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FINANCIAL IMPACTS OF COVID-19 PANDEMIC FOR TURKISH PUBLIC HOSPITALS

COVID-19 PANDEMİSİNİN TÜRK KAMU HASTANELERİNE FİNANSAL ETKİLERİ

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ABSTRACT

The aim of the study is to assess financial implications of Covid-19 pandemic on Turkish public hospitals and to discuss Turkish government's responses. A comparative analysis is carried out with the medical and financial data of Turkish public hospitals between March-December 2019 and March-December 2020. Outpatient services decreased by approximately 49%, inpatient admissions dropped by %35. Due to this decrease in the number of patients, outpatient revenues decreased by 37.8%, while inpatient revenues increased by 6.3% thanks to reimbursement supports by the Social Security Institution (SSI). On the other hand, total hospital expenses increased by 24% with the impact of Covid-19-related expenses. This increase is largely caused by performance-based supplementary payments, drugs, and operating expenses. Prospective global budget model helps healthcare financing stability for Turkish public hospitals. Public hospitals receive their global budgets to compensate for revenue shortfalls. The SSI also try to compensate the financial losses of public and private hospitals with additional reimbursement supports. However, policymakers and managers should prepare for the change of paradigm in the healthcare system and should concentrate to cost-effective policies (such as tele-health services) in hospitals as a result of Covid-19 demands.

Keywords: Financial Challenges, Public Hospitals, Cost Control, Global Budget, Covid-19.

JEL Classification Codes: H51, I10, G32.

ÖZ

Bu çalışma, Covid-19 salgınının Türk kamu hastaneleri üzerindeki mali etkilerini değerlendirmeyi ve Türk hükümetinin yanıtlarını tartışmayı amaçlamaktadır. Bunun için Mart-Aralık 2019 ile Mart-Aralık 2020 tarihleri arasında Sağlık Bakanlığına bağlı kamu hastanelerinin tıbbi ve finansal göstergeleri karşılaştırmalı bir biçimde analiz edilmiştir. Bu dönemde ayakta hasta başvuruları yaklaşık % 49, yatan hasta sayısı ise % 35 azalmıştır. Hasta sayısındaki bu düşüşe bağlı olarak ayakta hasta tedavi gelirleri % 37,8 azalırken, yatan hasta tedavi gelirleri ise Sosyal Güvenlik Kurumu'nun (SGK) geri ödeme destekleriyle % 6,3 oranında artmıştır. Öte yandan büyük ölçüde Covid-19 ile ilgili performansa dayalı ek ödemeler, ilaçlar ve işletme giderlerinin etkisiyle toplam hastane giderleri % 24 oranında artış göstermiştir. İleriye dönük bir ödeme yöntemi olan global bütçe uygulaması, kamu hastanelerinin gelir kayıplarını telafi ederek sağlık hizmetlerinin finansmanının sürdürülebilirliğini desteklemiştir. Aynı zamanda SGK ilave geri ödeme destekleriyle kamu ve özel hastanelerin finansal kayıplarını telafi etmeye çalışmıştır. Bununla birlikte, Covid-19 sonrası dönemde politika yapıcılarının ve yöneticilerin pandemiyi sağlık sisteminde yarattığı paradigma değişikliğinin bilincine vararak hastanelerde uygun maliyetli politikalara (telesaglık hizmetleri gibi) yönelmeleri gerektiği önerilmektedir.

Anahtar Kelimeler: Finansal Zorluklar, Kamu Hastaneleri, Maliyet Kontrolü, Global Bütçe, Covid-19.

JEL Sınıflandırma Kodları: H51, I10, G32.

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GENİŞLETİLMİŞ ÖZET

Amaç ve Kapsam:

