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EXPERIENCES AND SATISFACTION WITH HEALTH CARE OF THE PATIENTS WITH NON-COMMUNICABLE DISEASES FROM URBAN AND RURAL AREAS IN PELAGONIAN AND SOUTHWESTERN REGION OF THE REPUBLIC OF NORTH MACEDONIA

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Abstract

Introduction: Noncommunicable diseases (NCDs) are responsible for 41 million of premature lost life's each year, equivalent to 74% of all deaths globally. The experiences and satisfaction of patients with NCDs with the health care services are important indicator for measuring the quality in health care.

Aim: The aim was to perceive the experiences and satisfaction with health care of the patients with NCDs from urban and rural areas in Pelagonian and Southwestern region of the Republic of North Macedonia.

Material and methods: This was a cross-sectional study conducted in the period 2023/24. A questionnaire derived from existing literature was used to measure the experience and level of satisfaction when receiving care.

Patients with heart attack, strocke, cancer, chronic obstructive pulmonary disease, asthma and/or diabetes mellitus were included.

Results: About 192 patients were elaborated, 55.2% from urban and 44.8% from rural areas. Distance as a problem for an examination by a specialist was 3,25 times more common in rural areas. There was no significant association of practicing inappropriate attitude/behavior (p=0.259), denying the needs (p=0.495), language problem (p=0.089) and/or refusing treatment (p=0.854) by health personnel with the patient's place of residence.

There was no significant association between the patients' from rural/urban areas and their experience for health status awareness (p=0.2252), confidentiality (p=0.1351), information consent (p=0.5439), access to medical documentation (p=0.0701), quality of care (p=0.1337) and safety (p=0.1315). The positive experience towards awareness of the health status significantly increased with the age of the patients - $R_{(183)}$=0.167; p=0.023. The patients from rural areas were significantly more satisfied with the consultation' time with the family doctor (p=0,0102).

Conclusion: We belive that this study results may be useful for the policymakers when developing suitable strategies for safe and high-quality care for NCD patients.

Keywords: experiences, satisfaction, health care, non-communicable diseases.

Introduction

Non-communicable diseases (NCDs) are responsible for 41 million deaths each year, equivalent to 74% of all deaths globally. NCDs disproportionately affect people in low- and middle-income countries, where more than three quarters of global NCD deaths (31.4 million) occur. [1].

The management of NCDs requires an efficient and enforced healthcare system for ensuring the utilization of healthcare services and subsequently, patient satisfaction [2].

The implications of an increase in NCDs patients mean an increase in healthcare visits and treatment. This justifies the importance of providing quality health care to improve uptake as well as patient satisfaction, towards reducing NCDs mortality rates [3].

Patients with NCDs require accurate information about their diseases and treatment options, access to multiple health professionals, effective coordinated care, timely attention to symptoms and timely access to evidence-based treatment [4].

Patients' satisfaction and experiences are an essential indicator used to measure the quality of healthcare services [5], and they are a measure of the extent to which a patient is content with the health care they received from their health care provider.

Improving patient access increases satisfaction for patients and leads to improved use of resources for health systems [4,6].

As an important aspect of healthcare quality, patient satisfaction indicates that the healthcare provider is successful in meeting the patients' needs. Patient satisfaction is believed to provide insight into safety, accessibility, equity and comprehensiveness of quality care but patient experience is often overlooked as a part of this [3].

Research has demonstrated that satisfied patients are more willing to comply with doctors' instructions, thereby improving positive health outcomes [7].

Although the terms patient satisfaction and patient experience are not interchangeable, they are complexly related, having a profound influence on each other and on treatment outcome [8,9]. According to literature, patient experience can be defined as "what" happened during an episode of care and "how" it happened from the patient's perspective, whereas patient satisfaction rather captures the personal expectations and subjective opinions of the received care [10,11].

There are many determinants that can affect patient satisfaction- provider-related or patient-related. Some provider-related factors are physician's proficiency and interpersonal communication skills, behavior of healthcare workers, access to care, basic facilities, and infrastructure.

Patient-related factors include socio-demographic characteristics of patients, stage of their disease as well as patients' perception of a relationship of trust and feeling of being involved in decisions about their care [12].

