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a cura di / edited by
Adolfo F. L. Baratta, Christina Conti, Valeria Tatano

ABITARE INCLUSIVO

Il progetto per una vita autonoma e indipendente

INCLUSIVE LIVING

Design for an autonomous and independent living

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UNIVERSITÀ DEGLI STUDI DI UDINE

Università Iuav di Venezia

ROMA TRE UNIVERSITÀ DEGLI STUDI

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The Urban Accessibility of New Nursing Homes in Belgrade, Serbia
L'accessibilità urbana di una nuova casa di cura a Belgrado in Serbia

The share of elderly population has increased rapidly in Serbia in few last decades. In line with these trends, nursing home care has become important for both Serbian seniors and their families. This situation has caused the accelerated establishment of new nursing homes across country. The major concentration of them is in Serbian capital, Belgrade. The most of the new nursing homes are privately established and run, which has opened many debates about an adequate state system to control them.

The security and hygienic concerns of nursing homes are mainly in the spotlight of media, but there is almost no debate about the location of these institutions and their accessibility in urban areas, that is a critical element for the decent life of their elderly residents. It encompasses several kinds of accessibility – the accessibility of to public transport, public services, open public spaces, and urban centres. In such way, this, urban accessibility is permeated with several universal human rights.

Considering the previous facts, this paper is dedicated to exploring the urban accessibility of new private nursing homes. Belgrade urban area is a research polygon. The research is done by the comparing the location of the homes to the main transport corridors and centres, proposed by the operative general urban plan of the city. This approach enables to suggest the new actions how to improve the current urban planning, as well related legislation for the better life and socialisation of elderly citizens.

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Introduction – Urban Accessibility for Elderly Population

The term *accessibility* is the context of design has a broad meaning which is linked with to population with certain disabilities or special needs. It is related to the creation of products, equipment, services, or environment for this, more sensitive population (Shawn Lawton *et al.*, 2014). Some scholars even endorsed the concept of accessibility as an "umbrella" for the entire research regarding this field. This concept is particularly devoted to accessibility issues in urban environment (Aragal *et al.*, 2003).

It is thought that 15% of world population has some kind of disability (UN, 2016). Hence, accessibility is in the focus of many international and regional organisations. The most significant document in this field is a *Convention on the Rights of Persons with Disabilities*, enacted by the United Nations in 2007. The right to accessibility is covered by the Article No 9, which prescribes that "the ensuring of appropriate measures to persons with disabilities to access, with the aim to make them equal to others" (UN, 2006, Art. 9). The European Union (EU) has even longer history regulating the right to accessibility, from the 1980s. It can be even said that this right is a "European legacy" (Aragal *et al.*, 2003). The most recent document in this field is *European Disability Strategy 2010-2020*, where implementation of proposed measures is positioned as a key element in the strategy agenda (EC, 2010).

The importance of urban environment is emerging in the concept of accessibility due to rapid urbanisation throughout the world (UN, 2016). It is even thought that (urban) environment can cause or influence disability (Layton, 2012). Then, disabled persons have the different perception of urban space, which consequently influence the other aspects of their life, including socialisation (Lid & Solvang, 2015). In the most urbanised parts of the worlds, such as Europe, this issue is even more significant. Therefore, the "promotion of better accessibility in cities and metropolitan regions through an appropriate location policy and land use planning that will stimulate mixing of urban functions and the use of public transport" is critical (EC, 1999, p. 23).

Elderly population[1] is certainly more prone to problems with limited accessibility. Knowing that population in developed, highly urbanised countries is rapidly ageing, the problems with its accessibility in urban areas are just more visible. It is estimated that the share of the people older than 65 years will reach more than 25% in 2050 from 17% in 2010 (OECD, 2015). For these countries, the problem with ageing population is not a novelty; many measures, strategies, and documents have been developed to cope with the rampant problem.

However, for transitional countries, such as Serbia, the topic of ageing population and its needs is quite new. The share of elderly population has increased rapidly in Serbia in few last decades. In line with these trends, nursing homes[2] are becoming a common element in Serbian urban areas. The problem is that relevant legislation does not properly regulated the issue of their accessibility in urban environment. Additionally, there is no adequate research which should examine the same topic.

Considering the previous facts, this paper is dedicated to explore the urban accessibility of new private nursing homes. Belgrade urban area is a research polygon. The research is done by the comparing the location of nursing homes to the main transport corridors and centres, proposed by the operative general urban plan of the city. This approach enables to suggest the new actions how to improve the current urban planning, as well related legislation for the better life and socialisation of elderly citizens.

