

Comparison of health and effective functioning in Russia and the United States

Gerald J Jogerst¹

Jeanette M. Daly¹

Vicki Hesli²

Chandan Saha³

¹Department of Family Medicine, University of Iowa, Iowa City, IA, USA, ²Department of Political Science, University of Iowa, Iowa City, IA, USA, ³Division of Biostatistics, Indiana University School of Medicine, Bloomington, IN, USA

Background: Global aging may increase the societal burden of providing more resources to augment elders' disabilities. The implications of functional disabilities can vary depending on the society in which they occur.

Objective: To determine differences in US and Russian elder citizens' function.

Research design: Convenience sample of persons 60 years and older were surveyed and evaluated.

Subjects: One hundred community dwelling residents, half from Galesburg, Illinois and half from Moscow, Russia.

Measurements: An interviewer administered questionnaire and functional assessment examination.

Results: The Russian sample was younger than the American sample with a mean age of 67 years versus 78 years, and less likely to be widowed or living alone. Sixty percent of Russians took no medications compared with 14% of Americans, but Russians reported more cardiovascular disease, angina, and hypertension. Forty-four percent of Russians screened as being depressed and only 4% of the Americans. Self-assessed health was good for 77% of Americans and only 6% of Russians. The Medical Outcomes Study SF-36 Health Survey (MOS) eight health concepts showed favorable results for the Americans except for physical functioning, which indicated no difference.

Conclusions: Marked health and functional differences exist between our samples. Russians had more cardiovascular disease, took less medication, drank and smoked more and were much more likely to be depressed than the US subjects.

Keywords: function, cross-cultural, US, Russia, health

Introduction

The world community is aging and along with the aging process, an increasing proportion of the population is encountering functional decline (HHS 1999). Declining self-sufficiency of the aging population increases the societal burden associated with providing resources to compensate for the disabilities that arise. By identifying modifiable risk factors that predict functional decline, interventions may be focused to ultimately reduce societal burden by preserving or improving elders' function.

The biomedical model has been the paradigm for medical practice and research. This model primarily focuses on clinical outcomes of healthcare by using etiologic agents, pathological processes, and physiology. This paradigm contributes to an understanding of the causation of a medical problem and provides a foundation for diagnoses and treatments. The biopsychosocial model (Engel 1977; Molina 1983-84), which is the foundation of the Family Practice specialty (Rakel 1995), expands on the biomedical model by emphasizing the need to assess individuals and families in the context of their unique environment. Although the biopsychosocial model provides a better framework than the biomedical model in caring for elders, it needs to be further expanded to emphasize the significance of function in the health of the

Correspondence: Gerald J Jogerst
Department of Family Medicine,
01290-G PFP, University of Iowa, 200
Hawkins Drive, Iowa City, IA 52242,
USA
Tel +1 319 384 7704
Fax +1 319 384 7822
Email gerald-jogerst@uiowa.edu

elderly. Wilson and Cleary (1995) proposed a quality of life model that includes individual and environmental characteristics, biological and physiological variables and symptoms status that impact functional status. All of these concepts then impact general health perception, leading to ones' quality of life. The crucial issue in quality of life is the elderly persons' ability to function. Even the discomfort and disability produced by incurable diseases often may be modified (Williams 1999). A functional assessment therefore

provides the information needed to establish an adequate level of help for elders.

A functional assessment is a different entity than a biomedical evaluation in that it measures the "patient's ability to complete functional tasks and fulfill social roles" (Reuben and Solomon 1989). Our Functional Evaluation Framework (FEF) (Table 1) has been developed to test the impact of societal variance on a person's function. Previously used batteries of functional assessment tools tend to focus

