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THE HEALTH OF THE RURAL POPULATION AND COVID-19 CHALLENGE

Cristina TOMESCU[1]
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Abstract: *In the article, I have proposed an analysis of the health of the rural population of Romania, compared to urban areas, also to look at the access of this population to health services and quality of offered medical services. On the background of the pandemic, the gaps between rural and urban areas, in terms of access of sick people to medical care has become a real challenge, as vast majority of the hospitals that treated COVID 19 patients were situated in urban areas. Also, rural people have lower access to sanitary utilities, as water facilities and toilets inside the house were important in terms of keeping the hygiene. Despite the factors that were disadvantaging rural part as co-morbidities, lack of family doctors in some communities, or hard access to sanitation and medical services, it seems the main factor that contribute to spread of COVID 19 disease was the density of population, that was higher in urban. That cand be seen that crowded communities were at highest risk of coronavirus disease and increase of mortality during pandemic. The additional mortality in 2021, compared to 2020 was higher in urban than in rural area.*

Key words*: rural, health state, health indicators, access to health care, COVID-19*

Factors that influence health state of rural inhabitants

Several authors (Lalonde, 1974, Marmot, Wilkinson, 2005, Braveman, Gottlieb, 2014) have shown over time that health state of a population is guided by a mix of factors: biological, behavioral, socio – cultural, educational, economical, ecological, and partially by the access to the health system and quality of services. The first significant report in the field that showed how health systems were not the most important determinants of health was Canadian Lalonde Report in 1974. Broadly, nowadays, it is considered that nourish, lifestyle, environment and genetics are that four fundamental pillars influencing the state health, and the fifth pillar is medical care.

[1] Senior Researcher at The Research Institute for Quality of Life, Romanian Academy, Email: crisdobos@yahoo.com

Nutrition and physical activity are among the most important factor. In the urban areas, the modern life has led over recent decades to a lifestyle with a higher degree of inactivity, an overload of calories, the consume of highly processed food and sugar consumption. At the other end of the spectrum, in the rural area, a part of the population is working in agriculture activities, involving more movement, and a part of the consumption is from domestic production (self-consumption), therefore access to fruits and vegetables seems easier for people in rural areas. However, INSSE data show that in urban areas, the population consumes more fruits daily, of 32.1%, compared to rural areas of only 20.1%, and the population that daily consumes vegetables is of 22.0%, in urban areas, with 7.9 percentage points higher than in rural areas (INSSE, 2018), which indicates the awareness of a healthy lifestyle for a larger part of the urban population. Also, for the poor, there can be problems of proper nutrition. Poor people living in urban or rural areas can have a diet consisting of cheap food, with a low intake of quality food: fresh vegetables, fruits, or meat. INSSE data also show that consumption of salt is higher for the rural population than urban areas (72.8 to 69.9% in urban areas) and a slightly higher consumption for urban population in urban of sugar (53.0%, compared with 48.5% in rural areas).

The weight of the rural population that moves with bicycle in different places (21.6 %) is higher compared to the weight of the population of urban areas of 7.4 % (INSSE, 2018). This is obvious related to length of distances and lanes dedicated to cyclists in towns. In general, urban communities are facing problems related to sedentarism, environmental degradation and pollution of air and water and rural communities are facing problems related to sanitation, waste disposal, hygiene, in the absence of the toilet and running water in housing, exposure to insecticides /pesticides used in agriculture.

The determinants of health cannot be considered in isolation, they are interdependent. Also, inequity in health is interrelated with inequality in income, education, and resource availability. (Patwardhan, Tillu, 2014). Poverty and health are interconnected. According to Eurostat, in 2019 only 5.8% of Romanian living in large cities were at risk of poverty, and 38.1% of the Romanians of rural areas. The European average was (EU28) in the same year was of 17% for large cities and 18.5% for rural areas. Poverty causes poor health due to inadequate living conditions (lack of decent housing, clean water and / or adequate sanitation), it can mean poor nutrition or lack of food. Poverty is also accompanied with illiteracy, which causes people to be less educated about healthy behaviors and health risks. Poverty hinders access to health services and medicines when needed. The health of individuals and communities is gradually improving as their socio – economic status improves. Health and nutrition for children from poor families in rural areas still presents several problems, in terms of hygiene and quality of food and access to medical services. About 20% of children in households without an indoor toilet or running water do not wash their hands after using the toilet, according to a World Vision report. (Gazibar, Giuglea, 2019)

