International Journal for Quality Research 18(1) 11–26
ISSN 1800-6450

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Article info:
Received 05.07.2022.
Accepted 11.08.2023.

UDC – 005.336.3
DOI – 10.24874/IJQR18.01-02

FACTORS AFFECTING PATIENT SATISFACTION WITH THE QUALITY OF PRIMARY HEALTHCARESERVICES: A CROSS-SECTIONAL STUDY IN ALBANIA

Abstract: *Patient satisfaction is a key indicator of the quality of health care delivery, and as an internationally recognized factor must be studied on a regular basis to ensure the health care systems' performance. The study's scope is to identify and evaluate the factors influencing patient satisfaction with the quality of public primary health care. A three-month cross-sectional facility-based study with 150 participants was carried out. A structured questionnaire based on the SERVPERF method is used to collect respondents' opinions about the quality of healthcare provided by primary healthcare services. Tangibles, Reliability, Assurance, and Waiting Time in Healthcare Centers were found to be statistically significant and affect overall satisfaction with healthcare service quality. The study's findings will help Primary health center managers and policymakers develop strategies and evaluate future applications to support improving quality of care, healthcare outcomes and overall primary health center performance.*

Keywords: *primary healthcare, service quality, SERVPERF, sociodemographic characteristics*

1. Introduction

Following the fall of the communist system in 1990, Albania a South-Eastern European country, experienced a flurry of reforms, including the authorization of private healthcare service providers, the decentralization of primary healthcare (PHC) management, the complete privatization of both pharmaceutical and dentistry sectors, and the establishment of the Health Insurance Institute (Maranaj, 2010). The number of private organizations providing healthcare services in Albania is growing. Most of them are outpatient clinics that have grown rapidly in recent years, particularly in urban areas, and frequently headquartered in private hospitals or near public hospitals. In 2019, there were 229 primary health care clinics offering specialized diagnostics and laboratory services, as well as 177 outpatient medical centers and cabinets.

Despite the growing number of private providers, public healthcare providers under government control continue to be most health-care institutions providing health services to the population. Public PHC is currently delivered through a well-established network of 413 urban and rural public health facilities. These facilities provide the population a range of basic medical services, such as (1) emergency

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care; (2) health services for children; (3) women of reproductive age; (4) adults and (5) elderly people; (6) mental health care; and (7) health promotion and education are offered mainly through primary health centers (CHIF,2018).

To ensure the safety and quality of health care for citizens, Albanian law requires all public and non-public health care institutions to meet quality standards as prerequisites for accreditation. The Quality Standards for Accreditation (QSA) of Health Care Institutions, emphasize the importance of establishing a patient-centered health care service. According to World Health Organization (2016) patient-centered healthcare systems have the potential to significantly improve population health outcomes, access to care, and overall health expenditures. The value of patient-centered primary healthcare can be seen in the cost-effectiveness of health-care services provided. According to Papp et al. (2014), establishing patient-centered primary health care can improve the cost-efficiency of healthcare services. In this context, greater emphasis on patient feedback should be considered as an important factor for quality assurance and the accreditation process.

There is a strong relationship between service quality and satisfaction, to the point where it is assumed that "quality in customer-oriented services is defined as perceived satisfaction" (Smith & Swinehart, 2001). Patient satisfaction assessment and improvement are also included as components of the Quality Standards for Accreditation (QSA) that healthcare institutions must meet. Many countries require regular measurement of patient satisfaction with healthcare quality as part of the quality assurance and accreditation process (Smith & Engelbrecht, 2001), because quality improvement efforts are more likely to be successful if the patient is an integral part of the improvement team through their assessment (Uhlig & Raboin, 2015). The evaluation of patient satisfaction is critical not only for the patient who receives the service, but also for the organization as a provider (Johansson et al., 2002). Furthermore, Patient satisfaction with healthcare services is considered a crucial quality indicator (Newman et al., 2001), representing a valuable instrument for assessing and improving healthcare organization performance. (Ozretić et al., 2020) and affecting the commitment and interactions with care providers. (Wolosin, 2005).

Although the patient satisfaction is globally accepted as an important evaluator of health-care quality, few studies with the focus on patient satisfaction with the healthcare quality have been conducted in Albania, a Southeastern European country in transition. This study can be considered a contribution to the literature on patient satisfaction with the quality of care in a Balkan country context. It may also assist policymakers and heads of primary health care institutions in developing strategies and policies focusing on key areas of care service deemed important from the patient's perspective, thereby contributing to improvement of PHC quality.