Table 1 Functional Evaluation Framework

Function	Modifiers of function		
	Ability	Motivation	Opportunities
Functional Status	Physical	Psychological	Individual
*Physical functioning	*Absence of:	*Depression	*Demographics:
*Social functioning	Disease (acute or chronic)	Sad mood & pessimistic outlook	Age, education, gender, marital status, nationality, race, number of children
Tasks	Disability (congenital or acquired)	Lack of mental & physical energy	*Health habits/life styles:
BADL:	*Physical maneuvers	Positive or happy mood	nutrition, alcohol, tobacco, and medication use, vaccinations
Bathing	Lung function	Agitation or restlessness	Social support
Dressing	*Bodily pain	Social withdrawal	Family structure
Continence	Height, weight, blood pressure	*Vitality	*Income:
IADL:	Psychological	Efficacy	Internal and external adequacy of living quarters
Shopping	Absence of:	*Religiosity	Societal
Handling finances	Disease (acute or chronic)	*Perceived role limitations attributed to emotional problems	Cross-cultural differences:
Food preparation	Disability (congenital or acquired)	*Perceived role limitations attributed to physical problems	Social support networks
Housekeeping	*Cognitive function:		*Resources, provision and access to healthcare
Using transportation	Orientations, memory and recall, attention & calculation, language ability, and health information knowledge		Cultural values/religion and politics
AADL:	*Mental health		Environmental pollution
Employment	*General health perception		
Participating in political and social activities			
Measurements			
Part of MOS	Part of MOS:	Part of MOS:	Demographic data
Physical functioning	Bodily pain	Role limitations physical and emotional and vitality	Vaccination questions
Social functioning	Problem list of medical diagnoses and disabilities	Yesavage GDS	Alcohol and tobacco questions
Activities of daily living questions:	Measurement of peak flow	Political efficacy questions	Social support questions
BADL, IADL, AADL	Physical maneuvers assessment	Religiosity questions	Hunger questions
	Physical measurements		Income questions
			Home ownership questions
			Medication list
			Description of living quarters questions
	Part of MOS:		Living quarters safety questions
	Mental health and general health		Social support network questions
	Problem list of psychological diagnoses and disabilities		Access to healthcare questions
	MMSE		Air quality measures by site
	Health knowledge questions		

*Variables measured in this pilot study.

Abbreviations: AADL, advanced activities of daily living; BADL, basic activities of daily living; GDS, Geriatric Depression Scale; IADL, instrumental activities of daily living; MMSE, Mini-Mental State Examination; MOS, Medical Outcomes Study SF-36 Health Status Questionnaire.

almost exclusively on determining functional capacity/ability. A less adequate job has been done assessing the environmental context in which a person is motivated to perform a task. Also lacking in previous batteries are indicators of the incentives and disincentives that exist for various kinds of function (Kielhofner 1993).

In this study, we use elements of the FEF to compare the function and health of elderly Russian and US citizens. Assessing these two groups will assist us in understanding how individual characteristics interact with contrasting societal opportunities to impact function. The purpose of this study is to determine differences in US and Russian citizens' function.

Functional Evaluation Framework

The FEF (Table 1) includes the concepts of function, abilities, motivation, and opportunities. It encompasses all aspects of the biopsychosocial model and expands the model to include a more thorough measurement and appreciation of the functional consequences of cultural patterns and practices, institutional healthcare provision, and environmental constraints. Any or all of these aspects in varying combinations can impact function.

Function

The core of the framework is the function of the patient. Function is the ability of persons to adapt to their environment and perform activities of daily living (ADL) (Jogerst 1998). Function is conceptualized as the composite of individual's abilities, both physical and cognitive; their motivation to perform tasks; and their opportunities based upon personal characteristics and the society within which they live. The occult conditions that affect function include, but are not limited to, poor health habits, poor nutrition, polypharmacy, psychosocial stress/depression, impaired cognition, impaired senses, immobility, impaired gait, and incontinence. Katz and Akpom (1976) point out that "functional status of the individual is an important behavioral dimension of health and illness status which reflects both the needs for service assistance and the outcomes resulting from service."

