

Health Status as Geneologic Burden in Aging Process

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ABSTRACT

Knowledge of modern molecular biology is leading to the idea that aging and diseases of the aged are two different entities. Healthy life is relatively limited by the specific number of chronic conditions which are present more in old age. Up to now the idea of aging as a process in relation to the individual, organ, tissue, cell or a molecule. There are only few studies on the influence of aging within a single family and even less of aging within several generations of the same family. Geneologic level is one way of getting into the process of family system and aging throughout time. The aim of the study was to determine the significance of genealogical burden with regard to the health status in examinees with different cognitive capabilities. The difference according to sex and age was not significant between the two groups. Health status of the examinees proband in both groups showed 34.4% healthy examinees in the group D and 65.3% in group G. The difference between the two groups was statistically significant. The difference of health status of parents (II. generation) was statistically significant in both groups. Morbidity of diseases was not statistically significant. Most of the ancestors from the grandmothers and grandfathers (III generation) died. (group G–97.5%, group D–100%). Statistically significant difference is present among the diseases of the circulatory system and those of digestive system in this generation. Data on the ancestors of the IV. generation showed that all the relatives died in both groups. Conclusion: the health status of the examinees with higher impairment in the test of cognitive capabilities is worse and they come from the families with worse health status.

Introduction

The most acceptable dynamic definition of the aging process, from the specu-

lative approaches by Greek and Roman philosophers to the molecular levels in the twentieth century, is that it is genetically defined, environmentally formed

and guided by chance¹. Emotional and anatomical changes observed during the aging process of an individual is showing significant interindividual differences. Among various theories and contraversal conclusions gerontologic literature is mostly using the concept of physiologic and functional aging which does not have to be in accordance with chronological order. This is the origin of the follow up and evaluation of deviations in an individual, family and total ethnic groups. Normal, pathologic, successful, unsuccessful aging are the terms recently more and more used in recent literature. Knowledge of modern molecular biology are leading to the idea that aging and diseases the aged are two different entities².

Life expectancy has become longer. Diseases related to the middle age and to the aged persons are different. The number of cardiovascular diseases, ischemic diseases and neoplasms is increasing³. Aging is connected with almost linear increase of diseases. Prevalence of chronic diseases is increasing until the 64th year of age, slowing afterwards⁴. Healthy life is relatively limited by the specific number of chronic conditions which are present more in old age. Their real impact vary upon the definition of inability but they all include cardiovascular diseases, as for instance heart infarction or cerebrovascular insultus, musculoskeletal disorders (arthrosis and osteoporosis that are leading to fractures), neurodegenerative disorders as memory loss and dementia, neuropsychiatric diseases such as depression, lung, breast, prostate and colorectal neoplasms as well as other degenerative disorders such as blindness as a result of cataract, macular degeneration and glaucoma, and hearing loss. Decrease or postponement of those conditions could not prevent early death or increase longevity, but can, what is more important, reduce duration of disease so that people can feel healthy until their

death⁵. Cardiovascular diseases are the most common cause for hospitalization in the aged. Increased blood pressure is more common in old age (35–45%) than among younger population (4–8%)⁶. Decrease of glucose tolerance is so high in old age that the application of diagnostic procedures for diabetes mellitus common in middle age patient will show the excessive frequency of this disease in more than 50% of examinees 70 years old and older. The importance of such condition in the aging process is clearer when ideas of some authors are taken into account⁷. They are saying that presence of diabetes mellitus is more important risk factor for the development of cerebrovascular insultus, intermittent claudication and heart failure than hypercholesterolemia.

Vision changes in the aging process are frequently connected with the physiological process of aging. Those changes can provoke more or less some eye problems or frequently they can be present without influencing eye or visual acuity⁸. Hearing disorders in old age – presbycusis is almost a symptom for the aged person. Hearing loss is increasing with age. It has been estimated that 55% of people over 65 years of age suffer from hearing loss of some degree while in those 80 years old 66% has serious hearing problems⁹. Since hearing loss is a gradual process it is not noticed until it starts influencing the social life of the aged. Therefore preventive care is very important for the improvement of the qualitative component of the healthy aging. The brain, as a part of the body is not capable of keeping the same level for ever. During the aging processes that are happening at this level are part of the complex changes that are inevitable and can not be avoided. Aging was recognized among scientists as the biggest determinant of cognitive impairment and dementia^{10–13}.

