THE HEALTH CARE NEEDS OF A RURAL POPULATION DURING THE COVID 19 ERA. EVIDENCE FROM A MUNICIPALITY IN CRETE, GREECE.

DOI: 10.26341/issn.2241-4002-2024-5a-5-T02119

Maria Papadakaki
Associate Professor, Hellenic Mediterranean University, School of Health Sciences, Department of Social Work
mpapadakaki@hmu.gr

Evangelos Tzoukas
Ph.D, sociologist, Hellenic Mediterranean University, School of Health Sciences, Department of Social Work
vtzoukas@hotmail.com

Maria Maniou
Ph.D, RN, Hellenic Mediterranean University, School of Health Sciences, Nursing Department
mmaniou@hotmail.com

George Markakis
Professor, Hellenic Mediterranean University, School of Health Sciences, Department of Social Work
gmark@hmu.gr

Joannes Chliaoutakis
Emeritus Professor, Hellenic Mediterranean University, School of Health Sciences, Department of Social Work
jchlia@hmu.gr

Abstract
The demographic and social changes taking place in many countries create new vulnerable population groups (elderly, children, immigrants), while on the contrary access to health services is becoming more difficult. Services offered to these groups rarely result from an assessment of real needs and local community engagement. The current cross-sectional study aimed at assessing the health needs of the residents of a rural municipality in Crete during the covid-19 pandemic. A total of 1001 individuals (out of 16780, census 2021) were selected in 2021-2022 via a quota sampling based on the gender, age group and area of residency (500 men, mean age 49.3 years). Results: The majority were married (60.6%) and had an average of 1.7 children. 26.2% were graduates of primary and 22.6% of secondary education, 19.3% were retired and 17.8% reported agriculture as their main occupation. 10.7% reported some form of disability, mainly motor (quadriplegia/paraplegia, etc.) (39%), neurological/rheumatological (14%), and cardiac (13%). The mean age of those disabled was 62.3 years, 79.2% reported moderate functional difficulty and 59.4% severe difficulty. 10.4% needed personal assistance to manage daily living, 32% used an aid (e.g. a crutch), and 4.7% used of a wheelchair. 43.4% had an official disability certification by competent committees. 32% reported a chronic disease, their mean age was 61.9 years and 63.5% of them were monitored by a pathologist, 38% by a rheumatologist, 19.2% by a cardiologist. A total of 39.7% reported consumption of medication in the last 6 months mainly for hypertension

(43.3%), diabetes (18.6%), arthritis (9%) and diseases of the circulatory system (8.8%). The average age of those taking medication was 62.3 years. The study emphasizes unmet needs of the population and provides a clear framework of goals for action. Current evidence facilitates rational and efficient allocation of resources.

Key words: *health, needs, assessment, rural, municipality, healthcare, utilization*

Introduction

Greece has suffered 10 years of economic crisis, which led to severe budget cuts in the healthcare sector with huge effects on health care provision, availability and quality. Rural areas were disproportionately affected due to the pre-existing lack of healthcare facilities and the shortage of medical professionals (Lionis et al., 2018). Timely access and adequate medical care became even more challenging for geographically remote areas after the crisis, which already lacked mental health and other specialized services (Milas et al. 2022). Given the country's geographical peculiarities, poor transportation networks hindered access to healthcare services and also caused considerable out-of-pocket payments for healthcare. Disparities in access to care exacerbated during the crisis, despite the country's universal healthcare coverage (Myloneros & Sakellariou, 2021). Low-income families and those living in rural areas were affected more, usually unable to cover all medical expenses (Milas et al., 2022; Emmanouilidou, 2021). System shortcomings inevitably increased frustration and stress for patients and negatively affected their health outcomes (Kampouraki et al., 2023).

Covid-19 pandemic found the Greek population in distressing socioeconomic circumstances, faced with salary cuts and unstable working conditions, severe shortage of resources and increased anxiety about health risks (Samoutis et al., 2023; Stachteas et al., 2022). Restrictive measures, such as social distancing, national lockdowns and quarantine radically changed people's daily lives and habits and affected continuity and quality of chronic care (Stachteas et al., 2022). Patients with chronic diseases faced a double threat during the pandemic due to their increased vulnerability and the difficulties of accessing the necessary chronic care (OECD, 2021).