Examples of specific functions are ADL such as bathing, dressing, going to the toilet, transferring, and feeding. Instrumental ADL are tasks such as using the telephone, shopping, preparing food, housekeeping, doing laundry, using transportation, taking medications, and handling finances. An advanced ADL such as being gainfully employed is a higher level of ability that physical and

cognitive performance impacts. For this initial study, the dependent variables were physical and social functioning measured by the Medical Outcomes Study SF-36 Health Survey (MOS) status questionnaire scales (Ware and Sherbourne 1992).

The independent variables that are hypothesized to affect function include the following:

Abilities

The category of abilities is divided into physical abilities (such as the absence of disease and capability to perform physical maneuvers) and psychological abilities (such as mental health and cognition). The patient's abilities are the quality of the state of being able to perform physically and mentally. Physical performance is influenced by many factors of which the state of wellness or absence from illness is a major cause. Other major factors influencing physical performance are disabilities and the loss of physiologic reserve which accompanies the aging process.

Important physical performance measures such as having participants touch their toes in a seated position, or stand from a seated position with hands crossed over their chest are directly observed in our model. These physical maneuvers are associated with the capability to perform lower body grooming, dressing, and transferring. The ability to transfer from bed to a chair is a key element needed by an individual to remain independent at home (Brummel-Smith 1997). Glass (1998) notes that there are differences between a person's perceived functional capacity and their actual functional performance and our framework measures both variables as listed on Table 1.

The mental ability to perform involves a person's cognitive function. This is measured by one's orientation, memory, recall, attention, calculation, and language. The physical and mental ability to perform is demonstrated in the following example. Cognitive ability is necessary to calculate arithmetic to subtract the amount written for a check in a check book ledger, and to accomplish the task of writing the check is a physical ability.

Motivation

The category of motivation is divided into mood, level of religiosity, and sense of efficacy. Motivation is a force that incites a person to action. It is an important concept in the elderly's ability to function in well or ill states. Glickstein (1990) notes that motivation "is the inner urge that moves or prompts a person to action." Atkinson (1974) divided the concept into two properties: (1) a person having an inner

urge to do something and (2) a following of that urge by action.

Resnick and colleagues (1998) elaborate that motivation is multidimensional and is influenced by many factors such as beliefs, needs, cost, mood, reward, and internal and external factors. The internal factors could be mental status, sensory changes, medication effects, and nutritional status, while the external factors could be social support, verbal encouragement, finances, cultural and spiritual beliefs, and one's role models. McEwen (1993) provides an elaborate health motivation model with components such as previous health knowledge, perceived susceptibility, severity, and value of actions that interact with perceptions of susceptibility. The variables for depression, religiosity and perceived role limitations are motivation modifiers of function measured in our model.

Opportunities

The opportunity category is subdivided into individual opportunity (for example, education and income) and societal opportunity (differential health delivery systems). An elderly person's opportunity is a favorable juncture of circumstances or a good chance for advancement.

Although opportunities are measured in the present, they are an accumulation of multiple constraints and resources from the past. Opportunity is a specific resource that is available. The ultimate opportunity is a specific state that enables the person to function better; the end stage of opportunities. Opportunities are influenced by individual attributes and, at another level, by the family and/or by society. Phillips and colleagues (1998) note that "external environmental factors reflect the economic climate, relative wealth, politics, level of stress and violence, and prevailing norms of the society." Access to healthcare, availability of medicines, and cost of care are examples of opportunity factors that are measured in our model.

The theory associated with the model argues that factors within each of these categories (ability, motivation, and opportunities) do impact function, both directly and indirectly through other categories of the framework. Deficits in function, therefore, can be understood by evaluating abilities, motivations, and opportunities. A comparison of Russia with the US provides a critical test case of the relationship between function and opportunity structures because of the dramatic differences in health outcomes, mortality rates, and healthcare delivery systems between the US and Russia.

Few studies exist that compare Russian health and Russian healthcare with that of other countries. The exception is the work of Palosuo (1998) whose results showed that Muscovites reported poorer health than did people in Helsinki. Yet, objective indicators did not necessarily show that Muscovites had poorer health than the people of Helsinki.