Türkiye’de ilk vakanın görüldüğü ve aynı zamanda Covid-19’un Dünya Sağlık Örgütü tarafından küresel bir pandemi olarak ilan edildiği 11 Mart 2020 tarihinden sonra, Coronavirüs hastalığının bakımına yönelik talebin artması ile sağlık hizmeti sunum pratikleri değişmeye başlamıştır. Örneğin, hastalığın yayılmasını engellemek ve Covid-19 bakımına öncelik vermek için planlı cerrahi müdahaleler ertelenmiştir. Salgın kontrol stratejileri (hafta sonu sokağa çıkma yasakları, 20 yaş altı ve 65 yaş üstü insanları kapsayan ülke çapında sokağa çıkma yasağı, 'evde kalmayı' teşvik eden kampanyalar) hastane başvurularını azaltmıştır. Hastanelerde enfeksiyona maruz kalma olasılığından endişe duyan hastalar da hastane müracaatlarını sınırlandırmıştır. Bütün bu gelişmelerin sonucunda hasta hacmindeki azalma, hastanelerin gelir-gider dengesi üzerinde olumsuz etkiler yaratmıştır. Bu çalışmanın amacı da Covid-19 salgınının Sağlık Bakanlığı hastaneleri üzerindeki mali etkilerini analiz etmek ve Türk hükümetinin yanıtlarını tartışmaktır.

Yöntem:

Bu çalışmada, pandemi öncesi ve sonrasını karşılaştırmayı mümkün kılmak için 2019 Mart-Aralık ile 2020 Mart-Aralık dönemi arasında Türk kamu hastanelerinin tıbbi ve finansal verileri analiz edilmiştir. Veriler, Sağlık Bakanlığı Kamu Hastaneleri Genel Müdürlüğü’nden alınan izinle elde edilmiştir. Covid-19’un kamu hastanelerindeki finansal etkilerine yönelik analizler için öncelikle Temel Sağlık İstatistikleri Modülü (TSİM) veri tabanından hastane hizmet sunumuna ilişkin temel göstergeler toplanmıştır. Bunlar, yatan ve ayakta tedavi gören hasta sayıları, ameliyat sayısı, yatak doluluk oranı, manyetik rezonans görüntüleme (MRI) ve bilgisayarlı tomografi (BT) çekim sayıları gibi verilerden oluşmaktadır. Daha sonra Tekdüzen Muhasebe Sisteminden (TDMS) hastane gelirleri (yatan, ayakta, ameliyat) ile giderlerine (performansa dayalı ek ödeme, tıbbi cihaz ve sarf giderleri, işletme giderleri) ilişkin veriler elde edilmiştir. Hastanelerin Covid-19 ile ilgili satın almak zorunda olduğu kişisel koruyucu ekipmanlar (KKE) ile diğer malzemelerin de ek maliyetleri incelenmiştir.

Bulgular:

Bu dönemde kamu hastanelerinin en önemli hasta ve gelir kaynağı olan ayakta tedavi gören hasta hacminde beklenmedik şekilde büyük bir düşüş yaşanmıştır. Pandemi öncesi döneme göre ayakta hasta başvurularında ortalama %49 azalma meydana gelmiştir. Bu azalış, poliklinik muayene sayısında %58, acil muayene sayısında %35,4, yatan hasta sayısında ise %35,6 oranında gerçekleşmiştir. Yatak doluluk oranı da buna paralel olarak %64’den %40’a düşmüştür. Covid-19 pandemisinde yoğun bakım üniteleri önemli rol oynadığından, yoğun bakım ünitelerinde yatan hasta sayısı diğer hizmetlerdeki azalış oranlarının altında kalarak %9,2 oranında azalış göstermiştir. Toplam ameliyat sayısı, Covid-19 pandemisi nedeniyle elektif ameliyatların ertelenmesiyle birlikte %52,2 oranında azalmıştır. Covid-19 teşhisinde sıklıkla kullanılan akciğer tomografisinin etkisiyle bilgisayarlı tomografi çekim sayısı %13,4 oranında artmıştır. Covid-19 pandemisi tedbirleri kapsamında sağlık hizmeti sunumunun daralmasıyla birlikte, toplam tahakkuk tutarı %13,7 oranında azalmıştır. Hasta sayısındaki bu düşüşe bağlı olarak ayakta hasta tedavi gelirleri %37,8 azalırken, yatan hasta tedavi gelirleri ise geri ödeme destekleriyle % 6,3 artmıştır. Öte yandan büyük ölçüde Covid-19 ile ilgili performansa dayalı ek ödemeler, ilaçlar ve işletme giderlerinin etkisiyle toplam hastane giderleri %24 artmıştır. Covid-19 pandemisi nedeniyle özveriyle görev yapan sağlık çalışanlarının herhangi bir maddi kayba uğramalarının önlenmesi ve motivasyonu amacıyla sağlık tesislerinde ilk aylarda tüm personele, sonrasında ise sadece Covid-19 pandemisi ile ilgili birimlerde çalışan personele ek ödeme dağıtılmıştır. Bunun sonucunda, sabit dışı ek ödeme gideri iki kattan daha fazla artmıştır. Pandeminin ilanının ardından ilk evrede oluşan kriz ortamının etkisiyle, koruyucu ekipman olarak kullanılan malzemelerde yaşanan temin güçlüğü ve fahiş fiyat artışları hastane giderlerinde yükselmelere yol açmıştır. Önümüzdeki dönemde ilaç ve tıbbi malzemelerin geri ödeme fiyatlarının düşüklüğü yanında küresel ölçekte yaşanan enflasyonist baskılar nedeniyle ortaya çıkan ciddi fiyat artışları, hem sağlık hizmet sunumunu hem de hastanelerin gelir-gider dengesini olumsuz etkilemeye devam edecektir.

