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ORIGINAL PAPER

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Satisfaction of Patients with HIV/AIDS Infection from the Care Provided in the Special Infection Unit of University General Hospital of Alexandroupoli

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ABSTRACT

Background: C HIV/AIDS infection is characterized by a very low number of T lymphocytes (CD4), which makes sufferers vulnerable to various infections, and so they seek continuous care in Special Infections Units. **Objective:** The purpose of the survey is to investigate the factors that contribute to the satisfaction derived from the health services provided to people living with the human immunodeficiency virus; and they are monitored at the Special Infections Unit of the University General Hospital of Alexandroupoli. **Methods:** All patients who came to the Special Infections Unit of the University General Hospital of Alexandroupoli during the period June – July 2021 were asked to complete an anonymous questionnaire on satisfaction derived from the health services provided (E – PQ – SPCSS) and satisfaction derived from their work and quality of life (Occupational Stress Questionnaire, JCQ). The statistical package SPSS 19.0 was used for the statistical analysis of the data. With the help of the ANOVA statistical test, the differences between the variables were checked. P-Value in all audits was set at 0.05. Values showing equal to or less than 0.05 were considered statistically significant. **Results:** They were 85 patients who participated. Amongst them, they were mainly men (75.3%), the mean age was 35-50 years (50.6%), residents of Thrace (62.3%). 37.7% of the participants said they had

some difficulty accessing SIU. Quality of life was positively correlated with education ($p < 0.001$) where the higher reported level of education was, the higher satisfaction rates were. A positive correlation ($p < 0.001$) was also observed amongst income rates where the higher incomes reported, the higher the satisfaction rates were. Lower incomes were significantly associated ($p = 0.029$) with mental disorders (anxiety, depression). Quality of life was positively associated with both satisfaction with medical as well as nursing care ($p < 0.008$). The adequacy and clarity of the information the patients receive from SIU physicians during their visit shows a significant positive correlation ($p < 0.001$). In addition, there is a significant correlation regarding the problems patients may have experienced in the last 6 months in terms of access to treatment ($p < 0.021$). **Conclusion:** Participants showed high satisfaction rates from the medical and nursing care provided at the SIU of the PGNA. The opportunity of expression given to users – patients through satisfaction studies promotes and creates a climate of trust between them and the decision-making teams of health units. **Keywords:** HIV/AIDS, HIV-positive patients, quality of life, patient satisfaction, users of health services.

1. BACKGROUND

Satisfaction with the quality of health services provided is an important factor for people living with the human immunodeficiency virus (1). An important role in the satisfaction of HIV-positive people from health services is played by their interaction with health professionals as well as their level of training and specialization on issues related to the HIV/AIDS virus (2, 3).

Leon et al. (2019), studied the level of satisfaction of people with HIV/AIDS regarding not only the healthcare provided but also the relationship that health care has their satisfaction in the adherence to their anti-retroviral treatment and in the overall quality of their health. The results of the study show that health units that monitor HIV-positive patients contribute significantly to the proper adherence to anti-retroviral treatment (4). The overall way the unit operates; the training and awareness of the staff, the honest information provided and respect for patients are the essence of quality (5).

The interpersonal relationships with the medical and nursing staff, the care they receive and the trust they feel towards the medical and nursing staff are the most important aspects of satisfaction by the health services provided (6). The level of satisfaction of people with HIV/AIDS among nursing staff is determined, to a large extent by nurses' skills in nursing practices towards patients (7).

Additionally, more factors determining their level of satisfaction by the services provided are the waiting rooms before the examination and whether they are pleasant and comfortable, as well as the training and counseling they receive either through discussion or through the availability of printed or audiovisual material on HIV/AIDS (8, 5).

2. OBJECTIVE

The purpose of this study is to investigate and evaluate the factors that contribute to the satisfaction of people living with the human immunodeficiency virus, and they are monitored at the Special Infections Unit of the University General Hospital of Alexandroupoli as regards the provided health services. The satisfaction of HIV patients from the services provided, in a specialized Unit, is important for examining the quality and outcome of care.

