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Quality of life and functional fitness of the elderly

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Summary

Study aim: To assess the perceived life quality and functional fitness of elderly subjects.
Material and methods: Two groups of subjects, aged 70 – 92 years, were studied: residents of a nursing home (Group R; n = 53) and those attending daytime nursing homes (Group D; n = 76). The EuroQol 5D questionnaire, and Romberg's and The Fullerton Functional Fitness tests were applied.
Results: Subjects from Group D perceived their daily functioning and general feeling much higher than those from Group R. Group R seemed more homogenous in that respect than Group D since only in the former all three indices of the quality of life (daily functioning, general feeling and perceived health) were significantly intercorrelated ($p<0.05 – 0.001$).
Conclusions: Social aid for the elderly ought to be focused on stimulating them to be active instead of giving them a direct assistance only.

Key words: Elderly people – Nursing homes – Social care – Functional fitness – Quality of life

Introduction

Among the objectives of residential nursing homes (RH) and of daytime nursing homes (DH) for the elderly is their activisation and improvement of their life quality. However, the quality of life of those attending both kinds of homes is expected to be perceived differently. At present, 28 residential nursing homes and 13 daytime nursing homes (including 3 for the mentally disabled) are being run in Warsaw by local authorities or as private enterprises, total capacities of both kinds of homes amounting to about 2200 and 520, respectively. Subjects attending the DH units are being qualified by the local Centres of Social Aid which usually deal with the impoverished ones.

Professional assistance to the elderly is the prime objective of nursing homes. This is supposed to include motor activities but their implementation and practices are exceedingly difficult due to diverse barriers – financial, psycho-emotional (reluctance to actively spend time), cognitive (lack of appropriate knowledge, its deficient promotion and public reception) and cultural; all these barriers restrict participation, activity and creativity, especially pertaining to motor activities. Moreover, mutual encouragement plays an important, prompting role in the engagement in motor activities; that engagement in nursing homes amounts to about 50% of their charges [14].

Among the factors contributing to the perceived life quality of the elderly are motor fitness, health status, psycho-emotional well-being and self-dependence in daily activities [16]. The daily functioning of elderly subjects (walking, washing, dressing, eating, writing, reaching and picking objects) is determined by their motor fitness which enables them also practicing leisure activities [16,18].

The lack of such activities is one of the independent risk factors [2], classified also as the so-called Population-Attributable Risk (PAR) [4,12]. Restriction of motor activities is known to induce many civilisation-related diseases, e.g. obesity, diabetes, atherosclerosis, hypertension, locomotor and spine disorders, etc. Rationally applied motor activities enable maintaining functional and social self-dependence until old age and improve the perceived quality of life [10,15].

The aim of the study was to assess some elements of the perceived life quality (health, physical fitness and functional self-dependence) and functional fitness of elderly subjects, residents of nursing homes or attending the daytime nursing homes.

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Material and Methods

Subjects: A group of 129 subjects aged over 70 years consented to participate in the study. This included 53 nursing homes residents (Group R), who volunteered to join the all-year activities aimed at functional improvement, and 76 subjects attending daytime homes (Group D).*Methodology*: EuroQol questionnaire (Polish version, certified and admitted to use by The EuroQol Group [16]) was applied to study participants. The questionnaire consisted of 5 items pertaining to the life quality of the elderly and included a 0 – 100 points scale of perceived health at the time of being interviewed. The questions included the following topics: self-dependence in moving and in daily functioning, ease in daily functioning (leisure activities, housework), perception of pain and discomfort, of anxiety and of depression. Three optional answers were available and were assigned point ratings: a – I have no problems, no discomfort or depression (1 pt.); b – I can feel some problems sometimes (0 pts.); c – Such problems are permanent (-1 pt.). For further analysis, the values of daily functioning (Questions 1 – 3) and of general feeling (Questions 4 – 5) were averaged. In addition, the perceived health was determined by a 0 – 100 points scale ("thermometer").

Student's *t*-test for independent groups was used in data analysis. The level of $p \leq 0.05$ was considered significant.

Results

Mean values (±SD) of age, body mass and BMI of nursing home residents (Group R) and of subjects attending daytime homes (Group D) are presented in Table 1 and the data pertaining to the declared functional fitness of the elderly in Fig. 1.

Table 1. Mean values (±SD) of age, body mass and BMI of nursing home residents (R) and of subjects attending daytime homes (D)

Variable Group	n	Age	Body mass	BMI
R-Men	12	81.3 ± 4.3	73.7 ± 7.9	25.2 ± 2.7
R-Women	39	80.0 ± 5.0	75.1 ± 14.0	30.0 ± 6.2
D-Men	17	78.6 ± 3.8	73.8 ± 13.0	26.7 ± 4.0
D-Women	57	78.9 ± 5.9	71.4 ± 11.5	27.6 ± 4.3

Women from Group R significantly ($p<0.05$) differed from Group D with respect to BMI which reflected the difference in percentages of obese subjects in those groups (46 and 25%, respectively). No such difference was noted for men.

Women from Group R functioned significantly ($p<0.05$) worse than men with respect to daily tasks other than moving or self-care (Question 3) and to feeling anxiety or depression. No gender-related differences were noted in Group D. Men and women from Group D significantly ($p<0.05 – 0.001$) more frequently declared better functional fitness and general feeling than the residents of nursing homes (Group R). However, women from Group R significantly ($p<0.001$) more frequently reported serious discomfort and anxiety (Questions 4 and 5) than those from Group D (Fig. 1).