Sonuç ve Tartışma:

Birçok dünya ülkesinde olduğu gibi Türkiye’de de pandeminin hastaneler üzerindeki olumsuz etkilerini azaltmak için hızlı yanıtlar geliştirilmiştir. Sosyal Güvenlik Kurumu’nun global bütçe uygulaması, kamu hastanelerinin gelir kayıplarını telafi ederek sağlık hizmetlerinin finansmanının sürdürülebilirliğini desteklemiştir. Hem kamu hastaneleri hem de özel hastaneler açısından Sağlık Uygulama Tebliği’nde yapılan değişikliklerle yoğun bakım ünitelerine yapılan ödemeler iki katına çıkarılmıştır. Yatan hastalar için mevcut geri ödeme bedeline ilave olarak "pandemi bakım hizmeti" ödenmeye başlanmıştır. Böylece hastaneler, Covid-19 hastaları için yatan hasta tedavi ücretine ek olarak günlük 667 lira geri ödeme almaya başlamışlardır. İmmün plazma temini ve uygulama hizmetleri ile Covid-19 tanı ve tedavilerinde kullanılan test ve ilaçlar da geri ödeme kapsamına alınmıştır. Covid-19 pandemisi, tele-sağlık hizmetlerinin (telesaglık muayeneleri, video görüşme, e-konsültasyon gibi) önemini artırmış ve kullanımını hızla geliştirmiştir. Bu bağlamda politika yapıcılar ve yöneticiler, Covid-19 pandemisinin sağlık sisteminde yarattığı paradigma değişikliğine hazır olmalı ve hastanelerde uygun maliyetli politikalara (telesaglık hizmetleri gibi) ağırlık vermelidir.

1. INTRODUCTION

Public hospitals play a key role in ensuring delivery of health services in Turkish healthcare system. In 2019, beds in public hospitals constituted 60.3% of the total number of hospital beds and 62.9% of the healthcare personnel are employed in Turkish public hospitals. In total, the number of per capita hospital visits is 6.1, of which 4.7 are made to Ministry of Health (MoH) hospitals (Ministry of Health, 2021, p. 154). In Turkey, all public hospitals (including university hospitals) are mainly financed based on prospective global budgets, i.e. hospitals receive a fixed payment for treating a pre-specified volume of activity. Prospective global budget, financed from general insurance system, are the primary sources of financing for public hospitals, containing approximately 70% of the total hospital budget. Hospital services and related activities account for the largest proportion of health expenditure in almost all OECD countries. In 2017, hospitals received on average 38% of health system financing, hospitals spending accounts for around 53% in Turkey. This shows that more than half of all financial resources are spent on the hospital sector (OECD, 2019, p. 150-151).