The Pelagonian and Southwestern region are two of the eight statistical regions in the Republic of North Macedonia. In this two regions live 21,1% of the total population in the country. [13].

The aim of this study was to perceive the experiences and satisfaction with health care of patients with NCDs from urban and rural areas in the Pelagonian and Southwestern regions of the Republic of North Macedonia.

Material and methods

This was a cross-sectional study that was conducted in the period 2023/2024 in the Pelagonian and Southwestern region of the Republic of North Macedonia. Patients with heart attack, stroke, cancer, chronic obstructive pulmonary disease-COPD, asthma and/or diabetes mellitus were included.

The diagnosis of the NCDs of each of the respondents was made by a specialist doctor ≥1 year ago and it was recorded in the electronic health records – "Moj termin". Respondents were included in the study during a visit to general practitioners, after obtaining verbal consent for participation.

The selection of the practices and the survey day was based on a simple random selection, and participation in the survey was offered to all patients who visited the general practicioner on the appropriate day for any reason.

A questionnaire derived from existing literature was used to measure the experience and level of health care satisfaction. It was piloted on a sample of 20 respondents, and it was improved according to the suggestions.

The questionnaire included sections about demographic characteristics of patients with NCDs as well as their attitudes, experiences, evaluations and satisfaction with health care.

Data were processed using the SPSS sotware package, version 26.0 for Windows (SPSS, Chicago, IL, USA). The Shapiro-Wilk W test and the Kolmogorov Smirnov test were used to determine the normality of the distribution of the numerical variables.

Age, health care rating, and patient satisfaction were presented through mean and standard deviation, and gender comparisons were made using the Mann-Whitney U Test.

Pearson Chi square test and Fisher Feeman Halton exact test were used to determine the association between difficulties with health care, the attitudes of patients for selected health parameters and the place of residence. Risk factors were quantified using odds ratio (OR) and confidence intervals (CI). Difference test was used to compare the proportions.

The Spearman rank correlation coefficient was used to determine the association between satisfaction with selected aspects of health services and age. A significance level of $p<0.05$ was used to determine statistical significance.

Results

About 192 patients were elaborated in the study, 54 (28.13%) from the Southwestern region and 138 (71.87%) from the Pelagonian region, all with at least one NCD confirmed by a specialist doctor lasting ≥1 year. Men and women in the entire sample were represented by 94 (48.96%) vs. 88 (51.04%) with a gender ratio of 1.07:1 and a significantly higher percentage of females (p=0.040) (Table 1).

The average age was 61.89±11.24 years, with a minimum and maximum age of 22 vs. 85 years old. Half of the patients were ≤64 years for Median IQR=64 (55-70) years.

The average age of the male and female patients was respectively 61.80±11.23 with a min/max of 26/83 years vs. 61.99±10.92 with a min/max of 22/85 years.

There was no significant difference between patients of both genders in terms of age (Z=-1.430; p=0.1526).

About 106 (55.21%) of the patients were from an urban area with a significantly higher proportional representation compared to those from a rural area, which were 86 (44.79%) for p=0.038. Most patients were retiree, 118 (62.11%), and about level of education, the most represented were those with secondary education 106 (56.38%) (Table 1).

Most patients had diabetes mellitus, 88 (45.83%), followed by heart attack in 42 (21.88%) and cancer in 36 (18.75%). About 27 (14.06%) patients had two NCDs, and 5 (2.60%) patients had three NCDs (Table 1).

About 47 (44.76%) patients from urban areas and 27 (32.93%) patients from rural areas faced the need for health services in the private health facility (p=0.1005). About 58 (55.24%) patients in urban and 39 (47.56%) patients in rural areas had a need for health services in another city (p=0.2971).

None of the patients living in the rural and only 2 (1.90%) from the urban areas faced the need for health services in another country. A total of 30 (28.57%) of the patients from urban and 27 (32.93%) of the patients from rural stated that there was no problem in obtaining health services (p=0.5209) (Table 2).