2. Literature review

Primary Health Care is defined by the World Health Organization as "essential health care made universally accessible to individuals and families in the community through means acceptable to them." Primary health care is the foundation of a strong healthcare system (Shi, 2012), and it is widely considered to be a crucial contributor to the overall effectiveness, equity, and efficiency of health services (Starfield, 2012). A high-quality primary healthcare system results in better health outcomes, including a lower rate of mortality (Starfield, 2011), improved access to healthcare services, and a reduction in hospitalization and emergency department visits (Shi, 2012).A greater emphasis on primary health care can be expected to reduce health-care costs, improve health by providing more appropriate services, and

reduce inequities in the population's overall health (Starfield et al., 2005). A solid understanding of the relationship between the specific characteristics of primary health care and its outcomes is required to improve the population's health status and respond to people's health expectations. (Papp et al., 2014)

Assessing service quality is important for many countries and industries, but healthcare is always viewed as a high-risk involvement in which perceived service quality is seen as not only a technical quality, but also a functional quality, particularly in how services are delivered to customers. (Rashid & Jusoff, 2014). This approach is critical in this sector as the information regarding technical aspect of the service offered is often limited or unknown to the patient. The most recent approach to primary healthcare seeks to focus on patient perspective in developing and delivering healthcare services with a focus on quality improvement. Numerous studies emphasize the importance of patients' perspective and consider it an essential tool for monitoring and improving service quality (Andaleeb, 2001).

Patient satisfaction is a key determinant of quality in healthcare delivery, and as a globally accepted indicator, it must be included in standards for primary healthcare institution on an ongoing basis (Amporfro et al., 2021). Patient is considered as one of the necessary outcomes of health systems and a measure of health service quality which is directly linked with utilization of the services and influence whether, when, and how frequently people seek medical care, as well as which provider they choose (McMillan,1987). Their feedback can be used as both a predictor of health-related behavior and a dependent measure of service quality. (Pascoe,1983). According to Baba (2004) patients are considered as best judge because they evaluate accurately the services provided, and their inputs contribute to the overall enhancement of high-quality health care provision through the correction of system flaws by the relevant authorities. Patient satisfaction is related to their willingness to recommend the service to others, and patient recommendations are an effective motivator for obtaining new patients. It also influences the patient's willingness to return to the same healthcare provider. (Budiastuti, 2018; Heriyati & Budharani, 2018).

Assessing healthcare quality from the perspective of patients has become a priority in PHC centers management. Today patients are increasingly being supported as partners in all aspects of their own health care, as well as systemic quality improvement, in today's healthcare policy. (Newell & Jordan, 2015). Efforts to improve performance are more likely to be successful if the patient is an integral part of the improvement policy team (Uhlig & Raboin, 2015).

In such a rapidly changing and increasingly competitive health market, the quality of health care and how patients perceive the quality is critical" (Braunsberger & Gates, 2002). Patients are viewed as a valuable source of valuable and unique information about the quality of care (Wäre, 2003). They examine various aspects of health care when evaluate service quality (Choi et al., 2004) and their viewpoints, perceptions, and experiences, including non-therapeutic dimensions of care such as communication, attention, treatment, or confidentiality, are a central aspect of quality of care (Kringos et al., 2015). In these circumstances the functional aspect becomes more important because the patients evaluate the entire service based on how it was provided to them (Shafiq et al., 2017).

To gain a competitive advantage, health-care quality must be constantly evaluated and monitored. According to the literature review, various models for measuring the quality of services have been identified. The three service - quality measurement models, Grönroos', Perceived Service Quality model, SERVQUAL and SERVPERF were applicable to most service sectors, including

healthcare services. However there have always been discussions because of the absence of an appropriate objective measurement of healthcare quality, resulting in questions about what constituted healthcare service quality and how it was perceived by different stakeholders. (Rumintjap & Wandebori, 2017). Many researchers have assessed service quality at different healthcare providers using different methodologies. Some stuck to the original model proposed by Parasuraman et al. (1988) (SERVQUAL) and Cronin and Taylor (1992) (SERVPERF), while others have adapted different models according to their healthcare setting and needs. Cronin and Taylor (1992) specified that performance should be measured, not "expected". The SERVPERF model represents 'performance – only measures', or service quality measurements focused only on organizational performance as perceived by consumers rather than focusing on the difference between the consumers' perceptions of performance versus their expectations of the service quality (Ali et al., 2016).