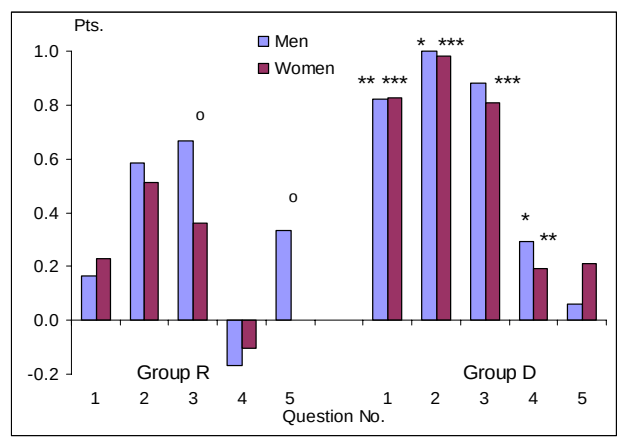


Fig. 1. Perceived quality of life of nursing home residents (n = 12 and 39, men and women respectively) and of subjects attending daytime homes (n = 17 and 57, men and women respectively)

Legend: 1 – Daily moving; 2 – Daily self-care; 3 – Other daily tasks (work, learning, household, leisure activities); 4 – Feeling discomfort; 5 – Anxiety, depression; ° Significant ($p<0.05$) difference between men and women; Significantly different from the respective value in Group R: * $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 2. Mean values (±SD) of the perceived quality of life of nursing home residents (R) and of subjects attending daytime homes (D)

Variable Group	n	Daily functioning	General feeling	Perceived health
R-Men	12	0.47 ± 0.63	0.08 ± 0.47	56.3 ± 22.0
R-Women	39	0.37 ± 0.44	-0.05 ± 0.51	47.7 ± 21.9
D-Men	17	0.90 ± 0.20*	0.18 ± 0.39	42.6 ± 15.3
D-Women	57	0.87±0.20***	0.19±0.36***	41.9 ± 11.4

Significantly different from Group R: * $p<0.05$; *** $p<0.001$

Women attending daytime homes declared a markedly better ($p<0.001$) daily functioning and general feeling than their mates from residential homes, while in case of men this was true only for daily functioning ($p<0.05$). No between-group or between-gender differences were found for the perceived health (Table 2) although R-men

tended to rate their health higher than their D-mates (p = 0.06).

All three indices of the perceived quality of life were significantly intercorrelated (p<0.05 – 0.001) only in nursing home residents; this means that subjects who declared a better functional fitness and general feeling considered themselves healthier than those less fit. In those attending daytime homes only the daily functioning and general feeling were weakly correlated (p<0.05; Table 2). No significant partial correlations were noted.

Table 2. Coefficients of correlation between declared daily functioning, general feeling and perceived health

Group Correlated variables	R n = 51	D n = 74
Daily funct. – General feeling	0.529***	0.250*
Daily funct. – Perceived health	0.490***	-0.058
General feeling – Perceived health	0.277*	-0.062

* p<0.05; *** p<0.001

Discussion

The presented differences between nursing home residents (Group R) and those attending daytime homes (Group D) might have been due not only to the type of the nursing home and the provided services but to the fact that residential homes lodge mainly those who are incapable of attending daytime centres and that incapability is one of the criterions of recruiting residents. Apart from that, the accessibility of residential homes is limited and many elderly subjects attend daytime homes while awaiting admission to the residential one. It may thus seem that nursing home residents represent a more homogenous population than those attending daytime homes; that issue calls for further studies. At any rate, those attending daytime homes (Group D) may be expected to be better fit functionally than their residential mates (Group R) ant that was indeed demonstrated in this study.

Subjects from Group D perceived their daily functioning and general feeling (expressed by the declared lack of discomfort) higher than R-subjects. In contrast to that, the health status tended to be perceived even higher by male R-subjects than by the D-ones. As follows from the report of Płaszewska-Żywko *et al*. [13], elderly subjects leading an independent life, i.e. not having to make use of nursing homes, rated their quality of life significantly higher than those studied by us; for example, their perceived health was as high as 72.1 points.

It ought to be emphasised that the abovementioned higher homogeneity of the R-group compared with D-subjects was reflected in correlation coefficients – all three elements studied – daily functioning, general feeling and perceived health were significantly correlated with each other in Group R while in Group D only one, weak correlation between daily functioning and general feeling was noted.

Summing up, those respondents making use of nursing homes, who are relatively self-sufficient, not relying on an extensive assistance of others, rated their quality of life higher than the aid-dependent ones. Thus, apart from giving the necessary assistance in daily functioning, preventive steps should be taken aimed at increasing the self-sufficiency of the elderly. The most efficient are efforts based on practicing motor activities adjusted to subject's capacity [1,3-9,11,17] and this ought to be one of principal roles of nursing homes and of other institutions providing social care. All actions directed at the elderly ought to be based on the auxiliarity principle, the starting point being the family. Social aid for the elderly ought thus to be focused on stimulating them to be active instead of giving them a direct assistance only.

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