

Analysis of sitting furniture for elderly people

Milan ŠIMEK

Faculty of Forestry and Wood Technology, Department of Furniture, Design and Habitation, Mendel University in Brno

Abstract: The main goal of the presented paper is an analysis of sitting furniture by interview surveys conducted in nursing homes for seniors in the Czech Republic. A related goal is also the survey of the current state of sitting furniture that is offered to seniors on the market. The mentioned goals are motivated by the increasing number of seniors and as an effort to ensure their comfort. The interviews in the selected facilities, which are dealing with elderly care, proved to be a major contribution to the resulting knowledge. The results of this work are the description of characteristics and specifications of parameters of sitting furniture for seniors. The obtained results are applicable by production companies or independent designers seeking to satisfy the senior's requirements for sitting.

Keywords: Senior; sitting; furniture; elderly care

Motto:

Seniors are not defined by age but by their vigour

1 Introduction

The development of the demographic graph of the Czech Republic has been showing the alarming trend of Czech population ageing for quite a long time now. This trend has not been reverted even by the increasing migration from abroad. Due to this, the state structures of social care face a lack of facilities for senior citizens. The current elderly care is not sufficient and is not able to ensure appropriate care for those who deserve it. The causes of the insufficient care are not only the limited capacities but also, and mainly, the related quality of living and also sitting (Glosová 2006). Living, or habitation, is a broad concept involving many factors (mental, social, health, ergonomic, etc.) that determine its quality. Probably the hottest issue regarding the furniture for seniors is the small range of sitting furniture and low information capacity about the furniture range for this consumer category. Elderly care facilities cannot choose the most suitable furniture for their clients as they do not have sufficient information, adequate choice within the furniture category, and sufficient financial means for purchase.

As the ageing of population and the related provision of comfort in an old age is not topical in the Czech Republic only but also in other countries of the world (e.g. in France according to Batiactu 2013), it has been addressed by many professionals as well as legal regulations (e.g. Vyhláška č. 369/2001 Sbírky) or final theses (e.g. Hnilica 2008). A significant act was the publishing of the European Guide ISO/IEC 71, published in the Czech Republic at the end of 2005 by the Czech Normalization Institute (Český normalizační institut) under the title: "Směrnice pro navrhovatele norem pro pochopení potřeb seniorů a osob s postižením" (Guidelines for standards developers to address the needs of older persons and persons with disabilities). Later, publication *Bydlení pro seniory* (Glosová 2006)

was issued, dealing with seniors' needs, examples of their habitation in the European context, and ergonomic parameters of their living.

2 Aim and methodology of the study

The aim of this study is an analysis of sitting furniture for seniors because this furniture category is used by seniors to the highest extent. Therefore, this is the very category that affects their feeling of comfort most. Important parameters of sitting furniture are presented based on the field survey (interviews in elderly care facilities), market survey (range of furniture companies and furniture shops), norms and other related professional literature.

3 The target group and the target product

The target groups of this study are the senior citizens (seniors, the elderly) and furniture producers and designers, or even architects and design counsellors.

The Czech legislation defines senior citizens by the age limit, which depends on the time when a person becomes entitled to old-age pension (Zákon č. 155/1995 Sbírky). To put it simply, a senior citizen is a person who does not earn money and lives on an old-age pension. Such a person can be 55 but also 90 (Svoboda 2006). Generally, a senior or a senior citizen is a person who has reached the determined age or takes the old-age pension. However, this description does not define the group of people who use sitting furniture designed for seniors sufficiently. The target group involves people of different ages whose life is made easier by this specialized furniture, due to their physical or mental condition. Physical and mental disorders are not limited to seniors only; also young people can suffer from them, e.g. people with congenital disorders, mental disorders or people after accidents. The primary target group is thus a group of people of various ages, their uniting feature being the need to use furniture with specific properties.

Another target group that can make use of the presented results is furniture producers who are interested in expanding their range or who have revealed the gap on the market the sitting furniture represents. Interior and furniture designers, as well as architects and design counsellors can use the parameters of sitting furniture as well. Regarding the current economic and demographic situation, these results are applicable for a wide range of inhabitants.

The following types of furniture are worth considering, in regard to the defined primary target group – senior citizens: armchairs, chairs and other special types of sitting furniture (e.g. wheeled armchairs, wheeled chairs, massage chairs, chairs or armchairs for outdoors, etc.). Out of these, the undermentioned parameters are focused on chairs and armchairs, because these are the items missing from the furniture market.

4 The current state

Sitting of senior citizens is a highly specific issue. European Guide ISO/IEC 71 and the other mentioned literature mainly provide general rules for safety and comfort of seniors. Parameters of sitting are described in detail by Dlabal et al. (1978), but this literature is rather outdated for the present time and issues. For these reasons, a field survey was conducted in six selected homes with care for seniors. The survey took a form of interviews with the attending staff who are in daily contact with the clients (predominantly seniors of 83 on average) and who thus know their needs and requirements. A majority of the users of these homes are women (76%). Men form a minority (24%). The staff's answers have shown that the requirements concerning furniture are the same for both men and women. However, with

respect to the prevailing percentage of women in these homes and their typically lower height, this should be considered.