According to Brady and Cronin (2001) service quality is a performance-based construct that should be measured using perceptions rather than expectations as a reference point. They further argued that perceived service quality is an attitude and does not equate to satisfaction, which is the eventual result of an overall evaluation. Studies has proven that service quality should be conceptualized and measured as an attitude and be seen as a performance (SERVPERF) approach (Arumugam and Arumuga, 2018).

SERVPERF model consists of five service dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy, with a set of 22 statements. Asking patients what they think about several dimensions on the health service and treatment they have received is an important step for improving the quality of service and for assuring that primary healthcare service deliveries are meeting patients' service needs (Bekele et al.,2008). Many surveys conducted in the healthcare sector use the SERVPERF model on numerous occasions, based on both functional and technical qualities (Sohail, 2003). It has contributed to the development of quality clinical services and settings, as well as the identification of patients' needs and expectations or demands.

Even though studies on patient satisfaction have been deemed particularly important, they remain an issue that is often ignored by service providers (Rad et al., 2010), particularly in transition countries. A periodic evaluation of patient satisfaction can raise awareness of a health care facility's management and health providers to their patients' needs.

3. Methodology

The purpose of this study is to assess the level of patient satisfaction with primary healthcare services and to determine the factors that influence it. These factors are classified as patient-related and healthcare-related factors. A structured questionnaire with two parts is used as the primary research instrument in this cross-sectional study. The first section collects socio-demographic and related data from study participants, while the second section contains questions about the SERVPERF quality dimensions related to PHC.

The SERVPERF, a model of assessment for patient perception, was used to explore satisfaction with the PHC service quality provided. A total of 22 items collects outpatient opinion related to healthcare quality dimensions such as Tangibles (4 items), Reliability (5 items), Responsiveness (4 items), Assurance (4 items), Empathy (3 items), and overall Satisfaction with PHC (2 items). Each statement is evaluated using a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The SERVPERF scale was translated into national language, and a pilot study was

conducted to determine whether the questionnaire items were easily understood by the target population. At the beginning 15 people were asked to complete the questionnaire and provide feedback on each item. Following the collection of feedback, a final version of the instrument was created.

Reliability analysis of the instrument revealed alpha coefficients greater than 0.7 for each of the scale's dimensions, while the reliability coefficient for all factors together has a value of 0.889. SERVPERF instrument has been used in numerous surveys in healthcare, and its reliability and validity have been demonstrated (Sohail, 2003).

Data collection took place from December 2020 to February 2021. Participants in the study had to be at least 18 years old and were randomly selected after had received healthcare service at public PHC center. This study included 150 randomly selected patients who received services in one of the largest Public Primary Health Center located in Durres Region. Only 142 of the respondents provided complete and accurate information for further processing. According to Khamis and Kepler (2010) the sample size is n = 20 + 5k, where k = number of predictors. PAPI method of conducting surveys and collecting data was used

The data for this study was quantitatively analyzed using descriptive statistics using the statistical package SPSS 25. Chi Square, ANOVA, and Pearson Correlation with 95 percent confidence interval were used to determine the patient-related factors that influence overall satisfaction with the quality of health care. Furthermore, R^2, Linear and Multiple Regression, was used to design the research model with a focus on the quality dimension, which had a significant impact on the patient satisfaction level.

Participant confidentiality and privacy were guaranteed through self-administered anonymous questionnaires used to collect data. A written consent for participants was obtained confirming the voluntary participation and the right to withdraw from the study at any point in time.

The study was approved by the National Ethics Committee of Albania, Ministry of Health and Social Protection.