Patients from rural areas face 3.25 times more often with geographical distance as a problem for an specialist doctor examination compared to those who live in the urban areas. OR=3.25 [95% CI (1.77-5.97)] (Table 2).

Table 1. Socio-demographic characteristics of the patients with NCDs according to regions and selected parameters

Characteristics	Statistical regions of RNM		Total N (%)
	Southwestern N (%)	Pelagonian N (%)	
Gender			
male	37 (68,52%)	57 (41,30%)	94 (48,96%)
female	17 (31,48%)	81 (58,70%)	88 (51,04%)
total	54 (28,13%)	138 (71,88%)	192 (100%)
Place of residence			
urban	42 (77,78%)	64 (46,38%)	106 (55,21%)
rural	12 (22,22%)	74 (53,62%)	86 (44,79%)
Level of education			
no education	1 (1,85%)	3 (2,24%)	4 (2,13%)
elementary	13 (24,07%)	27 (20,15%)	40 (21,28%)
secondary	30 (55,56%)	76 (56,72%)	106 (56,38%)
tertiary	10 (18,52%)	28 (20,90%)	38 (20,21%)
Employment status			
Employed - permanent contract	9 (16,67%)	27 (19,85%)	36 (18,95%)
employed - definite employment contract	0 (0%)	8 (5,88%)	8 (4,21%)
unemployed	11 (20,37%)	14 (10,29%)	25 (13,16%)
student	0 (0%)	3 (2,21%)	3 (1,58%)
retiree	34 (62,96%)	84 (61,76%)	118 (62,11%)
Non-communicable disease (NCD)[1]			
heart attack	11 (20,37%)	31 (22,46%)	42 (21,88%)
stroke	8 (14,81%)	14 (10,14%)	22 (11,46%)
cancer	12 (22,22%)	24 (17,39%)	36 (18,75%)
COPD	10 (18,52%)	23 (16,67%)	33 (17,19%)
asthma	4 (7,41%)	4 (2,90%)	8 (4,17%)
diabetes mellitus	15 (37,78%)	73 (52,90%)	88 (45,83%)
Number of NCDs			
one	49 (90,74%)	111 (80,43%)	160 (83,33%)
two	4 (7,41%)	23 (16,67%)	27 (14,06%)
three	1 (1,85%)	4 (2,90%)	5 (2,60%)

1Patients with one/ more the one NCDs

On a five-point Likert scale where 1 indicates very fast and 5 very slow, the score for the average speed of scheduling a specialist appointment was 3.40±1.16 for patients from urban and 3.99±1.16 for patients from rural areas.

The minimum or maximum score for both urban and rural patients was 1/5. In 50% of patients from the urban areas, the score for the speed of obtaining an appointment was ≤3 for Median IQR=3 (3-4), and for those from the rural areas it was ≤4 for Median IQR=3 (3-5).

The rating for the speed of scheduling a specialist appointment was significantly better among patients from the urban areas (faster appointment) compared to those from the rural areas for Z=-3.277; p=0.001.

Table 2. Difficulties in providing health services according to place of residence -Southwestern and Pelagonian region