US/Russian contrasts

The US and the Russian Federation provide a dramatic contrast in the areas of health and healthcare. Russian mortality rates for working-aged men are two to three times higher (for women 1.5 times higher) than in other countries with developed economies (Yudina 1993). Twice as many people die from cardiovascular disease and 3.6 times more people die in accidents. Other major mortality contributors are stroke, suicides, homicides, and other alcohol-related causes (Notzon et al 1998).

Contrary to trends characteristic of most industrialized states, life expectancy in Russia dropped in the early 1990s. Between 1990 and 1994, the decline was from 63.9 years to 58.2 years for men and 74.3 to 71.6 for women. In 1998, Russian life expectancy was 61 years for men and 73 years for women. To put the life expectancy figures in a comparative context, life expectancy in the US was at 74 years for men and 80 years for women in 1998 (World Bank 2000). Cockerham (1997) makes the argument that the recent decline in life expectancy in Russia is caused by social factors, such as the Soviet health policy, individual stress, and unhealthy lifestyles, rather than by biomedical factors. His argument is based on the finding that the increased mortality rates occurred disproportionately among middle-aged males in manual occupations. In addition, the chronic diseases most directly associated with decreasing life expectancy are ones induced by lifestyles.

An indicator of low priority for healthcare in Russia is the amount allocated by the government to the sector. Public expenditures on health as a percent of gross domestic product (GDP) over the period of 1990–98 were less in Russia compared with the US. Significantly less is spent on health in Russia (4.5% GDP) compared with 6.5% GDP in the US (World Bank 2000). Russian government funds allocated to healthcare are less likely to be dispersed where they are needed and are frequently diverted. In healthcare delivery terms, the limited budget means buildings and facilities continue to be substandard, shortages plague the system, and hygienic and sanitary infrastructures are lacking.

Shortages in essential medical supplies and drugs complicate the situation and increase the incidence and severity of illness, which further discourages healthcare workers. In these economic straits, good medical care can become a luxury; especially in rural areas where local healthcare clinics often operate without hot (or even running) water or heat. Indeed, tendencies toward a two-tiered system appear to be increasing, with the poor, the elderly, and rural sectors having access to less comprehensive and lower quality healthcare.

Leon's (1997) work confirms our argument as presented above: studies of the biological basis (the physical causes) of the mortality variations in Russia must be studied in an integrated fashion along with an analysis of the social and economic determinants of health. Such integrated studies provide the most solid foundation for a health policy debate. Notzon and colleagues (1998) similarly conclude that returning Russian life expectancy to the level of 1990 will require substantial and long-term efforts to improve the economy, social order, and healthcare systems of Russia.

Methods

An interviewer-administered questionnaire was developed with two major foci: function of a person and societal evaluation. Included in the function section of the questionnaire were the following instruments or questions: demographic data (13 questions), religious beliefs (4 questions), the Mini-Mental State Examination (MMSE) (30 questions) (Folstein et al 1975), the Geriatric Depression Scale (GDS) (15 questions) (Yesavage et al 1982-83), Physical Maneuvers Test (7 questions) (Brummel-Smith 1997), MOS (36 questions) (Ware and Sherbourne 1992), health history (19 questions), and medication use (2 questions). Included in the healthcare system evaluation were the following questions: current news resources (1 questions), evaluation of the healthcare system (38 questions), and household information (3 questions). The survey took approximately 45 to 75 minutes to complete. Prior to use, the instrument was translated into Russian and translated back to ensure that the meaning was consistent with the English-language instrument. The investigators trained all interviewers. The Russian interviewers were trained with an interpreter present. Training focused on general health history, medication use, physical function evaluation, and MMSE.

Codes used for cost of healthcare, availability of medicine, skill of healthcare workers, access to specialist,

and transportation access variables are: -2 (= needs a lot less attention), -1 (= needs less attention), 0 (= generally adequate), 1 (= needs somewhat more reform), and 2 (= needs a lot more reform).