4. Results and Discussion

4.1 Patient Overall Satisfaction

The quality of healthcare services provided at the Public PHC is evaluated by respondents with an average score of 5.94 out of 7, and 64.2% of them declared high levels of satisfaction with the overall quality of health care services provided by public PHC center. A percentage comparable to satisfaction level conducted also from other studies (Wetmore et al.,2014, Al-Sakkak et al., 2008). Despite the high level of overall satisfaction with the PHC center, there are differences in reported satisfaction based on the department where the services are received. Patients receiving services at the Primary Healthcare Center's Laboratory reported higher levels of satisfaction with the quality of service, with 6.75 points, followed by Child Counselor Services, 6.41 points, and Woman Counselor Services, each with an assessment of approximately 6.37 out of a possible 7 points. Patients who received Radiology service appear to be less satisfied, with a score of 5.875 points, as do those of the medication, injection, and microsurgery services, with a score of 5.35

points. Both scores, even high in absolute value, indicating in general a high level of satisfaction with the service, are indeed the lowest when compared to other health center services. This is most likely due to the influx of patients that this service has because of the Covid-19 pandemic consequences that were still present at the time the research is conducted.

Table 1. Overall Satisfaction with primary healthcare quality services

PHC Services	N	Mean	Std.Dev
Emergency Service	12	6.291	.60145
General Practices	82	6.067	.77683
Cardi & neurology	7	6.035	.78300
Women counselor	4	6.375	.32275
Child counselor	3	6.416	.38188
Radiology	24	5.875	.70325
Laboratory	5	6.750	.43301
Microsurgery	5	5.350	.37914
Health Center TOT	142	6.066	.73893

4.2 Patient-related factors and Overall Satisfaction

There are numerous studies in the health field that broadly support the thesis that several socio-demographic, patient-related variables, such as income level, education, marital status, gender, age, influence patient satisfaction with health care services (Ware et al.,1978). Despite agreement on the effect that patient-related variables have on perceived satisfaction, the findings of studies on the strength and direction of the relationship of each variable with satisfaction do not converge to the same conclusion (Tucker & Kelly, 2000; Vinagre & Neves, 2010). The following are the study's findings regarding sociodemographic factors:

Gender: 40.8 percent of female patients and 48.3 percent of male patients are extremely satisfied with this health center's health care services. Even though male patients in the study report higher levels of satisfaction with health care services than female patients, from the analysis it resulted no statistically significant difference between the reported level of overall satisfaction and the patient's gender (X^2 (2) > = 0. 429a, p> 0.05). Other researchers (Wallin, 2000; Marx, 2001), confirm the same that gender has no effect on patient satisfaction level.

Age. Patients over the age of 60 have higher average satisfaction scores with healthcare services, with an average satisfaction with the quality of health services of 6.27 points out of 7. Young patients up to 30 years old are less satisfied than other age groups, with an average satisfaction score with health care services of 5.6 points. The patient's age it is a factor influencing the overall level of satisfaction reported with health care services at Primary Health Center ($F_{3,\ 158}$ = 4.355, $p < 0.05$). Furthermore, a statistically significant positive correlation exists between these two variables (r =.279, p<.001). The level of satisfaction with the quality of health services provided in this PHC center is expected to rise as patients ages. According to Crow et al., (2002), approximately 70.7% of studies show the existence of a linear relationship between age and patient satisfaction, with older respondents expressing higher levels of satisfaction with healthcare than younger ones (Grogan et al., 2000).

Monthly income. Patients who declare income in the range of 50,000 to 70,000 ALL have the lowest level of satisfaction with PCH services, with an average score of 5.78 points. Patients with the lowest income, up to 30,000 ALL, have the highest level of satisfaction, with an average score of 6.31 points. The variance analysis reveals a statistically significant linear relationship ($F_{3,\ 158}$ = 5.867, $p < 0.05$). There is a statistically significant negative correlation between the level of the patient's monthly income and the level of satisfaction with health services (r = -. 289, p<0.001). Patients with higher incomes are more likely to report lower levels of overall satisfaction with primary healthcare at public PHC. The same result is stated by Al-azmi (2006).

Theodosopoulou et al., (2007), who included 320 patients in Greece and 240 in Poland in their study, also concluded that patient income correlates negatively with overall satisfaction with health services. This could be because patients with higher incomes have more opportunities to seek health care in other specialized centers and the private sector.

Education Level. Patients with a low level of education (8 years of education) have the highest level of overall satisfaction with health care services, with an average rating of 6.29 points out of a maximum of 7. Patients with the highest level of education, post-university, reported the lowest level of overall satisfaction, with an average of 5.7 out of 7 points. However, there is no statistically significant relationship between patient education level and overall reported satisfaction. ($F_{4, 137} = 1.064$, $p > 0.05$). There are studies that confirm the same finding: there is no significant relationship between the patient's level of education and the reported level of satisfaction with health care services. (Chang et al., 2006; Johansson et al.., 2002).