Turkish healthcare system is under huge pressure from the Covid-19 pandemic. Turkey announced the first confirmed coronavirus case on 11 March 2020, incidentally the same day that WHO declared that the novel coronavirus outbreak was a global pandemic (WHO, 2020a). To limit the spread of disease, prioritize for Covid-19 care and ensure the safety of patients and health personnel, elective surgical procedures were gradually canceled or suspended. Patients who are concerned about the possibility of exposure to infection, have been limiting hospital visits in Turkey as well as in many countries (Shin et al., 2020; Bai & Zare, 2020, p. 2807; Abor & Abor, 2020, p. 559). Epidemic control strategies (weekend curfews, the nation-wide curfew covering people aged under 20 and over 65, campaigns to promote 'stay at home') have also reduced hospital visits. The organization of hospital services has been restructured, intensive care unit (ICU) capacity expanded and patient pathways reorganized such as testing health personnel or patients prior to surgery (Quentin et al., 2020, p. 88-92; Story et al., 2020). Hospital admissions were minimized and allowed only through a 'Central Physician Appointment System' (CPAS/MHRS) reachable using a call center, website or mobile application system (WHO, 2020a, p. 8). Furthermore, MoH moved quickly to enhance capacity of hospitals. The bed capacity of the hospitals, the number of intensive care beds, the number of monitors and ventilators were increased. During the Covid-19 outbreak, new hospitals were opened by MoH in many provinces. By the end of 2021, the number of intensive care beds was increased by 7400. And 6183 new ventilators and 5990 new monitors were purchased and distributed to the public hospitals. In 2021, a total of 20.7 billion liras was spent for Covid-19 vaccine, drugs and medical supplies and pandemic additional payments for personnel (Koca, 2021). All of these arrangements have had implications for hospital financing. Hospitals, which experienced a serious decline in their revenue especially in the early period of the pandemic, faced the risk of failing to achieve financial sustainability.

This study aims to highlight the financial implications on public hospitals of the pandemic and understand hospitals' cost management responses during the pandemic. The specific objectives of the study were to: 1) to assess how public hospital service delivery is affected; 2) to discuss the reductions in revenue and increases in supply and operating costs that pandemic has had on public hospitals and Turkish government's responses to Covid-19.

2. METHODS

This study presents the characteristics of Turkish public hospitals, a comparison of demand for healthcare services, revenues and expenses between the non-pandemic (March-December 2019) and pandemic (March-December 2020) periods. Data were obtained with the approval of the MoH Directorate General of Public Hospitals. Data were composed of all public hospitals under MoH. University hospitals, which are public legal entity were excluded. To analyze the financial effect of Covid-19 in public hospitals, firstly hospital service delivery key indicators were collected from Basic Health Statistics Module (TSIM) database. These consist of data such as inpatient and outpatient volumes, number of surgery, bed occupancy rate, magnetic resonance imaging (MRI) and computed tomography (CT) exams. Then, data on hospital revenues (inpatient, outpatient, surgeries) and expenses (performance-based supplementary payments, medical equipment, supply costs, operating) were obtained from Uniform Accounting System (TDMS). Covid-19-related additional costs incurred by hospitals for the purchase of personal protective equipment (PPE) and other supplies and equipment have been studied.

3. RESULTS

Covid-19 pandemic had serious effects on patient volume, revenues and expenses on Turkish public hospitals. If the current reductions in volume and revenue continue, the financial problems and challenges for public hospitals could be even more significant. The descriptive statistics were presented based on the following findings:

3.1. Volume Effect of Covid-19 Pandemic

There has been an unexpectedly large drop in outpatient volumes, which is the most important source of patients and revenue for public hospitals. Compared to the same period of the previous year, there was an average declines of 58.0% in polyclinic visits and 35.4% in emergency department visits. While total inpatient admissions fell 35.6% among Turkish public hospitals, ICU admission less decreased 9.2% due to ill patients with laboratory-confirmed Covid-19 who were admitted to the ICU. From March to December 2020, overall surgery numbers (except outpatient surgeries) fell 53.2% compared with 2019, representing about 1.2 million fewer surgeries. Similarly, according to the data of the Brazilian Ministry of Health, the number of elective surgeries across the country decreased by 34.7% from 2019 to 2020 (Beck da Silva Etges et al., 2021, p. 39). Chest computed tomography is the best imaging modality that detects different parenchymal patterns and disease severity in Covid-19 pneumonia in early and progressive stages (Pan et al., 2020, p. 715-716). For this reason, the number of computed tomography exams increased by 16.2% in the Covid-19 period (Table 1).