The same report shows that in rural areas, the child's diet has deteriorated in 2019, compared to previous years, in terms of quality and quantity, about two thirds of families being forced, in the last year before collecting data (2018), to buy cheaper products (71%) or less products (61%), because of financial constraints and 9% of

children in rural areas eat two meals a day only sometimes, 2% never do it and 6% sometimes go to bed hungry, 3% do it always, 5% only sometimes have enough food, 3% never have enough food, in 5% of cases the family never has enough income to buy what they need. (Gazibar, Giuglea, 2019)

According to statistical data, in 2018 the population served by the public water supply system was 69.4% of the resident population of Romania. In rural areas, only 35.3% of the resident population was served by the public water supply system. and 27.7% of the Romanian population does not have a toilet inside the house, the number of homes with a toilet in the yard being over ten times higher than the average of 2.1% registered in 2018 in the European Union. (INSSE, 2019). At the same time, a report by the Ministry of Education and Research showed that in 2019, a number of 2.219 schools in Romania had toilets located in the yard, without running water and without sewerage. (MEC, 2020)

The lack of access to hygiene products and health education are problems that Romania has been facing for a long time. The subject has been brought to the public attention given the cases of coronavirus, but once again it has to be drawn attention to the need for long-term health education in Romania, a country where many rural schools still do not have running water and toilets inside, soap, and the situation is perpetuated in many poor households of these children (World Vision, 2021)

Life expectancy and mortality by groups of diseases in rural areas

In Romania, the indicators that characterize the health status of the rural population have lower values compared to the values that characterize the urban population. The same can be said about the indicators that measure coverage with doctors, medical staff, medical cabinets in rural areas, access to these services is a disadvantage for rural residents, compared to urban, as we will see in the subchapter in details. In this context, the population in rural area is expected to be more affected in case of coronavirus infection, because of their co-morbidities and because of more difficult access to medical services. Resident population of Romania was living in 2019 in a ratio of 46.0% in rural areas. (INSSE, 2019) The large number of people in rural areas need attention for social and economic policies, for an adequate development of currently less developed services, through which medical services.

The aging process is more intense at women than at men, due to the higher life expectancy of the female population and it is more intense in urban than in rural areas, due to higher life expectancy in urban areas. Looking at population pyramid on average in 2019, in urban area, working population is predominant, with ages 25 – 69 years and we can see that the population gradually migrated to areas with potential for achieving income (urban ones), so old population, 70-85 plus is more numerous in rural areas, with an impact on the needs of medical care, which are increased in this segment. Life expectancy at birth in Romania remains one of the lowest at European level, with Bulgaria and Latvia, Romania on the last places. Life expectancy at birth in Romanian is smaller in the rural area than in the urban areas. (INSSE, 2019)

In 2018, the life expectancy at birth has been of 75.8 years in Romania (with a difference in favor of women, 79.40 years compared to 72.41 years for men). For urban areas, life expectancy at birth is of 77.16 years with 2.9 years higher than that of rural areas. In 2018, the low expectation of life in Romania has men in the rural areas (70.62 years), a value that is very low in the European context, where the EU 27 average for men is of 81.2 years. Also, a healthy life expectancy at 65 years in Romania, in 2017, is of 5.9 years for men and 5.1 years for women, way under values the EU-28 of 10.2 years for women and 9,8 years for men. (INSSE, 2019) So, the women in Romania live longer than men, but they do not live a longer healthy life.

As Eurostat data show, a percentage of 41% of the population aged 65 plus in Romania suffers from daily activity limitations because of the illness or disabilities, a high percentage compared to other European countries, suggesting a deterioration of health faster, following a combination of factors from insufficiently accessing medical services, and insufficiency preventive medicine, to a less healthy lifestyles (also habits as drinking alcohol, smoking, lack of preventive behavior.)