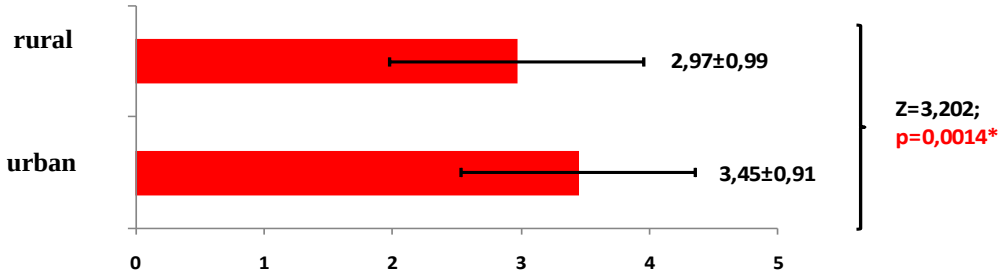
Parametars	Place	Yes	No	p
Facing any of the following difficulties:				
need to request a health service in a private health facility	**urban**	47 (44,76%)	58 (55,24%)	p=0,1005
	rural	27 (32,93%)	55 (67,07%	
need to go to another city to get the health service you need	**urban**	58 (55,24%)	47 (44,76%)	p=0,2971
	rural	39 (47,56%)	43 (52,44%)	
need to go to another country to get the health service you need	**urban**	2 (1,90%)	103 (98,10%)	-
	rural	0 (0%)	82 (100%)	
none of the above	**urban**	30 (28,57%)	75 (71,43%)	p=0,5209
	rural	27 (32,93%)	55 (57,07%)	
Geographical distance a barrier for specialist doctor examination:				
distance a barrier	**urban**	32 (30,48%)	73 (69,52%)	p=0,0001*
	rural	47 (57,75%)	33 (41,25%)	
Facing any of the following behaviors of healthcare workers:				
inappropriate attitude of healthcare workers	**urban**	59 (56,19%)	46 (48,81%)	p=0,2594
	rural	54 (54,29%)	30 (35,715)	
denial of patients needs	**urban**	12 (11,32%)	94 (88,68%)	p=0,4954
	rural	7 (8,33%)	77 (91,67%)	
inappropriate language	**urban**	16 (15,09%)	90 (94,91%)	p=0,0889
	rural	6 (7,14%)	78 (92,86%)	
refusing treatment	**urban**	7 (6,60%)	99 (93,40%)	p=0,8545
	rural	5 (5,95%)	79 (94,05%)	
*significant at p<0.05				

There was no significant association of inappropriate attitude/behavior (p=0.2594), denying the patient's needs (p=0.4954), speaking inappropriate language (p=0.0889) and/or refusing treatment (p=0.8545) by healthcare workers with the patient's place of residence (Table 2).

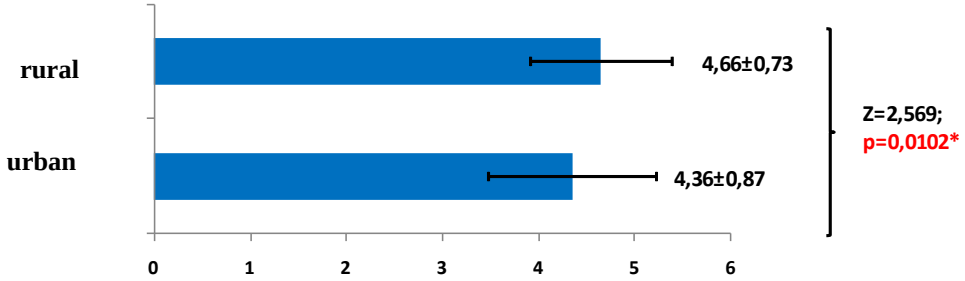
The majority of respondents from the urban or from the rural areas believed that the healthcare workers respects their rights as patients, 46 (43.40%) vs. 18 (21.43%), and not completely respects their rights as patients for 44 (41.51%) vs. 56 (66.67%).

About 4 (3.77%) patients from the urban and 7 (8.33%) of those from the rural areas stated that their rights as patients were not respected by the healthcare workers, and they did not have an opinion on this issue out of 12 (11,32%) from urban patients and 3 (3.57%) from rural patinets.

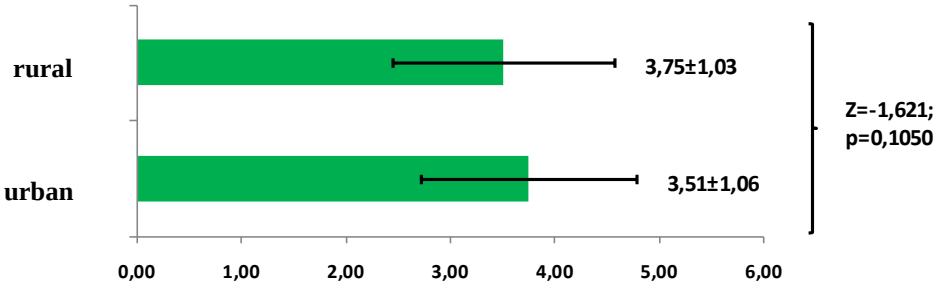
A significant association of living in a urban area and the positive experience of respect for patients' rights by healthcare workers was determined (p=0.0005).