Considering the aforementioned challenges and bearing in mind the fact that population ageing, is expected to increase significantly the demand for healthcare services and impose a greater pressure on the system, it has been seen as a pressing need to invest on primary health care with emphasis placed on prevention, integration and continuity of care, and effective linkage between healthcare services and providers (Lionis et al., 2018; Ziomas et al., 2018). However, any previous attempt to address these issues, became challenging, due to the fact that Greece lacks administrative data on "unmet needs of the population" as well as data regarding the use of healthcare services and the socio-economic characteristics of the users (Ziomas et al., 2018). Harnessing data in health care could support strategic planning and priority setting at local and national level as well as facilitate monitoring of population health and health system functions (Lionis et al., 2018). It could also assist in addressing inequalities as well as allocating resources efficiently and better meeting the needs of local communities in health care services.

Upon taking into account the fact that health policy and health system design is predominantly led by technical experts and political leaders as well as being aware that health care services rarely result from an assessment of actuals needs, it is becoming increasingly important in modern health and social welfare systems to challenge biomedical paternalism in health care via emphasizing patients' values and preferences and investing on the assessment of actual health needs (Håkansson et al. 2019). To be able to address the fact that we still have

services for which there is a need and supply, but not strong demand or on the other hand we have services for which need and demand exists, but not supply, it is critical to have patient-centered policy planning and data on the actual needs of the population. Starting line for meeting the health care needs of the population is the continuous dialogue of all stakeholders (WHO, 2024).

The current cross-sectional study aimed at assessing the health needs of the population of a rural municipality in Crete during the covid-19 pandemic. More specifically, the study assessed the physical and mental health status as well as the personal circumstances and living conditions of the citizens of Archanes-Asterousia Municipality in Crete, Greece. The study expected to discover the needs and priorities of the local population, emphasize unmet needs and provide a clear framework of goals for action.

Methods

Sampling

A total of 1001 individuals (out of 16780, census 2021) were selected in 2021-2022 via a quota sampling based on the gender, age group and area of residency (500 men, mean age 49.3 years) (see Table 1).

Table 1. *Sample distribution by municipal unit*

Municipal unit	*n*	*%*
Archanes	316	31.6
Asterousia	325	32.5
Kazantzakis	360	36.0

Study setting

The Municipality of Archanes - Asterousia is a municipality that belongs to the Region of Crete and was established under the Kallikratis program, from the amalgamation of the pre-existing municipalities of Asterousia, Kazantzakis and Archanes. Its area is approximately 335 square kilometers and its population counts 18,022 inhabitants, according to the 2001 census. It consists of 27 Communities located among 3 municipal units: Archanes, Asterousia and Nikos Kazantzakis. The communities belong to the provinces of Monofatsi, Pediada and Temenos.

Research Instrument

A semi-structured questionnaire was used to collect the study information. The questionnaire was divided into five parts: The first part referred to the demographic profile of the respondents and included items such as age, gender, educational level, professional status, etc. The second part assessed aspects of morbidity and included questions about diagnoses of chronic diseases, disabilities, functional limitations, health care utilization, medication consumption in the last six months, etc. The third and fourth part assessed dementia, depression and anxiety disorder using certain scales. The last part measured the use of public services, reasons for non-use, major problems and necessary interventions.

Procedures

Data collection was conducted door-to-door, via personal interviews, by a group of trained graduates of social sciences. A specific communication protocol was used to guide the data collection process and the contact with the respondents. The protocol included reference to: a) the researchers' identity (name, status), b) the study nature, objectives, purposes and expected

impacts, c) the procedures and the information to be retrieved, with special reference to the confidential nature of the data, d) secured consent of the subject (or the person caring for them, if they were incapable of consent), as well as assurance that they could refuse or quit at any time without further warning and without this affecting any other contact with the municipality services.

Results

Sociodemographic profile

The majority of the respondents were married (60.6%) and had an average of 1.7 children. 26.2% were graduates of primary and 22.6% of secondary education, 19.3% were retired and 17.8% reported agriculture as their main occupation. More details are provided in *Table 2*.