Sample

The sample consisted of fifty independently living elderly from Galesburg, Illinois, (the US participants) and fifty residents living in independent living apartments in Moscow (the Russian participants). Participants were interviewed during the same time period.

Analysis

Demographic variables were compared by Wilcoxon rank sum tests for continuous variables, Fisher's exact tests for nominal variables, and by Kolmogorov-Smirnov tests of trend for ordinal variables.

Results

More than two-thirds of the participants were female and ages ranged from 61 to 94 years with a mean age of 73 years. The Russians were younger (mean age 67 years vs 78 years) than the Americans, and less likely to be widowed or living alone (Table 2). The majority of subjects (91%) reported that they were retired. Regarding health habits, Russians consumed on average 0.54 alcoholic drinks per day compared with the 0.33 drinks per day by Americans. More than twice as many Russians (20%) smoked compared with the Americans (8%). Medication use ranged from no medications to 9 medications taken daily with a mean of 2 medications used for all subjects. The Americans consumed more medications per day (3 medications) compared with the Russians (2 medications) ($p=0.0002$). More than half of the Russians (30) did not take any medications compared with only 7 Americans.

Significant differences in medical diagnosis were noted with Russians reporting more cardiovascular disease, angina, and hypertension (Table 3). The physical performance tasks showed that the American sample had more difficulty standing on one leg for five seconds (62% vs 84%), but could touch their hands to opposite great toes more frequently than the Russian group (94% vs 66%) (Table 4).

The screening test mean scores for cognitive function, the MMSE, were lower in the Russian sample (25.8 vs 27.5), but the grouping of scores into normal, mild deficits, and severe deficits were not different between the Russian and

US samples. A difference in GDS scores was found. Forty-four percent of the Russians screened as being depressed compared with 4% of the Americans (Table 5).

The MOS was used to measure general health perceptions, physical functioning, social functioning, role disability due to physical health problems, role disability due to emotional health problems, bodily pain, general mental health and vitality. The eight health concepts in the SF-36 all showed more favorable results for the Americans except for physical functioning, which indicated no difference between Russians and Americans (Table 6). Self-assessment of health showed dramatic differences by country, with 77% of Americans rating their health as good and only 6% of Russians. More Russians also reported a decline in their health over the past year, 52% versus only 15% of Americans.

Table 2 Demographic characteristics

	Americans	Russians	p-value
	n=50	n=50	
Age ^a			
Mean age (in years)	78.3	67.2	
Median age (in years)	76.5	66.0	0.0001
Range in years	67–94	61–84	
Gender ^b			1.0000
Male	16 (32.0%)	15 (30.0%)	
Female	34 (68.0%)	35 (70.0%)	
Family status ^b			
Never	3 (6.0%)	3 (6.0%)	
Married	18 (36.0%)	29 (58.0%)	
Widowed or divorced	29 (58.0%)	18 (36.0%)	
Education level ^c			0.8936
High school or less	10 (20.4%)	16 (32.0%)	
College	25 (51.0%)	21 (42.0%)	
Higher degree	14 (28.6%)	13 (26.0%)	
Unknown	01	01	
Religion			
Christian	45 (96.0%)	0	
Russian Orthodox	0	32 (84.2%)	
Adults living with participants ^c			0.0027
One adult (alone)	30 (61.2%)	12 (24.5%)	
Two adults	19 (38.8%)	34 (69.4%)	
Three adults	0	2 (4.1%)	
Four adults	0	1 (2.0%)	
Unknown	1	1	
Children living in household ^c			0.7171
None	49 (100%)	43 (86.0%)	
One	0	5 (10.0%)	
Two	0	2 (4.0%)	
Unknown	1	1	

^ap-value from Wilcoxon Rank Sum Test, ^bp-value from Fisher's Exact Test, ^cp-value from Kolmogorov-Smirnov Test