Up to now the idea of aging as a process in relation to the individual, organ,

tissue, cell or a molecule. There are only few studies on the influence of aging within a single family and even less of aging within several generations of the same family. Genealogic level is one way of getting into the process of family system and aging throughout time. It outlines the interrelationship in several consecutive genealogies. Thus, except for genetics, cultural, environmental and emotional side could have been followed up throughout generations¹⁴.

The main hypothesis of this study is that memory loss is the most sensitive dimension for the recognition of aging onset from various characteristics of weakening in the aging and is connected with the total aging process including its pathology and could be proved by the analysis of memory components for 25th and 75th percentile: a) different genealogic burden concerning morbidity and health status.

The aim of the study was to determine the significance of genealogic burden with regard to the health status in examinees with different cognitive capabilities. Specific aims were:

- To determine the distribution of cognitive impairment in examinees;
- To classify the examinees into two separate groups (D, G);
- To study their health status;
- To construct the family genogram and examine genealogic burden considering their health status;
- To determine the significance of genealogic burden in examinees with different cognitive abilities.

Materials and Methods

The study was conducted in adult population (>18 years) in the care of two family physicians of the urban area (N 1700). All patients asking for any medical help in the course of three consequent months

(581 patient, 57.3% women, 42.7% men) were selected. Criterion for the sample was their active care of the selected physicians. The exit from the study was requested for acute and seriously ill patient who could not stand the examination process.

The study was performed in two phases. In the first phase the patients were selected according to the 25th and 75th percentile from the result of memory components analysis. The second phase was the comparison of the examinees' health status and genealogic sibliings throughout three generations.

Phase I

Determination of cognitive disorder was performed by POT psychological test (Picture of Objects Test) constructed for memory deficit testing¹⁵. Nine questions are used to measure the time necessary for recognizing specific patterns (pictures, numbers) or the errors in their memorizing and interpretation. Special attention was paid to comprehensibility of the problem what is very important for the elderly in order to get the »most refine« memory results. Test results were computer processed.

Phase II

According to the results obtained by statistical analysis of the initial memory test examinees of 25th and 75th percentile were chosen and divided into two groups (D,G). Examinees from the both groups went through the following examinations: a) mapping of families genogram b) evaluation of their health status.

Family genogram

A chart of the standard family genogram consists of three or more generations representing all family members. Family genogram is a device used by physicians to summarize on one page a fearly large amount of data related to the fam-

ily. They are referring to the origin of family heritage and the risks it involves for their present descendents together with other medical and social impacts and their interrelations. Genogram is a characteristic family pedigree, family tree or genealogic chart. Genogram can also reveal the problem of an unknown etiology (cause of a disease) which is frequent in a specific family. Regardless its cause, it is important to point to its frequency throughout generations because it suggests to the descendants that the problem might develop. Technically, genogram is a clinical form of speech, storage and processing of information¹⁶.

Health status evaluation

It is shown as epicrisis on the basis of medical check up and data from medical record according to the usual practice in general/family practice. Data from medical record include verified diagnoses of medical status of the examinees. Clinical check up is done according to standard procedures and principles performed in the general practitioner's office. It includes the systems and organs that have clearly elaborated and repeatedly proved symptomatology of the normal and pathological aging. Examinees having no chronic diseases according to their medical check up and medical documentation were considered to be healthy subjects¹⁷. Data were statistically analysed using SPSS program for numeric data analysis. Geneology analysis was performed through the self-heredogram.

Results

Health status of examinees and their genealogic siblings through four generations was established by data analysis of clinical check ups and family genograms. The study included 109 persons working and living in two urban areas and divided into two groups. Group D consisted from

25% of »lower« initial sample of examinees out of which 61 responded with the worst initial memory test. Group G consisted from 25% of »upper« examinees. The examinees from both groups were marked as proband-examinees and they were studied as two parallel groups. The reason for their visiting the physicians was medical problem or any other problem regardless disease (45%), chronic medical problem (27%), regular medical check up (28%). They were all known to the physicians from before.