Table 2. *Respondents' distribution based on sociodemographic information*

Municipal Unit	n	%
Gender		
Male	500	50.0
Female	497	47.9
Family status		
Single	270	27.0
Married	606	60.5
In separation	13	1.3
Divorced	47	4.7
Widow	63	6.3
Age groups		
18-39 years	341	34.0
40-59 years	370	37.0
60-70 years	120	12.0
70+ years	165	16.5
Unspecified	5	0.5
Educational level		
No education	37	3.7
Elementary	263	26.2
Highschool	141	14.1
Lyceum	226	22.6
Vocational training	153	15.3
Higher education	181	18.1
Occupation		
Agriculture	177	17.8
Livestock	26	2.6
Freelance	98	9.8
Trade	15	1.5
Private sector employee	168	16.8
Public sector employee	91	9.1

Unemployed	109	11.0
Housework	68	6.8
Retired	193	19.3
Other	40	4.0

Health status

A total of 10.7% reported some form of disability, mainly motor (quadriplegia/paraplegia, etc.) (39%), neurological/rheumatological (14%), and cardiac (13%). The mean age of those disabled was 62.3 years, 79.2% reported moderate functional difficulty and 59.4% severe difficulty. 10.4% needed personal assistance to manage daily living, 32% used an aid (e.g. a crutch), and 4.7% used of a wheelchair. 43.4% had an official disability certification by competent committees. 32% reported a chronic disease, their mean age was 61.9 years and 63.5% of them were monitored by a pathologist, 38% by a rheumatologist, 19.2% by a cardiologist. A total of 39.7% reported consumption of medication in the last 6 months mainly for hypertension (43.3%), diabetes (18.6%), arthritis (9%) and diseases of the circulatory system (8.8%). The average age of those taking medication was 62.3 years. Information on the age and health status are provided in *Table 3*.

Table 3. *Respondents' distribution based on age and health status.*

	Mean (Standard Deviations)
Disability	
Yes	62.3 (16.9)
No	47.7 (14.8)
Chronic disease	
Yes	61.9 (16.2)
No	46.7 (17.8)
Functional limitations	
Yes	67.0 (17.6)
No	49.2 (17.9)
Medication	
Yes	62.3 (15.8)
No	40.8 (15.4)

Discussion

The study generated information on the health needs of the population and provided a clear framework of goals for action. More precisely, a significant percentage of the participants were shown to suffer chronic health problems, low functionality and poor emotional and psychological health. Many individuals were under medication and in need of regular medical attendance. This sounds quite alarming if we consider that this increased demand for specialized health care services can't be addressed at community level. The local health care centre and the Emergency departments of local hospitals remain for many people at Archanes-Asterousia the main service they address to for medical care regardless of the emergency level. It is often the case that individuals neglect of chronic care and postpone re-examinations, while at the same time unhealthy food habits and non-compliance with the recommended

treatment worsen their condition and increase the health risks (Stachteas et al., 2022). Delays in the diagnosis and poor management of patients with chronic conditions may increase mortality rates, especially in patients with oncologic or cardiovascular diseases, who are many in our study sample (Wright et al., 2020). Patients with chronic psychiatric disorders are also significantly affected. The lack of community mental health services in combination with reduced social interactions especially among the elderly, have been found to have increased feelings of loneliness, depression and generalized anxiety disorder and with poorer health outcomes (Stachteas et al., 2020). Cancer management at community level, from prevention and early detection to the management of cancer in patients, was irreparably affected during the COVID-19 pandemic.

What also stands out in our research is that 19.6% of the residents of the Municipality of Archanes - Asterousia declare themselves unemployed, a particularly high number, which exceeds the unemployment levels in the general population. This finding must have been influenced by the pandemic, since part of this research was carried out during the general lock down. A certain question arises on the social and economic factors that determine the occupation of the respondents. Like many other similar areas in rural Greece the Municipality of Archanes-Asterousia is facing the long-term impact of austerity, inflation and the abandonment of traditional farming. Covid-19 pandemic may have made things worst mainly for the poorer parts of the population. Access to high-standard primary health facilities is limited due to a variety of reasons (poor transport, disablement, low quality of primary health community centers etc). The fact that many aged people with more or less serious health problems live on their own simply makes matters worse.

On the other hand the municipal social services are facing many problems despite the fact that the number of employees (social workers, nurses etc), is relatively satisfactory compared to other municipalities. The health care needs of the population cannot be understood and met without taking into account the overall situation of Greek society in general, and especially the situation in the rural hinterland. In order to overcome the problems that are displayed in our study much effort is needed on behalf of all those involved (central government and ministries, municipality, NGOs and local initiatives ets).