3. MATERIAL AND METHODS

The survey sample

The survey sample consists of all HIV patients who are monitored by the Special Infections Unit of the University General Hospital of Alexandroupoli. A total of 153 people living with HIV/AIDS are being monitored. Of these, 123 (80.40%) are men, 29 (19%) women and 1 person (0.60%) transgender.

The research was carried out at the Special Infections Unit of the University General Hospital of Alexandroupoli for the period from 01/06/2021 to 01/07/2021. Upon arrival at the SIU department, they were explained the reason for the survey and asked to fill in, anonymously, the questionnaire as well as a consent form for participation in the survey. The investigation neither interfered with the operation of the department, nor did it have any

financial cost to patients or the hospital.

Research instruments

The collection of quantitative data was carried out through 2 (two) anonymous questionnaires, which participants were asked to complete. These were as it follows:

- E – PQ – SPCSS (Expectations-Perceived Quality-Satisfaction with Primary Care Services Scale). For this questionnaire the author's permission was requested and given.
- Work-Related Stress Questionnaire (JCQ). For this questionnaire, the author's permission was requested and given.

Data analysis

The statistical package SPSS 19.0 was used for the statistical analysis of the data. With the help of the ANOVA statistical test, the differences between the variables were checked. The significance level in all audits was set at 0.05. Values showing equal to or less than 0.05 were considered statistically significant.

Ethical issues

The participation of individuals in the survey was voluntary but necessary. The questionnaires are anonymous and do not contain personal information of patients or natural persons from whom the identity of participants could be disclosed in any way. Answers are strictly confidential and only the members of the research team will have access to them. The answers will be used exclusively for research purposes and specifically will be processed quantitatively and/or qualitatively as a whole.

4. RESULTS

The sample consisted of patients living with HIV/AIDS who are monitored by the Special Infections Unit (SIU) of the University Hospital of Alexandroupoli. It is composed of 85 people, mainly men (75.3%) with the largest percentage (50.6%) belonging to the age group from 35 to 50 years while the majority of participants (45.8%) hold, at least, a diploma of a higher education institution.

There was also a transgender person (1.2%), who was excluded from the results as there was only one person in the total sample and for reasons of anonymity – personal data it was deemed appropriate not to be included in the measurements.

Regarding their marital status, 68.2% of the sample were single. 96.5% of the sample had the Greek nationality while only 3.5% had a different nationality. The profession with the highest percentage is private sector employees (41.2%).

The place of residence of the people consisted of three categories with the highest frequency being divided into the category "Prefecture of Evros" and the category "Rest of Greece" (N = 32). Monthly earnings range mainly from "1000-1500" euros (42.4%) but also "up to 1000" euros (37.6%) with the smallest percentage appearing in the category "over 1500" euros (20%).

Regarding access to SIU, 37.7% of participants answered that they have difficulty and the access time from their home to the SIU of the PGNA ranges from 60 to 120 minutes (31.8%), and more than 2 hours (29.4%)

DEMOGRAPHICS	P-value
GENDER	1,000
AGE	0,412
EDUCATION	0,565
MARITAL STATUS	0,582
NATIONALITY	1,000
PROFESSION	0,916
PLACE OF RESIDENCE	1,000
MONTHLY EARNINGS	0,223
INCOME	0,710

Table 1. Statistical significance in relation to demographics

	SCOREBOARD	
	ORIGINAL	EXPORT
V1	1,000	0,939
V2	1,000	0,913
V3	1,000	0,867
V4	1,000	0,996
V5	1,000	0,900

Table 2. Scoreboard

Moreover, the entire sample (100%) was satisfied with the care provided in the SIU of the University General Hospital of Alexandroupoli, of which 54.1% were completely satisfied. What's more, 49.4% of respondents answered that the quality of medical care was better than they expected, while for nursing care this percentage rose to 52.9%.

With the help of the X2 test, it was observed that there is statistical significance between the question "I would say that the care by the nursing staff of SIU was", with the question "I feel that the nursing care offered to me at the SIU of the University General Hospital of Alexandroupoli is qualitative" and the question "I would say that the medical care offered to me at the SIU of the University General Hospital of Alexandroupoli was" ($p < 0.001$).