TABLE 1
EXAMINEES BY SEX

Sex	Groups	
	D (%)	G (%)
Male	29.5	30.6
Female	70.5	69.4

$$X^2 = 0.01, df = 1, p > 0.05$$

The sample consisted from (Table 1) 77 women and 32 men from 30 to 95 years of age. There were 18 men (30%) and 43 women (70%) in group D and 15 men (30%) and 34 women (70%) in group G ($p > 0.05$). The difference according to sex was not significant between the two groups.

The difference according to age was not statistically significant (Table 2)

TABLE 2
EXAMINEES BY AGE

Groups	X	sd	t = 2.72
D	50.4	8.4	df = 108
G	48.2	8.5	p > 0.05

Health status of the examinees proband in both groups showed that 34.4% of examinees from group D were healthy and 65.3% from group G. There were 65.6% sick examinees in group D and

34.7% in group G. The difference between the two groups was statistically significant (Table 3).

TABLE 3
HEALTH STATUS OF EXAMINEES

	Groups	
	D (%)	G (%)
Healthy	34.4	< 65.3
Sick	65.6	> 34.7

$X^2 = 6.62$, $df = 1$, $p < 0.01$

Health status of the examinees according to the type of disease (according to the International classification of diseases) is shown in Table 4. Morbidity was the highest in the group of mental disorders in both groups being a little higher in group D (39.3%) than in group G (22.4%), but there is no statistical difference between the two groups. Diseases of the circulatory system were on the second place in group D (36.1%) while they were third in group G (12.2%). There is statistical difference between group D and G. There is no statistical difference between the two groups according to the other type of disease.

According to parents health status examinees were less healthy in group D (9.8%) than in group G (24.5%) (Table 5). The same was with sick parents where

there were less sick (26.3%) parents in group D than in group G (36.8%). The results were opposite among dead parents. The number of dead parents was double (63.9%) among the parents of examinees with impaired memory (D) than among the parents (38.7%) of examinees with preserved memory (G). The difference of health status of parents is statistically significant in both groups.

TABLE 5
PARENTS HEALTH STATUS

	Groups	
	D (%)	G (%)
healthy	9.8	< 24.5
sick	26.3	< 36.8
dead	63.9	< 38.7

$X^2 = 7.03$, $df = 2$, $p < 0.05$

Endocrine diseases were on the first place in group D (16.4%) and on the fifth place (6.1%) in group G among the parents generation (Table 6). Diseases of the circulatory system (14.7%) were second in group D followed by mental disorders (13.1%) while in group G they were both on the second place (14.3%). Diseases of the digestive system were third in group G (12.2%). Neoplasms is a category of diseases equally affecting both groups (group D – 8.2%, group G – 8.1%). Dis-

TABLE 4
TYPES OF DISEASES AMONG EXAMINEES

Diseases	Groups		X^2	df	p
	D (%)	G (%)			
Emotional dis.	39.3	> 22.4	2.83	1	> 0.05
Circulatory syst.	36.1	> 12.2	6.92	1	< 0.05
Injuries	24.6	> 16.3	0.68	1	> 0.05
Digestive syst.	21.3	> 10.2	1.70	1	> 0.05
Endocrine syst.	19.7	> 6.1	3.16	1	> 0.05
Neoplasms	3.3	= 4.1	0.08	1	> 0.05
Genitourinary syst.	3.3	< 6.1	0.06	1	> 0.05
Respiratory syst.	1.6	= 2.0	0.31	1	> 0.05

TABLE 6
TYPES OF DISEASES AMONG THE PARENTS OF EXAMINEES

Disease	Groups		X ²	df	p
	D (%)	G (%)			
Endocrine syst.	16.4 >	8.1	3.30	1	> 0.05
Circulatory syst.	13.1 >	14.3	0.07	1	> 0.05
Emotional dis.	13.1 =	14.3	0.02	1	> 0.05
Neoplasms	11.5 =	8.1	0.37	1	> 0.05
Digestive syst.	9.8 <	12.2	0.11	1	> 0.05
Genitourinary syst.	8.2 <	8.1	0.05	1	> 0.05
Injuries	4.9 <	20.4	10.90	1	< 0.05
Alcoholism	3.3 <	4.1	0.01	1	> 0.05
Respiratory syst.	1.6 =	2.0	0.08	1	> 0.05

eases of the digestive system (9.8%) and of the genitourinary system (8.2%) affected the parents of group D less than the parents of group G (12.2%, 8.1%) and were on the third and fourth place. Injuries were on seventh in group D (4.9%) and first in group G (20.4%). Alcoholism (3.3%, 4.1%) and diseases of the respiratory system were equally represented in both groups.