Graph 1. Evaluation in health care among patients with NCDs in the last 12 months according to place of residence (1=very difficult/ 5=very easy)



Graph 2. Satisfaction with the time the general practicioner takes for examination/consultation (1=not at all/ 5= completely)



Graph 3. Satisfaction with the time the specialist doctor takes for examination/consultation (1=not at all/ 5= completely)

Patients with NCDs from urban area had a significantly better assessment of health care in the past 12 months compared to those from the rural area (p=0.0014). At the same time, patients from the rural compared to those from the urban areas were significantly more satisfied with the time the general practicioner takes for consultation regarding their disease (p=0.0102).

There was no significant difference between urban/rural patients in terms of satisfaction with the time the specialist doctor takes for examination/consultation (Graph 1-3).

The linear regression analysis indicated that the satisfaction with health care in the last 12 months increased insignificantly with the age of the patients (R(181)=0.001; p=0.979), and the satisfaction with the time spent with the general practicioner as well as satisfaction with the time spent

with the specialist doctor increased insignificantly in younger patients for consequent (R(185)=-0.119; p=0.105) vs. (R(185)=-0.070; p=0.341).

Table 3. Attitudes of patients according to selected parameters and place of residence - Southwestern and Pelagonian region

Parametars	Place	always	sometimes	never	p
health status awareness	**urban**	22 (20,95%)	83 (79,05%)	0 (0%)	p=0,2252
	rural	24 (28,57%)	60 (71,43%)	0 (0%)	
confidentiality of health information	**urban**	58 (54,72%)	38 (35,85%)	10 (9,43%)	p=0,1351
	rural	51 (60,71%)	31 (35,90%)	2 (2,38%)	
information consent	**urban**	93 (87,74%)	10 (9,43%)	3 (2,83%)	p=0,5439
	rural	71 (85,54%)	11 (13,25%)	1 (1,20%)	
access to personal medical documentation	**urban**	75 (70,75%)	30 (28,30%)	1 (0,94%)	p=0,0701
	rural	48 (57,83%)	32 (38,10%)	4 (4,76%)	
quality of health care	**urban**	23 (23,47%)	74 (75,51%)	1 (1,02%)	p=0,1337
	rural	15 (15,52%)	61 (75,31%)	5 (6,17%)	
safety in health care	**urban**	21 (21,65%)	76 (78,35%)	0 (0%)	p=0,1315
	rural	23 (29,87%)	49 (63,64%)	5 (6,49%)	
* significant at p<0.05					

There was no significant association between the patients' place of residence and health status awareness (p=0.2252), confidentiality (p=0.1351), informaction consent (p=0.5439), access to medical documentation (p=0.0701), quality of healthcare (p=0.1337) as well as safety in healthcare (p=0.1315).

The positive attitude towards health status awareness significantly increased with the age of the patients - R(183)=0.167; p=0.023. No significant association of the age of the patients with any of the other selected parameters was determined.

Discussion

Based on the literature, the possible differences in the experiences and satisfaction regarding health care of patients with NCDs from the of the Republic of North Macedonia have not been investigated in the Pelagonian and Southwestern regions. This study is the first of its kind in this regions and indicates original insights regarding this issue.

Within the aim of our study, we made an analysis of the socio-demographic characteristics of the patients, we analized experiences related with difficulties in providing health services according to place of residence, attitudes of patients in relation to the place of residence, i.e. whether the patients live in a urban or a rural area.

About 192 respondents were included in this study, 28.13% from the Southwestern region and 71.88% from the Pelagonian region. Of the total number of respondents, 55.21% live in urban areas, while 44.79% live in rural areas.

Our analysis showed that 44.76% patients from urban areas and 32.93% of those living in rural areas faced the need for health services in the private sector. According to research by Hazazi et al., going to a private hospital because of long waiting time in the public hospital was declared sometimes/ often by 33.6% of the respondents [4].