In 2018, 92.4% of all deaths were caused by five large groups of diseases: the circulatory system diseases, tumors, respiratory diseases, digestive system diseases and traumatic injuries, poisoning and other consequences of external causes. Circulatory diseases are currently the cause of about three-fifths of all deaths, and this cause, along with tumors, accounts for more than three-quarters of all deaths (INSSE, 2019)

In the structure of deaths, there are significant differences by gender and by area of residence. The share of deaths due to circulatory diseases is much higher among the female population compared to the male population and higher in rural areas compared to urban areas. (INSSE, 2019). On the other side, the tumors are more present among men and people in the urban areas (probably pollution of air, stress, lifestyle)

Statistical data on mortality rates by the five main causes of death and areas of residence in the period 2005-2018 show that mortality rates were substantially higher in rural areas compared to urban areas. It is noteworthy that these differences were and remained extremely high in the case of the mortality rate due to diseases of the circulatory system. (523.5 deaths per 100,000 inhabitants in urban, 2018 and 867.2 deaths per 100,000 inhabitants in rural, in 2018) (INSSE, 2019)

The increase of the mortality during coronavirus pandemic

As a result of coronavirus pandemic, general mortality increased appreciably in first semester of 2021 compared to the same period of 2020. The number of general deaths increased with 24.646 deaths, so the mortality rate increased with 2.3 ‰ inhabitants. In rural part, it was an increase with 10.056 death, that means an increase of the mortality rate of 2,2 ‰ and for urban areas, general deaths increase by 14,416 deaths compared to first semester of 2020 respectively the general mortality increases in the urban area with 2,5‰. (CNSISP-INSP, 2021). So, the mortality increased more in the urban part then rural, in the first semester of 2021 compared to the same period of 2020. Despite the factors that were disadvantaging rural part as more untreated co-morbidities, lack of

family doctors in some communities, or hard access to sanitation and medical services, it seems the main factor that contribute to spread of disease was the density of population, that was higher in urban. That cand be seen that crowded communities are at higher risk of coronavirus disease and increase of mortality during pandemic.

Also, a direct effect of the pandemic was the change in the structure of deaths due to causes of death, as INSSE reports show. Thus, in 2020, compared to 2019, the share of deaths caused by respiratory diseases almost doubled (from 6.8% in 2019 to 13.0% in 2020 of the total number of deaths). (INSSE, 2020, p. 15)

Dumitru Sandu shows that "It is expected that life expectancy at birth (indicator of aggregation of specific age mortality rates) in 2020, compared to 2019, will register a more pronounced decline in urban compared to rural areas. The higher population density in urban than in rural areas and with higher COVID-19 infection-mortality rates in cities than in villages will most likely lead to the previously mentioned differences in life expectancy at birth. Localities or regions with increased social interactions due to density, migratory circulation (internal, but especially external) and high-level commuting will probably be those with increased rates of infection-mortality COVID-19 ". (Hotnews, 19th of Feb 2019). Also, Prof Vasile Gheţău, a well-known Romanian demographer, stated that life expectancy at birth has decreased by more than one year because of the pandemic

Services of health care in the rural area

The spatial accessibility analyzed in terms of distances to medical units that can offer medical services might provide an approximate picture of existing territorial inequities at the national level at a given time. In Romania, the level of spatial accessibility of the rural population to medical services shows great variations from one county to another. Accessibility to medical services must also be analyzed through the availability of human resources in the medical field, population structure, existence and endowment of medical cabinets, local factors (including socio-economic, cultural, or specific aspects of morbidity (Ciutan, Sasu, 2008, p 33). Most of the medical infrastructure in Romania is in urban areas. Lack of specialized medical units in rural areas, along with the costs or lists of waiting are the most important factors that determine disparities on access of population to services care. Indicators that can highlight disparities on access to services health are number of people who are allocated to medical personnel and the number of consultations provided in outpatient settings, on types of residence.

In 2018, the number of residents allocated to a doctor in rural areas has been of 1.575 inhabitants. Although the situation was improved along the years, increasing access of rural population to doctors, it had not the same evolution at the level of the urban, compared to 2005. Disparities between areas of residence can also be seen in the case of outpatient consultations. In 2018, the number of consultations given to patients living in urban areas was approximately twice, compared with the rural population. The health network has been developed mainly in urban areas, 91.3% of the total number of hospitals and units assimilated to hospitals and 93.2% of the total integrated outpatient clinics of hospitals and specialized outpatient clinics, 97.8% of the total medical dispensaries, 98.1% of all polyclinics, 98.2% of specialized medical centers, 97.4% of

ambulance units, patient transport and SMURD, as well as most of the mental health centers, blood transfusion centers and TB sanatoriums. (INSSE, 2019)