Statistically significant difference was observed among both groups in injuries. Morbidity from other types of diseases was not statistically significant.

TABLE 7
HEALTH STATUS OF GRANDMOTHERS
AND GRANDFATHERS

Health status	Groups	
	D (%)	G (%)
Healthy	0.0 <	1.8
Sick	0.0 <	0.7
Dead (due to age)	18.7 <	33.5
Dead (due to dis.)	48.1 =	43.7
Died (cause of death unknown)	32.8 >	18.4

X² = 8.35, df = 4, p > 0.05

Most of the ancestors from the third generation, grandmothers and grandfathers, died (group G – 97.5%, group D

–100% (Table 7). In group G 33.5% died due to their age while it was 18.7% in group D. Death due to some disease is approximately equal (D – 48.1%, G – 43.7%) in both groups. The examinees from group D knew less about their ancestors (32.8%) than those from group G (18.4%). There were still 2.5% alive grandparents in group G while there was none in group D.

Table 8 shows that the number of diseases of the circulatory system was higher (55.1%) in group G than in group D (34.4%). There were more diseases of the digestive system in group D (19.7%) than in group G (4.1%). The same was with neoplasms (G – 16.5%, D – 6.1%) and mental disorders (G – 12.4%, D – 10.25). Diseases of the respiratory system were almost equal in both groups (6.6%, 8.2%). There were more alcoholics in group D (5.8%) than in group G (2.0%). Quite the opposite, diseases of genitourinary system (6.1%) and injuries (8.2%) were higher in the group with preserved memories. There were 3.3% of diseases of the genitourinary system and 2.4% of injuries in group G.

Statistically significant difference is present among the diseases of the circulatory system and those of digestive system.

TABLE 8
MORTALITY OF GRANDPARENTS BY TYPES OF DISEASE

Disease	Groups		X ²	df	p
	D (%)	G (%)			
Circulatory syst.	34.4	< 55.1	18.06	1	< 0.05
Digestive syst.	19.7	> 4.1	22.40	1	< 0.05
Neoplasms	14.3	> 8.2	3.47	1	> 0.05
Emotional dis.	12.4	> 10.2	0.29	1	> 0.05
Respiratory syst.	6.6	= 8.2	0.21	1	> 0.05
Alcoholism	5.8	> 2.0	2.90	1	> 0.05
Genitourinary syst.	3.3	< 6.1	1.42	1	> 0.05
Injuries	2.4	< 6.6	3.62	1	> 0.05

TABLE 9
HEALTH STATUS OF GREAT-GRANDMOTHERS
AND GREAT-GRANDFATHERS

Health status	Groups	
	D %	G %
Died (due to age)	3.8	< 5.7
Died (due to dis.)	1.8	< 5.7
Died (cause of death unknown)	94.8	> 87.7

X² = 2.14, df = 2, p > 0.05

Data on the ancestors of the fourth generation showed that all the relatives died in both groups (Table 9). Knowledge about the ancestors was higher (94.8%) in group D than in group G (87.7%). The number of persons who died due to their age (5.7%) or some disease (5.7%) was higher in group G than in group D (3.8%, 1.8%). There is no statistically significant difference in those data between the two groups.

Discussion

Family genogram is filling up the list of the patients' problems in family practice offering to the physician at the same time the survey of the main problems influencing the family through three or more generations. There are some authors^{18–19} who are claiming that geno-

grams are causing the difference in the quality of the physician-patient relationship in primary health care while there are others^{20–21} who offer open possibility in the conclusion that genogram are helping the physician in his work. Those studies are mostly connected with the studies of physician-patient relationship. Apart from the family medicine data obtained from the genograms are greatly used in genetic studies and their benefits is beyond dispute. In our study genograms are used for estimating the influence of genealogic burden on the aging process. There are not such studies in our or foreign literature.

The examinees picked out for 25th and 75th percentile by the analysis of the results of primary memory test and its components were included in the study of genealogic burden. Forty nine examinees with 25th percentile and 61 with the 75th percentile filled in the genogram. Statistical interpretation and analysis of the results data for examinees and their three consecutive generations were shown that together with the clinical examination and family history formed the groups of characteristic aging processes. There were no statistical difference by age and sex.