Table 1. Periodic Data on Patient Volume in Public Hospitals in Turkey (2019-2020)

Visit and Admission Type	2019 (March-December)	2020 (March-December)	Change %
Outpatient services	326,696,562	159,483,431	-48.8
- Polyclinic Visits	228,328,144	95,976,980	-58.0
- Emergency Departments Visits	98,368,418	63,506,451	-35.4
Inpatient Admissions	6,447,715	4,153,216	-35.6
Bed Occupancy Rate (%)	64	46	-27.7
Intensive care units (ICU) admissions	814,426	739,503	-9.2
Number of surgeries (A,B,C)	2,299,676	1,076,805	-53.2
Magnetic Resonance Imaging (MRI) exams	9,091,162	5,362,225	-41.0
Computed Tomography (CT) exams	11,867,096	13,788,435	16.2

3.2. Covid-19 Impact on Public Hospitals' Revenue and Expenses

Historic reduction in public hospitals inpatient and outpatient volumes have led to dramatically reductions in accrued revenues. Results only showed that inpatient revenues increased during this period. The reason for this is that the Social Security Institution made extra payments for inpatients and intensive care units patients. When elective surgeries postponed or cancelled worldwide, loss of hospitals' gross revenue is occurred (Tonna et al., 2020). As seen in Table 2, the relative reductions in surgical volumes have been much more than the reductions in the surgical revenues in Turkey. Because postponing or canceling surgeries was one of the factors that negatively affect hospital revenues. Elective surgery accounted for 27.4% of the total inpatient hospital revenue in the pre-Covid period, and 22.0% in the post-Covid period. In this context, just like in Brazil, the cancelation or postponement of elective surgeries and procedures could have contributed to the decrease of revenue and hospital occupation rates in Turkey (Beck da Silva Etges et al., 2021, p. 39). In the US, in the pre-Covid period elective surgery admissions valued for more than 30% of total inpatient hospital revenue (Khullar et al., 2020, p. 2127). In addition revenues from retail spaces operated by hospitals decreased by 35.6% as a result of decrease in patients, visitors and flexible working of some health staff.

Table 2. Change of Revenue and Expenses Categories in Public Hospitals in Turkey (2019-2020)

Categories	2019 (March-December) (Turkish Liras)	2020 (March- December) (Turkish Liras)	Change %
Revenues			
Patient services accrued revenue	27,623,727,870	23,951,542,025	-13.3
Outpatient accrued revenue	12,265,650,006	7,623,780,140	-37.8
Inpatient accrued revenue	15,358,077,864	16,327,761,885	6.3
- Outpatient surgery	475,291,415	346,750,865	-27.0
- Inpatient surgery	3,739,947,265	3,253,336,652	-13.0
Hospital retail space revenues (Cafés, coffee shops, restaurants etc)	188,264,316	121,280,133	-35.6
Expenses			
Total Expenses	41,185,329,778	51,068,029,441	24.0
Temporary supplementary payments	10,972,106,121	16,948,903,288	54.5
Medical equipment	4,583,780,937	4,650,990,264	1.5
Drugs	2,653,495,952	3,024,157,711	14.0
Laboratory	2,305,454,58	2,215,097,784	-3.9
Imaging	713,387,026	667,457,616	-6.4
Operating	3,234,533,625	3,632,940,762	12.3
Fixed cost/Variable cost ratio (%)	74/26	79/21	5.9/-17.2

Unlike the decrease in volume of patients and revenue, hospitals' total expenses increased. During the Covid-19 pandemic, there was a significant increase in the operating expenses of hospitals. To prepare for a surge in hospitalized patients with Covid-19, hospitals needed to create more negative pressure rooms, acquire ventilators and other ICU equipment, educate staff, employ a backup workforce, pay overtime to staff, obtain personal protective equipment (PPE), and address PPE shortages (Melnick & Maerki, 2020; Kaye et al., 2021, p. 295). Temporary supplementary payments were distributed to hospital personnel who work as part of the fight against the Covid-19 pandemic by MoH. Doctors and other health personnel receive up to a 100 percent increase in their Covid-19 bonuses (WHO, 2020b). Therefore, temporary supplementary payments have increased by over 50%. Laboratory and imaging expenses have decreased due to reductions in patient volume.

One of the pandemic' effects on hospital finances is the challenges that hospitals have faced in securing necessary drugs, supplies and PPE. Especially in the early phase of the pandemic, there have been widespread reports of price gouging in many countries (Carroll & Smith, 2020, p. 11-15). In Turkey, implementation of new care protocols and additional infection control measures have increased usage of PPE on hospitals. As a result of supply difficulties and increasing in demand, usual prices for PPE increased to several times (Table 3). Also, one of the challenges for public hospitals was the oxygen shortage and the difficulties in expanding storage quickly. Therefore, prices of liquid medical oxygen increased for the short term. With the effect of the pandemic, the financial crisis of the state has led to problems in the drugs supply chain. In the upcoming period, high price increases due to inflationary pressures will also cause problems in the supply of drugs and medical supplies.