Overall, through this study it becomes possible to identify the health care needs of a rural population and prioritize prevention and targeted interventions. What comes out of this research is the need for further investments in remote and mobile health care solutions for the management of chronic diseases to enhance access to primary and specialized care for those in need. Most importantly, promoting professional development on chronic disease management for individuals with disabilities at municipality level could improve the quality and efficiency of health and social care services at municipality level, reduce hospital visits and enhance the health outcomes of the population. Likewise, fostering integrated care models at municipality services is essential in addressing the combination of medical, social, and behavioral health problems suffered by our study population. Bearing in mind the scarce resources and the staff shortage, the current study should also underline the need to promote self-management of chronic conditions through patients' and carers' education at rural and remote areas. Last but not least, we need to emphasize the importance of conducting more community health assessments, focused on disabilities and chronic conditions, driven by local municipalities with the contribution of academia and with the active engagement of local stakeholder groups, in order to systematically generate population health data to inform policy decisions and prioritize resources effectively. Conclusively, we need to acknowledge that strong and empowered primary and community health care is essential for future health crisis, in order to ensure that continuous, comprehensive and patient-centered care is maintained for all.

References

Emmanouilidou, M. (2021). The 2017 Primary Health Care (PHC) reform in Greece: Improving access despite economic and professional constraints?. *Health Policy*, *125*(3), 290-295.

Håkansson Eklund J, Holmström IK, Kumlin T, et al. "Same same or different?" A review of reviews of person-centered and patient-centered care. Patient Educ Couns. 2019; 102: 3-11.

Kampouraki M, Paraskevopoulos P, Fachouri E, Terzoudis S, Karanasios D. Building Strong Primary Healthcare Systems in Greece. Cureus. 2023 Jul 3;15(7):e41333. doi: 10.7759/cureus.41333.

Lionis, C., Petelos, E., Papadakis, S., Tsiligianni, I., Anastasaki, M., Angelaki, A., ... & World Health Organization. (2018). Towards evidence-informed integration of public health and primary health care: experiences from Crete. *Public Health Panorama*, *4*(04), 699-714.

Milas, G. P., Issaris, V., & Zareifopoulos, N. (2022). Burnout for medical professionals during the COVID-19 pandemic in Greece; the role of primary care. *Hospital Practice*, *50*(2), 102-103.

Morris EJA, Goldacre R, Spata E, et al. Impact of the COVID-19 pandemic on the detection and management of colorectal cancer in England: a population-based study. Lancet Gastroenterol Hepatol. 2021;6(3):199-208. doi:10.1016/S2468-1253(21)00005-4

Myloneros, T., & Sakellariou, D. (2021). The effectiveness of primary health care reforms in Greece towards achieving universal health coverage: a scoping review. *BMC health services research*, *21*, 1-12.

Ziomas, D., Konstantinidou, D., & Capella, A. (2018). ESPN Thematic Report on Inequalities in access to healthcare. WHO Integrated people-centred care. https://www.who.int/health-topics/integrated-people-centered-care. Date accessed: April 24, 2024.

OECD. Strengthening the Frontline: How Primary Health Care Helps Health Systems Adapt during the COVID 19 Pandemic. OECD Publishing; 2021. doi:10.1787/5b0fd8cd-en.

Samoutis, A., Samoutis, G., Stylianou, N., Anastasiou, A., & Lionis, C. (Eds.). (2023). *The Art and Science of Compassionate Care: A Practical Guide*. Springer.

Stachteas, P., Symvoulakis, M., Tsapas, A., & Smyrnakis, E. (2022). The impact of the COVID-19 pandemic on the management of patients with chronic diseases in Primary Health Care. *Population Medicine*, *4*(August), 1-13.

Stachteas, P., & Stachteas, C. (2020). The psychological impact of the COVID-19 pandemic on secondary school teachers. *Psychiatrike= Psychiatriki*, *31*(4), 293-301.

Wright A, Salazar A, Mirica M, Volk LA, Schiff GD. The Invisible Epidemic: Neglected Chronic Disease Management During COVID-19. J Gen Intern Med. 2020;35(9):2816-2817. doi:10.1007/s11606-020-06025-4.