Distance to the health center. The distance to the health center influences patients' overall satisfaction. Patients who live more than 15 kilometers from the health center report a lower level of satisfaction of 5.7 out of 7, whereas those who live within 5 kilometers report a higher level of overall satisfaction of 6.29 points. Overall patient satisfaction and the distance to the health center were found to have a statistically significant negative correlation ($r = -.301$, $p < 0.001$).

Patients who live further away from the health center declared lower satisfaction level. The reported levels of overall satisfaction with the health center tend to decrease as the distance between the patient's home and the health center increases. Between the two, there is a moderate negative correlation $r = -.301$ ($.3 < r < .5$). Distance appears to be an influencing variable, as stated by Goodman et al. (1997) that availability in terms of distance or mileage increases the use and satisfaction with a specific service.

Monthly medical visits. Patients who claim to have received healthcare services at the PHC center more than four times within last month report higher levels of satisfaction, with an average satisfaction rating of 6.39 points. Those who have only received healthcare services once, on the other hand, report lower levels of satisfaction, with an average rating of 5.97 points. However, there are no statistically significant differences between the number of medical visits performed during the month and the patient's overall satisfaction. ($F_{2, 139} = 1.463$, $p > 0.05$). Crow et al., (2002) discovered the satisfaction is a significant factor influencing the decision to visit or not the same healthcare provider in the future. Implying that satisfied patients are those who tend to re-choose to receive services from the same health center more than once. Anyway, there are some categories of patient, especially those who are with low income, or those who are covered by public health insurance that often re-choose to receive care services to the public institutions despite the satisfaction level.

Time spent at the health center. Time spent receiving a service in the health care system is an important factor affecting the patient's quality assessment. Patients who declared that did not wait to receive the service declare the highest level of satisfaction with an average rate of 6.17 points. While those who stated that they did wait from 21 to 30 minutes to receive the health care service declare the lowest satisfaction level with an average rating of 4.87 points. The statistical analysis of the data reveals a significant difference between the time spent in the health center waiting to receive the service and the patient's overall satisfaction with this Health Center ($F_{3, 138} = 7.136$, $p < 0.05$).

There is a statistically significant negative linear relationship between the two

variables. Patients' overall satisfaction is likely to decrease as their time spent receiving health care services near the center increases. (r=-.292, p < .001). The strength of this negative is considered moderate (.1< r < .3). Katz and Larson (1991) and Hassali et al., (2014) state the same about the presence of a negative relationship between waiting time to receive the care services and overall satisfaction with healthcare.

4.3 Quality of the Public Primary Healthcare Service and the Overall Patient Satisfaction

The dimensions used to assess overall patient satisfaction with the quality of health care services, according to the SERVPERF model (Cronin & Taylor, 1994), are: Tangibles: the physical appearance of facilities, equipment, personnel, and communication materials. Employee knowledge and courtesy, as well as their ability to convey trust and confidence, are examples of Assurance. Reliability: the ability to deliver promises accurately and consistently. The willingness to assist patients and provide prompt services is referred to as Responsiveness, while Empathy is referred to the compassionate, one-on-one attention given to patients.

The Assurance dimension receives the highest level of satisfaction from patients, with a score of 6.3 points. Meanwhile, the Reliability dimension received an average of 5.93 points across all components, followed by Responsiveness (6.04 points) and Empathy (6.12 points).

Table 2. Patient Overall satisfaction with the public PHC service quality dimensions

Quality Dimension	N	Min	Max	Mean
Tangibles	142	3.75	6.75	5.3116
Reliability	142	3.60	7.00	5.9380
Responsiveness	142	3.50	7.00	6.0440
Assurance	142	3.50	7.00	6.3134
Empathy	142	3.60	7.00	6.1225
Overall Satisfaction	142	3.74	6.85	5.9459
N (listwise)	142			

4.4 Multi regressions analysis of the quality dimension with the overall satisfaction

According to the statistical analysis, presented in Table 3, three of the five quality dimensions, Tangible Aspects, Assurance, and Reliability, have a statistically significant relationship with overall patient satisfaction, accounting for 78.3 percent of the variation in overall patient satisfaction with primary care. (R^2=0.783, p < 0.05). All β-coefficients are positive indicating that improving each of the above factors leads to an increase in overall patient satisfaction.

