which from a social point of view, can already be considered an (involuntary) form of ageism.

The statement 'The majority of older people end their days in a nursing home' which in its formulation suggests having negative connotations, was discarded (in disagreement or total disagreement) by 52.9 of the participants. However, 21.2% of participants agree with it. Here, it is interesting to refer to data from a gerontological study made public in 2016, based on an online survey initiated in April 2015 in which 4,784 people, over 18 years old, participated, mostly from Catalonia and Madrid. The letter 'First, people: Taking care of how we would like to be cared for', shows conclusive data on the preference of the Spanish old population of living old age in their own homes [21]. They point out about the future need to care for or be cared for "when and where the person needs it". A small percentage would have no problem moving into their children's house, while about half of respondents prefer to stay at home, and among the reasons

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is the sense of 'burden' they want to avoid for their relatives. In this sense, it is important to contextualize that although reaching old age and the increase in life expectancy are recent achievements in the history of humanity, the process has led to the emergence of ageism on the part of society (discrimination on the basis of age, on youth, but mostly exercised on old age) and of self-abnegation by the affected group. The rapid rate of social ageing and the emergence of chronic age-related diseases call for a similar improvement of a bio-psychosocial network, as it has to be capable of supporting the increase in the overall burden of disease and disability adjusted life years that is expected to happen in the coming decades [19,22,23]. In addition, individual differences in the complex ageing process make old age the most heterogeneous period of life, requiring multidisciplinary geriatric and gerontology approaches. This scenario is still precarious, except in gerontocratic societies that have socially assumed old age in an exemplary way, as would be the case in Japan despite being the oldest country in the world and where more rapidly society has aged [24]. According to clinical research, the concomitance of a high comorbidity typical of old age and the presence of psychological and behavioral symptoms associated with neurodegenerative diseases are the main causes of the high burden of disease and loss of the quality of life of patients and the physical and psychological burden of their caregivers, which is decisive in most cases for institutionalization [25,26]. Still, in these cases, the experts of "RightTimePlaceCare Consortium" reported that the characteristics of the elderly person with dementia, decision-maker attributes, and EU country all seem to influence professionals' perceptions of the institutional long-term care appropriateness for people with dementia [27].

Going back to the answers obtained from this sample of medical students, the discrepancy as to whether they would mind if their grandparents lived in nursery homes with this same question posed on the elderly population, it is perhaps the one that is most interesting to be further studied. For the elder population, the 'indifferent/depends' answer was the most chosen. According to opinions contrasted a posteriori, this choice mainly responded to a neutral position with regards to their lack of knowledge on the elderly person characteristics, so it would be a 'depends' rather than 'indifference'. Thus, the students argued about the degree of unawareness of the bio-psycho-social situation, causes and effects, which are needed to be taken into account at the time to judge on a person belongs to an age group that is too heterogeneous in those respects. Another explanation was that the answer was referred to their academic-professional framework and that is why it disagrees with the same answer given for their grandparents with whom they have strong emotional bonds. Finally, although it cannot be ruled out that the detachment with the elderly, in general, may influence the answer to this statement. However, it could also be understood in a positive sense, as a greater flexibility in the approach that postpones the answer to acquiring greater knowledge of the older person one wants to have an opinion on.

### Conclusion

In summary, in this brief report based on a second-year medical student population that has lived with grandparents, on their subjective opinion as to the importance of older people living in family or in nursing homes there's a consensus, for grandparents and elderly people, that old age it is lived in the family environment, in agreement with the family care model. However, the judgment with regard to living in nursing homes is very much more flexible, valuing this institutionalized environment as more acceptable when it comes to outsiders. The results also highlight the importance of delving into aspects of individual and social subjectivity underlying this discrepancy of criterion, which highlight the duality between their family and the future professional roles.

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