Table 3. Changes in Unit Prices of Personal Protective Equipment (PPE)

Type of PPE	2019 (March-December) (Turkish Liras)	2020 (March-December) (Turkish Liras)	Change %
Face shield (per)	13.54	20.55	51.7
Surgical gown (per)	4.21	11.11	164.0
Gloves (per)	0.94	1.19	26.2
Medical mask (per)	0.38	0.62	63.3
N95 mask (per)	4.52	15.08	233.5
Hand disinfectants/sanitizer (litre)	23.89	34.17	43.0

4. DISCUSSION

The Turkish government was relatively prepared in terms of planning in responding to Covid-19 pandemic, thanks to past epidemic experiences. In this respect, we can say that the Turkish health system has a strong infrastructure and organizational capacity. Especially the city hospitals, which has begun to operate with public-private partnerships model in 2017 and stand out with their intensive care and bed capacities strengthened and contributed to Turkey's capacity in the fight against Covid-19 (WHO, 2020a, p. 4). Although the intensive care capacity was sufficient and the hospital bed occupancy rates were low, new hospitals were opened specific for Covid-19 patients and physical infrastructure (acute beds, ICU, medical equipment) of existing hospitals was strengthened. The determination of some hospitals as pandemic hospitals by MoH, the cancelation of elective surgery, the growing public fear of Covid-19, the prolongation of the control periods of the groups at risk and the duration reported drug of chronic patients have decreased hospital visits in Turkey. Covid-19 drastically impacted outpatient services, inpatient admissions and elective surgeries, which is a major source of revenue generation for public hospitals. In the US, according to American Hospital Association (2020, p. 1), hospitals reported average declines of 34.5% in outpatient volume and 19.5% in inpatient admissions relative to baseline levels.

The result was a remarkable decline in volume of patients and in accrued revenue, whereas expenses remained high. It is observed that the growth of expenses is due to increases in labour, drugs and operating costs. Turkish public hospitals pay health personnel through one of the largest pay for performance schemes among OECD countries (OECD, 2014). Temporary supplementary payments, which is distributed to reward healthcare workers fight against the Covid-19 pandemic have increased the labour cost. During the Covid-19 period, fixed cost of public hospitals increased from 74% to 79%. In addition supply and exorbitant prices of PPE and oxygen equipment, which is a critical components of a country's effective emergency response to Covid-19, was an important problem for public hospitals in the early period. There was no documented shortages of PPE supply. However, restrictions were imposed on the export of PPE during the early phase of the pandemic, and grant programs were launched to support the production of Covid-19 tests and PPE projects through regional development agencies. Along with the increase in production in following months, Turkey has begun to donate PPEs and other materials to many countries.

Although the adopted approaches differ considerably across countries, many countries relatively quickly found a solutions to protect hospitals. As a matter of fact, it was necessary to compensate revenue shortfalls and to reimburse for Covid-19-related costs of care as soon as possible. In Poland, Germany and Belgium, most hospitals receive substantial additional resources. In Czechia and Israel, hospitals have a guaranteed most of the previous year's revenues, despite lower activity (Quentin et al, 2020, p. 89-90). As it is known, countries use many hospital payment systems such as line-item budget, fee-for-service, prospective global budget, payment per case/DRG (Cyclus & Irwin, 2010). A global budget is defined as "an overall spending target or limit that constrains the price and the quality of the services provided" (Dredge, 2004). According to fee-for-service care model, prospective global budget model is more resilient in the face of crisis like Covid-19, protecting access to care when it is most needed (Gondi & Chokshi, 2020, p. 1596).