Table 3 Medical diagnoses

	Americans	Russians	Fisher's Exact Test p-value
	n=50	n=50	
Medical diagnoses			
Dementia	1 (2.0%)	0	1.0000
Depression	1 (2.0%)	4 (8.0%)	0.3620
Psychiatric diagnoses	0	1 (2.0)	1.0000
Cardiovascular disease	26 (52.0%)	38 (76.0%)	0.0210
Congestive heart disease	1 (2.0%)	0	1.0000
Cerebrovascular disease	6 (12.0%)	8 (16.0%)	0.7740
Angina	2 (4.0%)	16 (32.0%)	0.0004
Hypertension	18 (36.0%)	31 (62.0%)	0.0160
Coronary artery disease	13 (26.0%)	10 (20.0%)	0.6350
Chronic lung disease	11 (22.0%)	12 (24.0%)	1.0000
Asthma	4 (8.0%)	0	0.1170
COPD	2 (4.0%)	1 (2.0%)	1.0000
Chronic bronchitis	5 (10.0%)	11 (22.0%)	0.1710
Diabetes	3 (6.0%)	4 (8.0%)	1.0000

Abbreviations: COPD, chronic obstructive pulmonary disease.

Table 4 Physical maneuvers

	Americans	Russians	Fisher's Exact Test p-value
	n=50	n=50	
Physical function			
Puts hands behind head	50 (100%)	48 (96%)	0.4950
Puts hands behind back	50 (100%)	48 (96%)	0.4950
Touches great toes	47 (94%)	33 (66%)	0.0008
Squeezes hands	49 (98%)	47 (94%)	0.6170
Can hold paper	48 (96%)	43 (86%)	0.1600
Sit to stand	46 (92%)	44 (88%)	0.7410
Stands 5 seconds on 1 leg	31 (62%)	42 (84%)	0.0230

Both similarities and differences were noted on the American and Russian opinions regarding their current healthcare system. If participants encountered trouble with the current healthcare system, both Russians and Americans most frequently would register a complaint to the clinic director or go to another physician. When problems were encountered, the majority of Russians held the government responsible (70%), while in the US sample, this was less likely (23%). American respondents tend to hold the health insurance system responsible for problems (27%) whereas no Russians did this. In both countries, the majority felt that the national government should have primary responsibility for the governments' contribution to financing healthcare (65% of Americans and 74% of Russians). Smaller percentages felt that state/provincial governments

Table 5 Mini-Mental State Examination (MMSE) and Geriatric Depression Scale Score (GDS)

	Americans	Russians	p-value
	n=50	n=50	
MMSE ^a			
Mean	27.50	25.84	
Median	28.00	26.00	0.0010
Range	14-30	19-30	
MMSE cognitive abilities ^b			1.0000
Normal (score 24–30)	45 (90%)	42 (84%)	
Mild (score 18–23)	4 (8%)	8 (16%)	
Severe (score <17)	1 (2%)	0	
GDS ^a			
Mean	1.50	4.92	
Median	1.00	4.50	0.0001
Range	0-6	0-13	
GDS depression screen			0.000003
Normal (score 0–5)	48 (96%)	28 (56%)	
Screened depressed (>5)	2 (4%)	22 (44%)	

^ap-value from Wilcoxon Rank Sum Test, ^bp-value from Kolmogorov-Smirnov Test.

Table 6 Comparisons of eight MOS concepts

	Americans		Russians		
	n=50		n=50		
	Median	Range	Median	Range	Wilcoxon p-value
MOS concepts					
Physical functioning	70	10–100	75.0	05–100	0.7142
Social functioning	100	25–100	75.0	12.5–100	0.0001
General health perceptions	77	05–100	50.0	10–87	0.0001
Role disability due to					
Physical problems	100	00–100	75.0	00–100	0.0041
Emotional problems	100	00–100	66.7	00–100	0.0001
Bodily pain	82	31–100	51.0	22–100	0.0001
General mental health	96	52–100	60.0	28–96	0.0001
Vitality	70	15–100	47.5	10–95	0.0001

Abbreviations: MOS, Medical Outcomes Study SF-36 Health Survey.

or local governments should have primary responsibilities for financing.