1 Elderly population is population above 65 years.

2 Although nursing homes are not solely designed to accommodate elderly users, this contingent of population represent predominates in these facilities.

Fig.01 Elderly population makes a considerable share in local population in many small municipalities in Serbia. The picture was made in Golubac with rising tourist economy, where elderly people paradoxally made more than 26% of the entire population in 2011. *B. Antonić*

Methodology

This paper presents an original scientific research. It is developed in three steps. The first one is the general clarification of research topic – accessibility in urban areas and elderly population; the second step pertains to the focus on situation in Serbia and its capital, Belgrade regarding this topic; the last step is the spatial analysis of nursing homes in Belgrade regarding urban accessibility. Combining the results from the analysis and the previously elaborated theory, the research ends with the recommendations how to improve the regulation of nursing homes relating their location in urban areas. For these purposes, legal and scientific documents and acts of international and national importance are used. The most important ones for the spatial analysis are issued by the Ministry of Labour, Employment, Veteran and Social Affairs of the Republic of Serbia.

Nursing Homes in Serbia: Current Assessment

Serbia belongs to the countries with the higher share of elderly population in already "old" Europe; Serbian median age is 42.6 years, comparable with the EU average (CIA, 2017). At the last national population census from 2011, median age was 42.2 years and the share of elderly population was 17.4%. The population of Serbia was among the youngest in Europe 60 years before, with the median age of 29 years, where elderly (>65 years) made just 5.6% of the entire population. The period of post-socialist transition has been particularly problematic in this field. During the inter-census period 1991-2011, the median age of Serbian population rose for more than 5 years (Devedžić & Stojilković Gnjatović, 2015).

Interestingly, the spatial distribution of elderly people in Serbia has gradually changed after the World War II. For example, Serbian capital, the City of Belgrade had the twice smaller ratio of elderly population than Serbian average (2.88%/5.93%) in the census in 1951. Nevertheless, this ratio is pretty close to national average today; Belgrade – 16.38% and Serbia – 17.40%.

This means that the ageing of population is the most intensive in the case of major cities (Devedžić & Stojilković Gnjatović, 2015). Apart from this observation, the share of elderly population in many small rural municipalities across Serbia with long-term demographic decline is higher and more challenging for the further development thereof. This is even evident in the municipalities with abundant local potential (Fig. 01).

In line with these trends, nursing home care has become important for both Serbian seniors and their families. This situation has caused the accelerated establishment of new nursing homes across country. The major concentration of them is in Belgrade Metropolitan Area where more 50% of them are located[3]. The most of the new nursing homes are privately established and run, which has opened many debates about an adequate state system to control them. The security and hygienic concerns of nursing homes are mainly in the spotlight of media. This was especially noticeable in the most controversial accidents, such as the death of three persons by fire in illegal nursing home in the City of Pančevo in 2016 (Brkić *et al.*, 2016). However, there is almost no debate about the location of these institutions and their accessibility in urban areas that is a critical element for the decent life of their (elderly) residents.

Accidents with nursing homes have triggered national level to better regulate this field. The main legislation document, the Law on Social Protection from 2011, is currently in the process of modification and harmonisation. The relevant bylaw is the Act on Important Conditions and Standards for the Provision of Social Protection. The act (MLEVSA, 2013-18) defines nursing homes as an accommodation which enables the services that are in line with the needs of their users, including the of fulfilment of their basic life needs, the preservation of their potential, legal support, and support for education and employment (Art. 29). 45 articles or 40% of all articles in this act are dedicated to nursing homes, with the deep elaboration of their minimal standards. Nevertheless, just one paragraph in the Article No 46 is related to the location of nursing homes for adults in wider environment – "Service provider enables access to a green area within the home itself or in its immediate vicinity" (MLEVSA, 2013-18, Art. 46). In conclusion, it is obvious that urban and spatial accessibility was not mentioned in the act.

The issues of accessibility and disabled persons are more frequent in Serbian legislative and planning documents. First, Serbian Parliament ratified the mentioned UN Convention as a separate law in 2009. Similarly, the accessibility is positioned as an important element in general territorial development. For instance, the umbrella legislative act in this field, Law on Planning and Construction introduces the standards of accessibility as obligatory for all planning documents (PS, 2009-19). Furthermore, the operative Spatial Plan of the Republic of Serbia 2010-2020 underlines intentions to improve accessibility in space, especially in correlation to transportation and centres (PS, 2010). It seems that Serbia has better reacted to accessibility and disabled persons in general than in the case of nursing care and homes.

Analysis of urban accessibility of new nursing homes in Belgrade

The following analysis will be conducted on licensed private nursing homes for elderly population in the Belgrade urban area[4], defined by the operative general urban plan of the city, using the criteria derived from the previous theoretical corpus.