Table 3. Summary model of the PHC quality services dimensions and Patient satisfaction

Model	R^2	R^2 adjusted	B	t	Sig.
	.783	.775			
Constant			.158	1.978	
Tangibles			.109	1.961	.050
Reliability			.305	4.018	.000
Responsiveness			-.002	-.025	.960
Assurance			.416	5.553	.000
Empathy			.148	1.606	.111

Dependent variable: Patient satisfaction p<0.05

Assurance dimensions have the highest impact on the variation of patient satisfaction (β =.416, Sig=0.000).

Respondents considered 'assurance' as the most important dimension in their assessments of the quality of public PHC services. The same stated also by other studies (Ozretic et al., 2020, Akdere et al., 2018) There are two components of the Assurance construct statistically significant in explaining 66.9% of the variation of patient overall satisfaction with primary health care services (R^2=0.669, Sig=0.000).When assessing the quality of healthcare, patients seem to consider the overall level of knowledge of the health center staff able to respond to all their questions (β =.524, $p < 0.05$), and overall safety perceived while receiving healthcare services in (β =.339, $p < 0.05$). Efforts to improve staff knowledge through continuous training and periodic professional development programs (Ganasegeran et al., 2015), as well as implementing safety principles in healthcare institutions are critical steps toward improving overall healthcare systems quality (Šklebar et al., 2016).

Reliability is the second service-related dimension statistically significant on the variation of overall satisfaction level (β =.305, Sig=0.000). This result is also consistent with other studies (Ganasegeran et al., 2015). To improve the quality of PHC services provided, healthcare management and staff should pay attention to those 'Reliability construct's items that are deemed important from the patient's perspective. According to the analysis, three components are statistically significant, accounting for 40.1% of the variation in patient overall satisfaction (R^2=0.401, Sig=0.000). Health Center's ability to provide services at the times promised (β =.458, $p < 0.05$), the accuracy of keeping and processing patient data error-free (β =.215, $p < 0.05$), and the healthcare staff 'sincere interest in resolving patients' problems (β =.141, $p < 0.05$) are statistically significant in increasing the satisfaction level.

The same is stated by Gabrani et al., (2020) who concluded that prompt attention is a domain of high importance to Albanian patients when assessing PHC quality. Moreover, dual practices of medical personnel, working in both the public and private sectors at the same time, and patient juggling are considered as concerning phenomena affecting perceived quality, particularly in low- and medium-income countries. (Slipicevic and Malicbegovic, 2012).

'Tangibles' resulted to be statistically significant in affecting overall patient satisfaction with public PHC center (β =.109, p=0.005). Ware et al., (1978) in their study stated that Tangibles are considered a determinant of patient satisfaction level (Wäre et al., 1978). There seems to be a consensus in the healthcare literature that *Tangibles* aspects play a critical role in patient satisfaction (Gotlieb, 2000; Fowdar, 2005; Boshoff & Du Plessis, 2009).The neat appearance of the staff (β =.320, $p < 0.05$), the appealing visuality of the facilities(β =.303, $p < 0.05$), and the visuality of the service-related materials such as pamphlets, tables, signs, and so on (β =.268, $p < 0.05$) are significant and explain 66.8% of the variation in patient overall satisfaction levels (R^2=0.68, Sig=0.000).

PHC management should strive to improve healthcare service quality in all dimensions, with a focus on 'assurance, "reliability," and "tangibles," as well as the time spent by the patient to receive the care service at the PHC center.

While it is important to remember that the level of satisfaction is influenced by patient age, which correlates positively with the level of satisfaction declared, and the patient income level which correlates negatively with the PHC service satisfaction. The findings of the study are incorporated into the proposed researched model, Figure 1, which can be used as an auxiliary

instrument to assist policymakers, management and health care staff better understanding and interpreting patient opinions and integrating them in a quality assurance plan.