Our study showed that about 55.24% of the patients in the urban areas and 47.56% of the patients in rural areas had a need for health services in another city. None of the patients living in the rural areas and only 1.90% from the urban areas faced the need for health services in another country. According to a similar study conducted by the European Patient Forum in patients with chronic

diseases, 39.1% of respondents need to travel to another city to get the health service they need, 17.7% need to go to another region and 9.36% need to go to another country.

In that study, significantly more respondents from rural areas declared that they needed to travel to another city (68.42% for respondents in rural areas, vs 29.45% for those in urban areas) or region (32.62% for respondents in rural areas, vs 13.01% for those in urban areas) to seek healthcare[14].

Our analysis showed that distance is a barrier for an specialist examination by 30,48% patients living in urban and 57,75% of patients living in rural areas. In the study conducted by Kyriopoulos et al., 24.8% of the respondents declared that they face difficulties in accessibility to health care from a geographical point of view [15].

In a study conducted by Pristas et al., people living in rural areas face geographic barriers in access to a general practitioner (30.2%), or access to a specialist doctor (52.4%) [16].

In a survey conducted by Cyr et al., 35.3% respondents declared that they face with difficulties in geographical access to health care [17].

In our analizis, the rating for scheduling an appointment with a specialist doctor was significantly better among patients from the urban (faster appointment) compared to those from the rural areas. In a study conducted by Liu et al. for satisfaction with health services in rural areas, 14.1% respondents were dissatisfied/ very dissatisfied with the time needed to access a health service [18].

Our analysis showed that the majority of respondents from the urban or from the rural areas believed that the healthcare workers respects their rights as patients, 43.40% vs 21.43%. About 3.77% patients from the urban and 8.33% of those from the rural areas stated that their rights as patients were not respected by the health personnel. A significant association of living in a urban area and the positive experience of respect for patients' rights by healthcare workers was determined.

Our analysis showed that more than a half from the patients from urban and rural areas (56,19% vs 54,29%) face with an inappropriate attitude of healthcare workers, denial patients needs (11,32% vs 8,33%), inappropriate language (15,09% vs 7,14%), refusing treatment (6,60% vs 5,95%). According to the study conducted by the European Patient Forum, in most cases, respondents highlighted the attitude of healthcare staff as the issue 64,3%, denial of their rights 23.3%, inappropriate language 19.4%, lack of healthcare facility in their community 22.9%, and refusing with treatment 22.1%. [14].

Patients with NCDs from the urban area had a significantly better assessment of receiving health care in the past 12 months compared to those from the rural areas. At the same time, patients from the rural compared to those from the urban areas were significantly more satisfied with the time the general practicioner takes for consultation regarding their illness.

According to the study conducted by the European Patient Forum regarding adequacy of care, respondents in rural areas declared more satisfaction in the communication with their healthcare professionals on all items (information, involvement, adaptation of care, collecting of feedback)[14].

Our analysis indicated that the satisfaction with the health care in the last 12 months increased insignificantly with the age of the patients, and the satisfaction with the time spent with the general practicioner as well as satisfaction with the time spent with the specialist doctor increased insignificantly in younger patients.

The positive attitude towards awareness of the health status significantly increased with the age of the patients.

Other studies show that NCDs satisfaction exhibits a complex relationship with age, with older patients more likely to have higher satisfaction scores than the younger patients. (19,20) Based on those findings, the lower satisfaction of younger patients may reflect relatively high expectations that cannot be easily met. (21) This finding is congruent with studies conducted in high-income settings where older patients report higher satisfaction with services compared to their younger counterparts [22,23].

According to the study conducted by Kagura et al., predictors of patient satisfaction were found to be sociodemographic factors including age, distance to the clinic, number of visits and waiting times as well as factors such as improving values and attitudes, cleanliness of the clinic, waiting time, safety and effective care and availability of medicines [3].

Conclusion

As an important aspect of healthcare quality- patient experiences and satisfaction regarding health care provide insight into safety, accessibility, equity and comprehensiveness of quality care. Patients with chronic non-communicable diseases living in rural areas face additional challenges in terms of experiences, satisfaction and attitudes regarding health care.

We belive that the results of the present study may be useful for policy makers for planning and implementation of larger national studies that will be of interest for the creation of further health policies.

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