3 This is sum in line with the list of the nursing homes officially licensed by the Ministry of Ministry of Labour, Employment, Veteran and Social Affairs of the Republic of Serbia (hereinafter: the List of Licensed nursing homes).

4 Belgrade urban area should not be confused with the Region or the City of Belgrade. The latter one is an official administrative region that includes Belgrade as an urban settlement, its suburbia and the other towns and villages in outer surrounding. The former one is smaller, consisting of Belgrade with suburbia as a functionally and physically/built-up linked area.

The POLYGON for the analysis is Belgrade urban area as it is outlined by the General Urban Plan of Belgrade from 2016 (Fig. 02a). This plan is the main territorial document for the city development (IUB, 2016). It consists of the main text and several referral maps.

In the case of the ANALYTICAL CRITERIA, two elements distinguished themselves in the previous theoretical explanations as the main elements for urban accessibility; transport accessibility and accessibility to centres. They are chosen as criteria for the analysis thereof. The referral map of the General Urban Plan of Belgrade 2016, related to planned centres with included planned transport corridors, is used for the core of the analysis.

Some simplifications in this analysis are necessary. A threshold distance to a nursing home be regarded as accessible in an urban area is framed to a 600-metre straight line from the nearest transport corridor or centre, which roughly corresponds to 10-minute walk. Similarly, land inclination was not included in the analysis.

The UNITS for the analysis are all legal nursing homes for elderly population (Serb. *Домови за старе*) in Serbia. They must obtain a license from the Ministry of Labour, Employment, Veteran and Social Affairs, which carries out control under them. Although there is the term *elderly* in their name, they often can take care about the other types of disabled adults. As it was the aforementioned, the waste majority of their residents are elderly people. The other types of nursing homes are those for children[5]. The Ministry keeps evidence lists for both types of nursing homes. There are 181 licensed nursing homes for elderly population in Serbia during the analysis[6]. Their spatial distribution is (MLEVSA, n.d.):

REGION	No of NHs
City of Belgrade (Belgrade Region)*	103
Vojvodina Autonomous Province	45
Central Serbia (without Belgrade)	33
SERBIA	181

* For Belgrade Region or the City of Belgrade – see the Footnote N. 4.

Tab. 01 The spatial distribution of nursing homes for elderly population (NHs) in Serbia[7].

The Table 01 shows that nursing homes for elderly population are diametrically distributed to the size of the population of Serbian regions. Central Serbia without Belgrade, which has half of Serbian population, is a location for just 18% of nursing homes. In the other side, more than half of them (57%) are situated in Belgrade Region (City of Belgrade), where less than 1/4 of Serbian citizens lives. The northern Serbian province of Vojvodina is in the middle, with the share of 25%, which almost perfectly correlated to the overall share of its population in Serbia. The majority of nursing homes in Belgrade Region are actually located within Belgrade urban area. There are 80 such nursing homes[8], of which just one (and the biggest nursing home) is state owned and run. The spatial distribution of nursing homes in Belgrade urban area (Fig. 02b) shows in brief that these facilities tend to be at city periphery, where there is a lot of greenery and high densities are rare. They are also absent in the part of the city where mass-housing blocks are prevalent, such as Novi Belgrade. The ownership type of the overall majority of nursing homes (private institutions) simply prevents their establishment in such type of urban fabric, where there is a strict rule for the condominium type of dwellings.

5 In the next text, a nursing home will mean a nursing home for elderly population.

6 July 2019.

7 All data for Serbia without Kosovo and Metohija Autonomous Province.

8 The other 23 nursing homes are within Belgrade Region, but not in Belgrade urban area.

Fig.02 a.The analysis polygon: Belgrade urban area as it is outlined by the General Urban Plan of Belgrade 2016. *Source: IUB, 2016;* b. The location of licensed nursing homes for elderly population in Belgrade Urban Area; one state owned is blue-marked and the other ones, privately owned, are red-marked. *B. Antonić; Supplementary map: Google Maps*

However, some nursing homes are located in affluent city neighbourhoods, such as Donji Dorćol, Dedinje or Neimar. Interestingly, these neighbourhoods are known as single-family residential zones with detached houses. In the other hand, the most of nursing homes are located in the parts of Belgrade where land and properties are more affordable. This finding indicates that the exclusivity of urban zone/land plays a less important role that the type of an urban block in the allocation of nursing homes in Belgrade.