Regarding what they consider most important in their care in SIU, 81.2% of the participants belong to the category "Everything". Everyone considers it important to be informed by the healthcare staff, but few of them expect psychological support/counselling or interest from the staff.

Furthermore, there is statistical significance amongst the question "How satisfied are you with the information given to you by your doctor after the end of the visit", with the question "I feel that the medical care offered to me at the SIU of the University General Hospital of Alexandroupoli is qualitative" and the question "I would say that the medical care offered to me at the SIU was" ($p < 0.001$). Thus, it seems that informing the patient by the doctor exceeds the patient's expectations; it is associated with a very positive assessment of the quality of medical care.

When asked "When you visit a doctor, do you tell them that you are living with HIV infection?" most participants (89.4%) answered only when required. Regarding the question "What are the reasons why you do not inform a doctor you visit that you live with HIV infection", most of them answered (36.5%) that there is no need to disclose that I live with HIV infection. Also, a significant percentage (18.8%) of this question answered that

KOM & Bartlett Test		
KMO		0,918
Bartlett Test	Chi-Square	694,572
	Df	28
	P	<0,001

Table 3. KMO and Bartlett Test

	Scoreboard	
	Original	Export
R1	1,000	0,798
R2	1,000	0,828
R3	1,000	0,733
R4	1,000	0,772
R5	1,000	0,785
R6	1,000	0,837
R7	1,000	0,785
R8	1,000	0,726

Table 4. Scoreboard

they believe that the doctor will refuse to provide them with care services, and they are ashamed to disclose it. While in the question "Have you felt stigmatized and/or discriminated in any way by a health professional due to HIV infection in the last 12 months", 95.3% of people said no while 4.7% said yes.

Also, there is no statistical significance between the question "Have you felt stigmatized and discriminated in any way by a healthcare professional due to HIV infection in the last 12 months" and demographic variables. Fisher exact test was applied to see if there is statistical significance. (Table 1)

Regarding job satisfaction, we observe the KMO indicator for the variable V (Job satisfaction). The KMO indicator has a minimum value of zero and a maximum of one. If the index value is above 0.6 or greater (in our test it is 0.849, $p < 0.001$) then it is acceptable.

The scoreboard informs us of the percentage of variation of each question as regards job satisfaction question (V) that is explained by the three factors. Values greater than 0.5 are considered satisfactory, while values well below 0.5 indicate that the variation of the corresponding variables is not satisfactorily explained by the result of the Factor Analysis. In our example, all questions have values greater than 0.5 (Table 2).

Two indicators concerning quality of life (V and R) were also studied. After replacing the answers to the questions with numbers, where 1 would represent the most negative answer and 4 the most positive, we analyzed the data.

When asked "How satisfied are you with your job?", most respondents answered "somewhat" (34.1%) and "a lot" (35.3%). Regarding the third question "Would you accept this job again?", most answered "probably" (43.5%) and several "without hesitation" (28.2%).

In terms of quality of life, KMO is 0.918 with $p < 0.001$, so it is acceptable for the quality index R. All values are greater than 0.5, so they are considered satisfactory for the analysis of variance. (Table 3)

From what we can see in the scoreboard, all values are greater than 0.5, so they are considered satisfactory for the analysis of variance. (Table 4)

Then we described the R questions that refer to quality of life. The values of each category for each quality question (R) will be numbered for a score from 1 to 7, where 1 will represent the most negative answer and 7 the most positive one. We summed up the answers to each question and produced two scores. One score for job satisfaction (Score – V) and one for quality of life (Score – R). We then created two new variables derived from the sum of four questions (V1, V2, V3 and V5) for the job satisfaction questions and eight categories (R1, R2, R3, R4, R5, R6, R7 and R8) for the quality-of-life questions. The mean value for index V was 8.98 and standard deviation 0.540, while for index R the mean value was 46.19 and standard deviation 6.478.

There was a statistically significant difference for both scores (Score V and Score R) in terms of education ($p < 0.001$), occupation ($p < 0.001$) and monthly earnings ($p < 0.001$) in terms of demographic variables.