In terms of overall evaluations, about three-fourths of the Americans either think that health programs have improved or stayed the same, whereas Russian respondents more frequently reported (31%) that programs had gotten worse (especially dental care, birth control programs, and work safety programs). In both healthcare systems, the participants felt that the direct cost of healthcare and additional related costs were greatly in need of reform. Other serious problems that were identified by the participants were waiting time, availability of medication, and access to

specialists. Cost concerns were paramount for American respondents. For Russians, the major issues are access to specialists, waiting time, and availability of medicine.

Discussion

All health status measures on the MOS, except for physical functioning, favored the US sample in spite of the fact that the US sample was older. Comparing the American mean scores of the MOS eight concepts to national US norms for ages 75 and older, we found that our sample scored higher on each of these scales (Ware et al 1993). The US sample, therefore, may be a healthier group than a typical American population with the mean age of 78 years. Comparing the Russian group (mean age 67 years) with US national norms for age 65–74, all scales were lower for the Russians. Russian national comparison groups are not available. In the light of the convenient samples used, our findings must be interpreted with caution.

Differences in physical maneuvers between the two groups are noted. Russians were better able to stand on one leg for five seconds than the US participants. This may be related to the Russians' younger age or their need to be more physically active to accomplish ADL, such as shopping for groceries. Typical Russians will walk to the store and carry groceries home. Americans, more typically, would use personal automobiles to shop and transport groceries. Differences in these or similar daily activities may lead to better balance and strength in the Russian group. Americans, however, were noted to have better abilities to touch their opposite great toes while in the seated position. This may represent more difficulties by the Russian group with reduced hip rotation from trauma or osteoarthritis. Americans took more medications and this may have allowed for better treatment of conditions, such as arthritis. A limitation of this study was that participants were not asked specifically about the diagnosis of arthritis.

The higher rates of angina, hypertension, and cardiovascular disease in the Russian group were expected outcomes given the health habits and lack of available medication to treat hypertension in Russia. A more striking finding was that 44% of the Russian samples screened positive for depression and only 8% carried the diagnosis of depression. The high rates of depression are understandable given the economic and social pressures that exist in Russia. Case finding for depression may be low because of the cultural acceptance of a state of depressed mood. Further, depression may not be addressed by the

patient or physician because of a lack of available medications to treat the depressive symptoms.

Self-assessment of health showed marked differences between countries, with 77% of the Americans and only 6% of Russians assessing their health as good. Over half of the Russians also reported declining health status over the past year compared with 15% of Americans. This self-reported health finding was consistent with the marked differences noted on the other SF-36 scales and the high rate of depression in the Russian group. In spite of the marked differences in health perceptions between the two groups, physical function was not different. This is consistent with Palosuo's finding of Muscovites reporting poorer health but not necessarily demonstrating poorer health (physical functioning) than people of Helsinki (Palosuo 1998).

There is a need to identify modifiable risk factors that predict functional decline so that interventions can be targeted to preserve or improve elder's function. This study describes the FEF that potentially can be used to study populations and individual patients. Larger samples will allow for the analysis of all the concepts and measures listed in the framework. Using populations from societies with marked differences in cultural values and opportunities will be needed to fully evaluate the usefulness of this functional framework.

Opportunity variables were not found to be significantly influencing function in this study of only 100 participants. Larger sample sizes are needed to further investigate the relationship of such factors as health habits and access to healthcare with individual functioning.

Conclusion

Russians had more cardiovascular disease, took less medication, drank and smoked more and were much more likely to be depressed than the US subjects. The marked differences between US and Russian subjects in seven of eight MOS health survey concepts reinforces the need for cross-cultural studies to better understand health and functioning in aging populations.

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