Analysis of the health status results of the first generation (examinees or pro-

bands) showed that proportion of healthy and sick examinees statistically significantly divided the group having more changes in memory (D) from the group with well preserved memory (G). Disease is with high statistical significance associated with the group that had worse answers in memory test i.e. showing more failing with getting older. Facts from molecular biology that confirm that disease and aging are two separate entities are indisputable but also the confirmations of many authors that people who have the most successful aging are those with with many added diseases²² what was confirmed in our study. It is very interesting that data on health status followed up according to types of diseases by the international classification of diseases in the examinees of the both groups pick out pathological conditions of mental disorders. There is no significant difference on the level of mental disorders what is more important because it emphasizes that the mental component is imperative in each encounter with the patient. Additionally, we must say that in this study of genogram all psychological deviations were included not recorded routinely by physicians in their medical records choosing physical diagnosis instead what gives different results in statistical analyses. Just this delicate deviations in psychophysical status of each patient and follow up of those processes and conditions through generations emphasizes genogram as a method of choice for primary care physicians. There are studies in literature²³ that did not use genogram in order to follow up the aging process but they emphasized the psychological component of the patient's relationship in the evaluation of genogram our results is a valuable contribution to intensify such studies in the direction of healthy and successful aging. Those data as well as the approach to them should be built into the everyday practical work of family physician with

regard to psychological approach to such patients and their families. It was proved by other authors as well²⁴.

Diseases of circulatory system were on the second place in the examinees with worse memory. This is the only group of diseases which is dividing the groups that are aging by unequal speed statistically significantly. A lot of our and foreign authors^{25–26} discovered in their studies that diseases of circulatory system could be found among younger population, and primarily among older population where they are on the first place. Other diseases mostly fit to the order acquired in other studies

Injuries are on the surprising third place in patients' with preserved memory in this study. The reason for that should be examined in further studies.

The second generation followed by genogram is presents by the parents of the examinees whose respective group of parents are statistically significantly different according to their health status results as well as their children. Statistical significance is connected to the dead parents especially and less to those alive. Parents of the examinees with preserved memory are in 61.3% alive but equally sick (36.8%) and healthy (24.5%). On the contrary parents from the group D are mostly dead (63.9%) or sick (26.3%) and very little healthy (9.8%).

Diseases of the examinees' parents are differently arranged than those from their ancestors. Diseases of the circulatory system are on the high first place in both group without any statistical significance what agrees with the obtained data (they are equally sick). Endocrine diseases are on the surprising second place in the group with more cognitive impairments (D) and is highly statistically significant in difference between the two examined groups. This fact is confirmed by additional quantitative analysis of the

text of this study, where mother of patients with earlier impairments were mostly diabetics. Among laboratory findings increased blood glucose confirms again the consistency of this disease among the examinees aging most successfully (D).

Information that injuries are highly represented in both groups requires further studies. This time statistical significance is in favour of preserved examinees (G) because their parents suffered from statistically significantly more injuries than those from the other group what is significant for the first generation i.e. examinees. Mental disorders and diseases of the digestive system are dividing third and fourth place and are more attached to better examinees (G) at the primary selection test. Mental anxieties have their origins in previous generations and take high place in the mental health scale. Family physician is well educated in the area of physical medicine but his education is poorer in mental health. By introduction of Balint and other educational methods on psychologic and possibilities of psychologic approach in family practice²⁷ family genogram is a method that additionally widens and enriches the work of those physicians. Besides it gives new dimensions of aging by targeted follow up of population and studies of this segment of medical science and practice. Neoplasms, diseases of the genitourinary system and of the respiratory system in parents are divided in the same way as their children. Neoplasms appear equally in both groups while diseases of the genitourinary system are higher in the population with better mental test. Diseases of the respiratory system are more frequent in the parents of examinees with worse initial test. Alcohol as psychosocial problem appears among the parents of examinees and is highly represented among the parents of examinees who were supposed to have

more unsuccessful aging what was confirmed by additional quantitative analysis of the lifespan of the examinees from this study.