In Turkey, a prospective global budget for public hospitals was first implemented in 2006. Before 2006, payments by health insurance funds were retrospectively made on a fee-per-service basis. Global budget come to prominence with its aspect that incentivizes financial stewardship by constraining annual expenditures and year-over-year spending growth (Gondi & Chokshi, 2020, p. 1597). The hospital global budget is a prospectively agreed total spending within which operating expenses of the hospitals must be contained (Dredge, 2004). Based on the global budget, public hospitals are paid a monthly amount determined by the MoH, according to the expenses of them. As a result of the global budget implementation, the payment of health services from the MoH and Social Security Institution through a service procurement contract has been expanded to include hospitals and oral and dental health centers since 2009. In addition, a pilot project on Diagnosis-Related Groups (DRGs)-based payment was implemented in public hospitals after 2006. DRGs hospital payment systems are widely used in OECD countries and have generally been found to monitor the cost and promote efficient use of resources. DRG was expected to be implemented in a certain public hospitals under contract with the Social Security Institution, but the Social Security Institution didn't implemented global budgets with DRGs.

The financial sustainability of hospitals has been challenged with a decline in accrued revenues due to the decrease in the number of patients visited to public hospitals, but the financial risk was eliminated by paying the committed budget amounts to the hospitals in order to manage the expenses. In this context, global budget helped faster

healthcare financing stability for Turkish public hospitals. Thus, public hospitals received their global budgets to compensate for revenue shortfalls. Because 95% of public hospital revenues consists of global budget revenues financed by Social Security Institution (Küçük, 2018, p. 973). Since global budget model makes the positions of hospitals better to protect from Covid-19-related economic hardship, it has emerged as a more positive regulation according to other payment methods. Therefore, the Covid-19 pandemic has caused policy makers and payers to consider more sustainable payments models for hospitals. As a matter of fact, volume reductions have reached levels that can threaten hospitals' financial sustainability, particularly in rural county areas and resource-limited settings in the US (Levy et al., 2021, p. 398). Thus, it is recommended to implement an all-payer global budget as a payment model that could stabilize the finances of rural county hospitals and help them adapt to emerging public health needs in the US (Fried et al., 2020, p. 137).

In response to the Covid-19 pandemic, global approach of health policies is to protect public health by limiting the spread of the pandemic. However, this approach requires hospitals to get support from the state in order to survive in the long term. Because during the pandemic period, the total expenses of the hospitals were more than their total revenues. This financial pressure has created a serious obstacle to serve their patients and remain financially viable, especially for private (for-profit) hospitals (Kruse & Jeurissen, 2020, p. 423). The Turkish government gave early, quick and decisive responses that finance problems to hospitals. As in countries such as Japan, Social Security Institution has made many arrangements to finance hospitals in Turkey (Shin et al., 2020). Social Security Institution encouraged the provision of services by including the services needed due to the pandemic within the scope of payment, and the access of patients to healthcare services was continued effectively. Payments for intensive care units were doubled with the amendment to the Health Budget Law (Sağlık Uygulama Tebliği or SUT). In addition to the current reimbursement price for inpatients, an additional fee called "pandemic care service" started to be paid. The government started to pay 667 Turkish liras per day on top of normal inpatient admission fees for Covid-19 patients. Immune plasma supply and application services, the tests and drugs used in diagnosis and treatments for Covid-19 are covered by Social Security Institution. As seen in Table 4, many regulations affecting to hospitals financially have been made by the Turkish government.

Table 4. Covid-19 Pandemic Policy Responses to Affecting for Turkish Public Hospitals

Key Features	Date	Summary of responses to the Covid-19 pandemic in Turkey
Social distancing	9-13 March 2020	Visits to hospitals would be limited, and only be allowed after working hours and limited to one visitor. Visits to patients in intensive care and palliative care services were forbidden.
	6 April 2020	Family physicians gave telephone counseling to patients with chronic diseases and the elderly. Patients with chronic diseases in Turkey with a medical report and prescription do not pay for drugs out of pocket. The duration of the drug use reports, which expired or will expire in the period from March 1, 2020, to December 31, 2020, has been extended another six months. Patients who regularly take prescription drugs for their chronic disease, were able to purchase their reported medicines directly from the pharmacy without going to hospitals and without a prescription.
	7 September 2020	
Planning services	21 March 2020	All hospitals in Turkey with the necessary infrastructure, regardless of their legal status (private, foundation or government hospital) were declared pandemic response hospitals and could be used if necessary.
Reimbursement		Social Security Institution doubled payments of intensive care units for Covid-19 patients.
	1 April 2020	Care payments of inpatients diagnosed with Covid-19 in public and private hospitals were included in the scope of reimbursement.
	9 April 2020	Immune-plasma treatment were included in the scope of reimbursement.
	9 April 2020	Drugs, which is used in Covid-19 treatment were included in the scope of reimbursement.