Job satisfaction is positively correlated with education, where the higher the reported education (College, University, postgraduate studies) was, the higher the satisfaction was. A similar correlation is observed in income; higher incomes show higher satisfaction rates. The same opts for work; a stable job increases satisfaction rates. Score V (Job Satisfaction) was marginally statistically significant in terms of ethnicity ($p = 0.044$).

Regarding the other questions, the score V has statistical differences regarding the questions: "I feel that the medical care offered to me at the SIU of the University General Hospital of Alexandroupoli is qualitative", "I feel that the nursing care offered to me at the SIU of the University General Hospital of Alexandroupoli is qualitative" ($p = 0.008$), "I would say that the medical care offered to me at the SIU was" and the question "Did the above obstacles have any impact on your health?" ($p = 0.007$). Score V also has statistical differences regarding the questions: "I would say that my medical care was offered to the SIU" ($p = 0.004$), the question "How satisfied are you with the information your doctor gave you after the end of the visit?" and the question "When you need medical advice on a health issue (other than HIV), what doctor do you usually turn to" ($p < 0.001$), the question "In the last 6 months have you faced any obstacle in accessing your treatment (access to SIU, doctor's appointments, access to your anti-retroviral treatment, CD4 and/or viral load tests)?" ($p = 0.021$), the question "Have you made use of new technologies (video calls, mail) in the last 6 months to communicate with the medical and nursing staff of SIU?" ($p = 0.038$), the question "If "YES", how would you describe your experience?" ($p = 0.002$) and the question "When you visit a doctor, do you tell him that you are living with HIV infection?" ($p = 0.026$).

As far as score R is concerned, there are statistical differences also in the questions "Do I feel that the medical care offered to me at the SIU of the University General Hospital of Alexandroupoli is qualitative", "Do I feel that the nursing care offered to me at the SIU of the University General Hospital of Alexandroupoli (PGNA) is qualitative" and "When you visit a doctor, do you reveal to him that you are living with HIV infection?" ($p = 0.001$), the ques-

tions "I would say that the medical care offered to me in SIU was", "I would say that the care from the nursing staff of SIU was", "How satisfied are you with the information your doctor gave you after the end of the visit?", "Did the above obstacles have any impact on your health?", "Have you made use of new technologies (video calls, mail) in the last 6 months to contact the medical and nursing staff of SIU?" and "When you need medical advice on a health issue (other than HIV), what doctor do you usually turn to" ($p < 0.001$), the question "In the last 6 months you have faced an obstacle in accessing your treatment (access to SIU, doctor's appointment, access to your anti-retroviral treatment, CD4 and/or viral load tests)?" ($p = 0.016$) and the question "Did you see a mental health professional last year?" ($p = 0.002$)

5. DISCUSSION

Given the results of the study, gender and age do not seem to affect quality of life. These results are consistent with other studies (9). Antithetically, education and monthly earnings seem to be related to the reported quality of life (3). Higher education participants as well as those reporting high incomes ($>€1500$) have higher job and life satisfaction rates. This finding is also found in other studies (10, 11). The economic situation of the individual is the basis of his living and social activities. Low-income people report lower life satisfaction rates, as well as worse physical and mental health (10).

The level of education is an important factor that determines the degree of knowledge and understanding of the disease by the patient himself. Less educated people have an increased risk of recurrence of the disease compared to more educated people, while among people who have received at least tertiary education, the risk of premature death, which is associated with adherence to medication as well as not adopting a healthier – safer lifestyle, seems to be reduced (11).

It is emphasized that healthcare professionals in HIV/AIDS clinics should pay more attention, especially to people with low educational levels and young patients, as well as to have sufficient time for informing, counseling, and communicating with them (12).

As shown by the results, there is a correlation between quality of life and satisfaction from the medical and nursing services provided at the SIU. This finding is found in other studies of patient satisfaction with HIV/AIDS infection (13, 14).