Out of the possible types of sitting furniture, senior citizens most often use armchairs and chairs. Usage of armchairs is usually limited by the size of the rooms and their higher price in comparison to chairs. Armchairs are most often placed in social rooms, or at home in the living room. To ensure a senior's comfort, it is suitable that an armchair is equipped with an adjustable mechanism, a higher backrest, a footstool, also wheels with brakes for simple movement without the need to stand up. Chairs are used by seniors most often, that is why they should be devoted a corresponding attention. Chairs are used in rooms, social rooms, dining rooms and corridors. In social rooms and seniors' rooms they serve for long-term sitting. Therefore, they should be comfortable with a higher backrest supporting the head (in case of sleep). It is also recommendable to complement a chair with a footstool, wheels with brakes, or even adjustment mechanism of the backrest. Chairs in corridors and dining rooms are not used for long-term sitting; therefore, only a standard backrest is sufficient as a support of the back. Health disorders of seniors that should be considered when designing or purchasing sitting furniture are: arthritis, immobility, paralysis, problems with joints, mental disorders. Figures 1–4 show examples of sitting furniture suitable for senior citizens.



Figure 1: A chair not suitable for seniors.



Figure 2: An armchair not suitable for seniors.



Figure 3: An armchair suitable for seniors.



Figure 4: An upholstered armchair suitable for seniors.

5 Results

The interviews with the staff of elderly care homes led to the following information about the sitting needs of seniors, or the following requirements concerning furniture leading to better comfort:

A higher seat in contrast to a standard chair, or an adjustable seat height – this will facilitate seniors' standing up and sitting down.

Armrests, removable at best. Similarly to the seat height, also armrests help users to stand up or sit down. The possible removal of the armrests would be a help to the care staff when manipulating with seniors. The issue related to armrest removability is the sufficient strength and durability of the connection with the chair structure. The armrests should also have a suitable shape and they should reach or even exceed the front edge of the chair seat.

Seating adjustability. The possible adjustment of the back, or also the seat, will make standing up easier for seniors, will allow for better relaxation and comfort in other daily activities (watching TV, therapies, hand work, games, etc.). The adjustments should be as easy as possible so that the seniors could do it themselves, maintaining thus their independence.

Washable seating and removable upholstery are important for hygiene mainly. It is suitable to use materials resistant to chemical cleaning agents (both for the chair construction and the surface treatment, as well as the upholstery). Another important feature of the upholstery is its impenetrability as seniors often suffer from incontinence. If the seat is easily cleaned but the back is not, there has to be a sufficient gap between them so that both are not soiled together.

Better stability for the reason of a lower risk of falling when being used. A specific feature of a usage of sitting furniture by seniors is that they do not move it (if they are satisfied with the placement), thanks to which the chair can have a higher weight. This will provide stability, better durability, feeling of safety and also a higher independence from the attending staff. Stability is related to movement, or slipping, of furniture when the user is standing up or sitting down. This problem can be solved by rubber anti-slip caps or, in the case of wheels, automatic brakes.

Better mobility, or wheeling (with brakes) so that the immobile seniors can be easily moved by the staff.

Possible insertion of pads, e.g. anti decubitus, softer or harder, based on seniors' or staff's requirements.

Possible addition of specialized elements, such as a footstool, a bottle holder, a serving table, etc.

6 Conclusion

As the population is ageing, there is a higher proportion of seniors and a consequent increase in demands to satisfy their need of dignified living. Using literature review, market survey and interviews in nursing homes, we established parameters of sitting furniture suitable for day activities of seniors. The results show these priorities ensuring the senior citizens' comfort: a higher seat, armrests, adjustability, washable and removable surfaces, higher stability and mobility, possible insertion of pads, possible addition of specialized elements. The gained results can be used in the production as well as by designers, architects and design counsellors, who endeavour to satisfy seniors' needs regarding sitting.

We need to add that communication with a conservative senior citizen is the most important. Our elderly do not need as much as it may seem. But the things they do need have to be flawless and reliable.

References

- Batiactu (2013): Habitat des seniors: marché d'opportunité ou réponse à un vrai besoin ? Paris, France, Available online at: <http://www.batiactu.com/edito/1-habitat-des-seniors---marche-d-opportunit-e-ou-re-35051.php>
- Dlabal S. et al. (1978): Nábytek, člověk, bydlení – Základy navrhování nábytku a zařizování bytových interiérů (Furniture, Human, Living – Basics for Furniture Designing and Interior Habitation) , Československé středisko výstavby a architektury, Praha, 178 p.
- Glosová D. et al. (2006): Bydlení pro seniory (Living for Seniors), Era, Praha, 179 p.
- Hnilica J. (2008): Sedací nábytek pro seniory (Sitting Furniture for Seniors), Master thesis, LDF, Mendelova univerzita v Brně, 77 p.
- ISO/IEC Guide 71 (2001): Guidelines for standards developers to address the needs of older persons and persons with disabilities, Czech Normalization Institute, 2005.
- Svoboda V. (2006): Počítačový kurz pro seniory (Computer Class for Seniors), ČVUT Praha, Available online at <http://pcu3v.fjfi.cvut.cz/>
- Vyhláška č. 369/2001 Sbírky, O obecných technických požadavcích zabezpečujících užívání staveb osobami s omezenou schopností pohybu a orientace (Decree no. 369/2001 Coll., on general technical requirements for usage of buildings by people with impaired mobility and orientation), ČR.
- Zákon č. 155/1995 Sbírky, O důchodovém pojištění (Act no. 155/1995 Coll., on pension insurance), ČR.

Corresponding author:

M. Šimek

Department of Furniture, Design and Habitation, Faculty of Forestry and Wood Technology, Mendel University in Brno, Zemědělská 3,
613 00 Brno, Czech Republic
e-mail: simek@mendelu.cz

© Author(s) 2013. This article is published under Creative Commons Attribution (CC BY) license.