Key Features	Date	Summary of responses to the Covid-19 pandemic in Turkey
Entitlement and coverage	13 April 2020	Presidential Decree dated 13 April 2020 regulated the free access to personal protective equipments (PPE), tests, kits, other equipment and medicines used in the diagnosis and treatment of Covid-19. With the presidential decree, all population regardless of their social security have been provided free access to all kinds of PPE recommended for use against Covid-19 in question, tests, kits and other equipment used in the diagnosis of Covid-19, medicines provided centrally for use in the treatment of Covid-19.
	August 2021	Compulsory PCR tests, which are required for entry to some public areas, are offered free of charge.
For abroad to travel fee of PCR test	June 2020	Fee of PCR test has begun to be charged from passengers to travel abroad.
Extra payments for health personnel	March 2020	Extra payments are being made to health workers for three months (March - May 2020) who work in COVID-19 response related units
	August 2020	The Health Ministry issued a new circular concerning temporary supplementary payments, beginning in October, to be distributed to healthcare personnel who work as part of the fight against the COVID-19 epidemic. Doctors and other health personnel receive up to a 100 percent increase in their COVID-19 bonuses.
	April-July 2021	An arrangement has been made for additional payments to the personnel working in hospitals affiliated to the Ministry of Health, effective from April 1, 2021, for a period of 4 months.

Owing to declining in-person outpatient visits in Covid-19 pandemic, the patterns of health care delivery has also begun to alter. Covid-19 pandemic has catapulted the importance of telehealth services (such as telehealth visits, audio-only E/M, virtual check-in, e-visits) and rapidly advanced its utilization (Provenzano et al., 2020, p. 581). Telehealth services contribute to both reducing costs and protecting patients and health employees in terms of exposure to infection. When most people do not want to physically visit hospitals, telehealth services will help sustain the hospitals' financial sustainability. Therefore, it should be made to regulatory changes that expanded public insurer reimbursement for video-conference or telephone consultations between patients and general practitioners or specialists in Turkey, just like in Australia, Ghana and the US (Patel et al., 2021; Snoswell et al., 2020, p. 737; Abor & Abor, 2020, p. 559-569).

This study has some important limitations. First, although this study is the first to examine the impact of Covid-19 pandemic on Turkish public hospitals at the macro level, specific effects at the hospital level have not been addressed. Second, only public hospitals were examined, and the impact of Covid-19 pandemic on private hospitals excluded. The rapid spread of the Covid-19 pandemic has led to financial instability in private hospitals. The Covid-19 pandemic, especially characterized by acute declines in outpatient and elective surgeries revenues, created unusual financial difficulties for private hospitals. Stopping international flights to Turkey within the scope of Covid-19 measures also led to a decrease in foreign patient revenues of private hospitals. Therefore, future research should be conducted for more comprehensive analysis of the Turkish hospital sector, including private hospitals. Nevertheless, with a more detailed understanding of costs per COVID-19 patient, it will be possible to define and drive sustainable strategies to manage and reimburse Covid-19 treatment in healthcare systems (Beck da Silva Etges et al., 2021, p. 39).

5. CONCLUSION

This study reveals financial impact to public hospitals, both capacity expansion and additional Covid-19 costs, and in the striking decline in utilization and revenue as patients avoided hospitals cancelled or delayed elective procedures. The Turkish government has supported public hospitals through the global budget and it is predicted that it will continue to support it in 2021 and 2022. The Social Security Institution continues to provide intensive care and pandemic care support to all hospitals. However, policymakers should prepare for the change of paradigm in the healthcare system with a mode of care delivery using digital solutions. For instance, a few private hospitals have taken important steps for telehealth services in order to recoup lost revenues. The MoH has also started to work on the legal regulations required for telehealth. In order to prevent the spread of covid-19 infection, hospitals will tend to examine patients with an appointment with CPAS rather than without an appointment. Hospitals will face increasing costs for labour, drugs, purchased services, PPE and other medical and safety supplies needed to

healthcare in the coming period. In this context, policy makers and hospital managers should tend to services (for instance telehealth) for patient safety and cost savings, while taking cost-cutting measures in hospitals.

DECLARATION OF THE AUTHOR

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