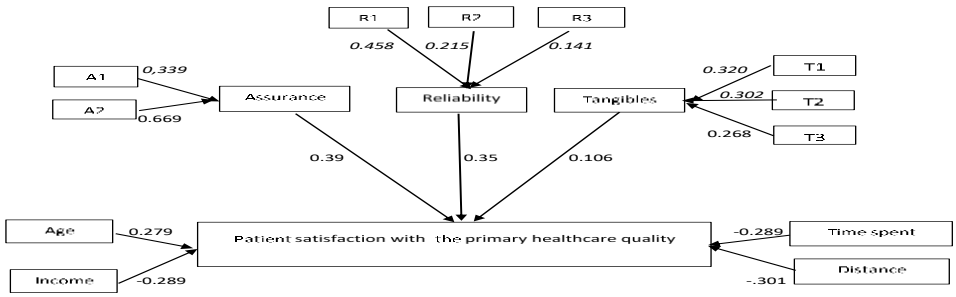

Figure 1. Factors affecting the patient satisfaction with the primary healthcare quality

Refereeing to literature review the component of quality assurance plan must include a: detection of quality issues, conception and drafting of a problem-solving strategy, quality assessment development, implementation of proposed intervention (Haleem et al., 2021).

Policymakers and public health researchers should emphasize how to deploy health workers and engage patients to provide well-coordinated care when developing new service delivery models. Patient feedback should be used to create suitable strategies for improving accountability, healthcare service delivery, and overall organizational quality and performance.

5. Quality 4.0 and the improvement of patient satisfaction with dimension quality of primary healthcare

In the era of Fourth Industry Revolution also known as Industry 4.0, even in healthcare industry policymakers and management should consider as a fact that Quality 4.0 is the future of quality. In the area of medicine and healthcare, Industrial 4.0 is expanding rapidly its presence and is currently considered as one of its most crucial forms (Abdel-Basset et al., 2020).

To improve performance, at the end of each quality assessment period, staff and management providers should have collected enough information to propose changes or adjustments that lead to the development of contemporary strategies.

According to the findings of the study, patients of public PHCs consider 'Assurance' and 'Reliability' as both important dimensions affecting the perceived quality of healthcare services provided.

Implementing Quality 4.0 can assist providers in improving these factors. All processes in Quality 4.0 are digitally based and software-controlled, collecting and processing data in real time, minimizing errors and trying to simplify the traditional medical treatment and healthcare services (Javaid & Haleem, 2019).Quality 4.0 technologies are critical in providing better procedures, enhancing quality (Cui et al., 2020) improving healthcare practitioners' professional skills and assisting patients in providing the highest-quality service while keeping safety, and modern treatment in mind (Ho et al., 2020).

This study determines 'Tangibles' an influencing factor of the patient satisfaction with the quality of care. Today, several virtual reality-based systems are used by doctors to aid in the diagnosis of diseases, while other technology uses sophisticated

algorithms to enable better patient monitoring (Khan & Qureshi, 2020), and individualized care plans-based on patient individual needs (Szolovits, 2019).

Incorporating the proposed Quality 4.0 concept will help healthcare centers in providing more effective medical interventions as well as improved healthcare services that ensure patient satisfaction and comfort (Shu et al., 2020).

6. Conclusions

This study aims to provide a contribution to evaluating the level of patient satisfaction at public PHC centers and determining the factors influencing patient satisfaction. According to this study, the overall satisfaction level of outpatients with public PHC services is high, with an average scoring of 6.06 points out of a maximum of 7 points. Patient sociodemographic factors such as age and income level influence the perceived level of patient satisfaction with the healthcare service received.

Furthermore, the distance from the patient's residence to the health center as well as the time spent in the health center to receive the care service influence the variation in patient satisfaction with PHC center.

Three out of the five quality dimensions of the SERVPERF are statistically significant affecting overall satisfaction. ‘Assurance’, ‘Reliability’, and ‘Tangible Aspects’ count for 78.3 percent of the variation in overall patient satisfaction with PHC service. In attempt to improve the perceived quality management should pay special attention to the appearance of physical facilities, equipment; medical staff knowledge and courtesy, as well as their ability to convey trust and confidence; and the ability of the public PHC center to deliver the services when promised accurately and consistently. Quality 4.0 must be recognized as the future of quality, where new digital and disruptive technologies are used to keep up with the demands of the patients, to provide more efficient healthcare services, to improve the quality of patient care provided and to maintain and guarantee the quality and healthcare organization performance.The findings of the study, have both theoretical value within the framework of the literature on healthcare quality in the perspective of the Balkan countries, as well as practical value by providing management with insight how to continuously improve the quality of primary healthcare services.

Acknowledgment:
This study was supported by the Swiss Agency for Development and Cooperation (SDC) through its project "Health for All" in Albania, within the initiative for "Operational Health Research."

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