In 2018, the distribution of beds for continuous hospitalization in the sanitary units by residential areas for the inhabitants in the urban was of 92.6% of the total beds in hospitals, 71, 4% of the total beds in neuropsychiatric sanatoriums, 58.3% of the total beds in health centers (with hospital beds). Also, in 2018, out of a total of 123.219 beds in urban hospitals, the largest number of beds for continuous hospitalization was allocated to surgery (11.3%), internal (9.3%) and psychiatry (8.9%). There were 9.962 hospital beds for continuous hospitalization in rural areas, representing 7.5% of the total number of beds for continuous hospitalization in hospitals in 2018. Of these, more than half (54.3%) had were psychiatric beds, 21.5% for pneumology, and 24.2% were for other specialties (INSSE, 2019)

In 2019, specialists (including surgeons) consulted 19.9% of the resident population during the last 12 months prior to the interview (3.9 percentage points more than in 2014), people in urban areas (21.9% of them), compared to 17.5% of people in rural areas). Worrying is that one-fifth of the country's resident Romanian population has never required a specialized medical advice. A person who consulted a specialist received, on average, 2.1 consultations (2.3 consultations in urban areas and 1.9 consultations in rural areas). In the 12 months prior to the interview, only 20.7% of the resident population aged 3 and over made at least one visit to a dentist or orthodontist – 16.5% in rural areas and 24.3% in urban areas, (INSSE, 2019)

The Romanian health system does not currently offer real protection to vulnerable groups. According to a World Bank report, there are significant differences in access to health services among the population belonging to the lowest income quintile versus belonging to the highest income quintile: in the case of chronic diseases, about 40% of people with incomes in the lower quintile who declare themselves to be suffering from a chronic illness do not request medical assistance compared to 17% of the upper quintile. Underfunding of the system makes the fund ceilings end quickly, so that three out of four poor patients must pay out of pocket for the medical care they need, 62% of the poor who need medicines pay for it out of pocket, therefore the services are underused by the poor. Thus, the benefits of subsidizing the health system are concentrated in favour of the rich or middle class. (World Bank, 2011)

Direct payments and informal payments are an obstacle to access to health services by the poor and vulnerable population, who cannot afford to pay for them. WHO estimates that direct payments for health, as a share of total health expenditures, have continuously increased since 2007 from 17% to almost 22% in 2012 in Romania. This compared with an EU27 average constant of 16 – 17% in the same period. (Tesliuc, Grigoras, 2014)

Vaccination against COVID 19 had a weak coverage in rural area, despite offering access to vaccination facilities. According to government statistics, urban vaccination coverage is twice (28.28%) than in rural area (14.22%) in September 2021[1]. At the date of 20.07.2021, there were 177 communes where vaccination centers were organized and

[1] https://vaccinare-covid.gov.ro/situatia-vaccinarii-in-romania/

vaccination activity started with mobile teams in about 2,493 communes, which means a coverage of 87% with vaccination activities in rural areas (Govern, 2021). Although the vaccine was accessible, other factors were mentioned by different sociologists as brakes in obtaining vaccination, and these factors were related to education, culture, exposure to fake news, trust in governance.

Conclusions

Authors have shown over time that health state of a population is guided by a mix of factors: biological, behavioral, socio – cultural, educational, economical, ecological, and partially by the access to the health system and quality of services. It is considered today that nourish, lifestyle, environment and genetics are that four fundamental pillars influencing the state health, the fifth pillar being medical care. In the urban areas, the modern life has led over recent decades to a lifestyle with a higher degree of inactivity, an overload of calories, the consume of highly processed food and sugar consumption. At the other end of the spectrum, in the rural area, a part of the population is working in agriculture activities, involving more movement, and a part of the consumption is from domestic production (self-consumption), therefore access to fruits and vegetables seems easier for people in rural areas

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In Romania, the level of spatial accessibility of the rural population to medical services shows great variations from one county to another. Accessibility to medical services must also be analyzed through the availability of human resources in the medical field, population structure, existence and endowment of medical cabinets, local factors (including socio-economic, cultural or specific aspects of morbidity. Most of the medical infrastructure in Romania is in urban areas. Lack of specialized medical units in rural areas, along with the costs or lists of waiting are the most important factors that determine disparities on access of population to services care. Indicators that can highlight disparities on access to services health are number of people who are allocated to medical personnel and the number of consultations provided in outpatient settings, on types of residence.

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