There are several noticeable findings from the map of the urban accessibility (Fig. 03) of nursing homes in Belgrade urban area. The most of the nursing homes (76%) are in the well-accessible parts of Belgrade. However, almost ¼ of them are not adequately accessible. They are located mainly at the eastern and southern edge of Belgrade urban area. Then, approximately 20% of all nursing homes are close to the limit of an accessible zone. Knowing that the adopted threshold distance of 600 metres corresponds to the 10-minute walk of a 'normal' (healthy) adult person, any smaller threshold for an elderly person will significantly reduce the share of accessible nursing homes. At contrast to them, approximately 20% of nursing homes can be described as very accessible due to their location in attractive city parts, close to the planned main centres and transport corridors.

During the analysis, several provocative side-findings are revealed, too. Three nursing homes for elderly population are located next to graveyards, which is completely unsuitable for this group of population. Approximately 1/3 of nursing homes are in the steep parts of Belgrade, typical for its southern, south-eastern and eastern peripheries and outskirts. The proximity of nursing homes to parks and the other types of urban greenery is not visible, even though it is underpinned by the mentioned act as one of rare urban-related minimal standards. However, many nursing homes, i.e. more peripheral ones, are close to non-built-up land, such as agricultural land, forests or green forelands.

Conclusion

The main aim of this paper – to explore the urban accessibility of new private nursing homes for elderly population in Belgrade – generally presents mixed results. Although the majority of these facilities are accessible to planned urban centres and transport corridors, the

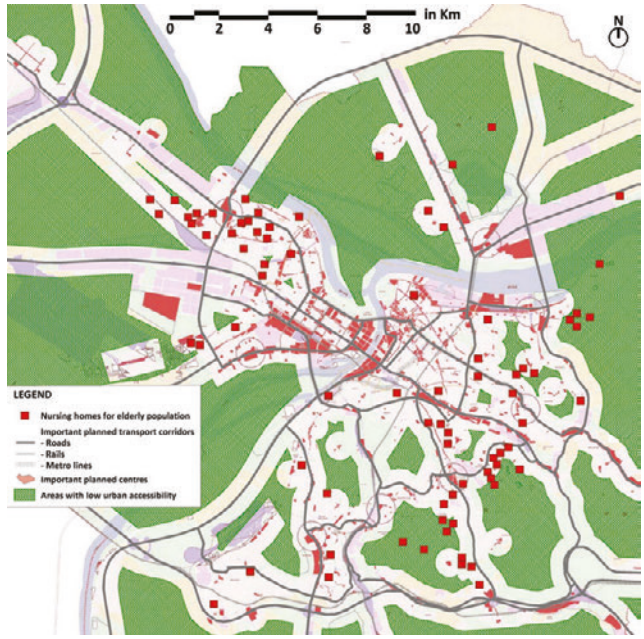

Fig.03 The urban accessibility of licensed private nursing homes in Belgrade. *B. Antonić; Supplementary map: IUB, 2016*

further analysis reveals that the other factors are more important, such as the types of an urban block and the dominant type of the ownership structure of buildings. This means that the location of nursing homes is more the consequence of or adaptation to the current urban conditions than the result of well-designed public policy through legislation and urban planning. Side-findings about the other elements of their allocation at micro-urban level just underline this conclusion. Therefore, it is obvious that the urban accessibility of nursing homes, as well as their other location characteristics, are more directed by market economy that they are influenced by the enacted minimal standards, which target mainly the architectural side of these facilities.

In accordance to the main conclusion, there are several recommendations for the planning of nursing homes for elderly population that should be included in the further improvements of both legislative and planning acts:

- Their macro-location should be related to accessibility to urban centres and corridors, which is crucial for both their basic needs (for example, accessibility to hospitals and emergency services) and the expanded palette of services and amenities (accessibility to the main green areas, community halls, cultural institutions, shopping centres, etc.). Thus, the maximal distances to the nearest stop of public transport or a defined local centre should be standardised;
- Their micro-level should be elaborated to underline the better functional integration of nursing homes in a local neighbourhood. This included the minimal standards regarding the proximity to a nearest public park or the other type of a "passive" recreation area. These standards must encompass both the maximal distances and the maximal inclinations of included paths between locations. Finally, the other type of minimal standards, such as the minimal distances to problematic urban functions, such as graveyards, should be added;
- In these concerns for the future improvements, to role of national legislation is to enact the wider range of minimal standards for nursing homes, which will include the aforementioned standards with threshold limits regarding their urban accessibility. The role

of urban planning is to implement these minimal standards in urban space, outlining the zones in Serbian cities where these facilities are suitable. In the zones where there is a problem with to implement some of minimal standards, additional things can be added. For example, the lack of a proper green area in the pedestrian vicinity of a nursing home can be overcome by the stricter standards for internal greenery.

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