Third generation of grandmothers and grandfathers has almost no live ancestors (2.5%). Therefore it was possible to follow up dead and their causes of death. It is very interesting that most examinees had no knowledge about their third and fourth generation of ancestors. Examinees with well preserved memory (G) showed more knowledge about this than those from the group D. In spite of this neither the examinees with better memory (G) had no knowledge about the ancestors of that generation (18.4%). In the group with bad memory (D) knowledge about their ancestors was 32.8%. Data on health and diseases statistically significantly divided those two groups.

Diseases of the circulatory system of this generation were on the first place what was shown by morbidity results, but this time it was more among the ancestors of better examinees and it was statistically significant. As well as up to now in such situations probably a certain role in the quantity of pathological conditions was played by knowledge, which was consistent in group G. Alcoholism and mental disorders are associated with worse and diseases of the genitourinary system and injuries to better examinees what coincide with the data of their ancestors.

Genealogic follow up of the fourth generation (great-grandmother and great-grandfather) brings up the remembering what is repeated confirmation to the memory test of choice and partly to the lack of knowledge for the reasons that should be checked. It is a fact that the increased quantity of ignorance in the examinees of the group with the worse results of the memory test is constantly repeating and is seen in other results of the additional examination of this study. In

this part of the study 86.7% of examinees with worse primary test (D) do not know and cannot recollect what was happening to their ancestors, great-grandmothers and great-grandfathers. In the group with preserved memory (G) 64.8% examinees knew exactly about the events connected to their ancestors. The difference is highly statistically significant.

The fourth generation in the number of children rises the doubt in ignorance because there is some knowledge about 50.8% while for 49.2% there is no knowledge at all among the group with worse memory test (D). In the other group (G) there is partial knowledge about 83.7% of ancestors and there is no knowledge at all only for 2.0%. The difference is also highly statistically significant.

Conclusion

1. Health status of the examinees with higher impairment in the test of cognitive capabilities is worse and they come from the families with worse health status.

Those ideas point and confirm the necessity and usefulness of taking professional genealogic records in family practice. Such data should be very important for future generations in the continuity of health care and scientifically it can help to the researchers.

2. Genealogic follow up of the health status of the patients' ancestors has predictive value in prevention of aging in general/family practice. The study of genogram proved the hypothesis that genogram explain the process of aging stressing the aspect of morbidity as additional burdening making visible the causes of stress in the family through generations. Such importance of the application of genogram has not been proved scientifically in medicine until now in the area of the aging of the person and the family and therefore represent the knows for holistic approach to the aging problem and connection of family physician to the big list of other specialties dealing with aging problem in its area.

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STANJE ZDRAVLJA KAO GENEALOŠKO OPTEREĆENJE U PROCESU STARENJA

S A Ž E T A K

Saznanja moderne molekularne biologije dovela su do spoznaje da su starenje i bolesti starije dobi dva odvojena entiteta. Zdrav životni tijek relativno je ograničen određenim brojem kroničnih stanja koje dolaze češće s višim godinama. Do sada postoje saznanja o starenju kao procesu u odnosu na pojedinca, organ, tkivo, stanicu, molekulu. Manje je istražen utjecaj na starenje unutar jedne obitelji, a još manje unutar nekoliko generacija iste obitelji. Genealoška razina jedan je od načina da se kroz vrijeme uključi u proces obiteljskog sustava i starenja unutar njega. Osnovni cilj ovog rada je odrediti značajnost genealoškog opterećenja s obzirom na zdravstveno stanje kod ispitanika različitih kognitivnih sposobnosti.

Prema zdravstvenom stanju skupine ispitanika se statistički značajno razlikuju jedna od druge, a prema vrstama bolesti statistički se značajno razlikuju u kardiovaskularnim bolestima. Zdravstveno stanje roditelja (II. generacija) statistički se značajno razlikuje u obje skupine, a podaci za pobol u ovoj generaciji nisu pokazali statističku značajnost. Treća generacija, bake i djedovi ispitanika umrli su u 97.5% slučajeva u G skupini i 100% u D skupini. Rezultati podataka o pobolu treće generacije predaka ispitanika pokazale su statističku značajnost u kardiološkim i gastroenterološkim bolestima. Dobiveni podaci za zdravstveno stanje četvrte generacije prikazuju samo umrle srodnike te generacije u obje skupine. Ispitanici s većim popuštanjem na testu kognitivnih sposobnosti imaju lošije vlastito zdravstveno stanje i dolaze iz obitelji s lošijim zdravstvenim stanjem.