Most of the study participants reported that both the medical and nursing care offered to them at the SIU of the University General Hospital of Alexandroupoli (PGNA) was qualitative, showing very high satisfaction rates. In fact, the answers to this question are identical, with 45.9% stating "I agree" and 54.1% stating "totally agree", both for the quality of medical and nursing care respectively. Statistical significance is observed in the questions "How was medicine" and "How was the nursing care they received?", with participants answering for medicine "better than I had expected" at 49.4% and for nursing "better than I had expected" at 52.9% respectively. Similar high satisfaction rates with health services

provided in HIV/AIDS clinics are found elsewhere in the literature (15, 16). Their satisfaction with the health services provided plays an important role in the quality of ongoing care for HIV/AIDS and their degree of adherence to anti-retroviral treatment. (17).

An important factor for both the satisfaction and the reported quality of life of people living with HIV/AIDS is the "stigma" of the disease (18). In our study, many participants report that they have not felt stigmatized in the last 12 months because of HIV. Only one person reports that he has been denied health services by a non-SIU health professional due to HIV. The intensely negative experience due to stigma can lead to reduced levels of mental health and quality of life. In addition, strong stigma also negatively affects psychological variables (19, 20).

As shown by the results, access to the Special Infections Unit is reported by most participants as "very easy" and "relatively easy" (62.3%). However, a remarkable percentage (37.7%) report that their access to SIU is "a little easy" or "not easy at all". Many of them report that it takes 60-120 minutes (31.8%), while the percentage of those who report that it takes more than 2 hours (29.4%) is also high. The difficulty in access and the long time it takes them to reach SIU is justified by the long distance of their place of residence from Alexandroupoli and the lack of private transport.

In addition, most participants (90.6%) report that they have experienced some kind of problem in accessing their treatment in the last 6 months, identifying the majority of the problem in "not performing laboratory tests due to coronavirus". This finding is consistent with similar findings from the literature. People living with HIV who have problems accessing their anti-retroviral treatment may experience a deterioration in both their physical and mental/psychological health (21).

As shown by the literature, an important role in assessing satisfaction within the health services provided to patients is the ability to access Hospitals – Infection Clinics. They have higher satisfaction rates when it is easier to access the clinic, while the overall experience of their visit is also affected by the HIV/AIDS training provided by health personnel (3).

They believe that their appointments at the clinic should respond to their needs, while great importance is also given to the fact that they can discuss issues related to HIV outside the clinic, by phone or by e-mail. Patients say they are satisfied with their time with providers, as well as feeling that staff had the necessary education and training on new developments around HIV/AIDS infection and the care of patients with HIV/AIDS infection (22).

The literature suggests that patient-centered interventions designed to improve the healthcare experience could be an innovative method for optimizing health-related outcomes for people living with HIV/AIDS (23). Regular clinical and laboratory testing, communication with health personnel, compliance with medication and compliance with habits and practices that improve, promote, and protect the overall health of people living with HIV infection, is a key element in achieving long-term and without serious complications survival with

HIV infection (24).

Strategies to improve and maintain care for people living with HIV require an understanding of behavior and the complex interactions between biological, psychological, behavioral, and social factors (3). They also require a multi-layered, multi-component approach to address the needs and concerns of each patient individually. Patient satisfaction reflects their perception of the processes of health services, while improved satisfaction levels represent the quality and strength of services and people who provide health care to people living with HIV/AIDS (15).

6. CONCLUSION

The results show that the satisfaction rates of people living with HIV/AIDS and monitored by the Special Infections Unit of the University General Hospital of Alexandroupoli are very high, both for the quality of medical and nursing services provided. It appeared that gender and age do not affect the degree of satisfaction of the services provided.

There were differences in questions about quality of life in relation to occupation, monthly earnings, and education. The higher the education and income was, the higher the satisfaction rates were.

The opportunity of expression given to users – patients through satisfaction studies promotes and creates a climate of trust between the patient and the health system; thus, encouraging the participation of patients in therapeutic processes.

Finally, the support given from healthcare personnel to people living with HIV/AIDS is an important factor in their reported overall satisfaction with the services provided.

- **Author's contribution:** PO, LK, AF gave a substantial contribution to the conception and design of the work. AF, CI gave a substantial contribution of data. AT, KK, CS, EA gave a substantial contribution to the acquisition, analysis, or interpretation of data for the work. PO, LK, AF, AT, KK, CS had a part in article preparing for drafting or revising it critically for important intellectual content. All authors gave final approval of the version to be published and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.
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