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IMPACT OF THE COVID-19 PANDEMIC ON THE REGULARITY OF CHECK-UPS IN PEOPLE WITH CHRONIC CONDITIONS

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Abstract

The COVID-19 Outbreak has put the healthcare system under duress and disrupted the flow of care provided to chronic patients. The study aimed to observe if there was a decrease in the regularity of check-ups and identify the factors that played a role in this downfall such as healthcare access, monetary funds, fear of contracting the virus, and other lifestyle factors. The results showed that there was a decrease in the consistency of check-ups due to influence by the aforementioned factors. A cross-sectional study was done to do the same with the geography of the United Arab Emirates. To conclude, the healthcare system needs to find approaches to combat the shortcoming as that were faced during this pandemic in regards to the regularity of check-ups for chronic patients.

Introduction

The SARS-CoV-19 coronavirus (COVID) Outbreak began in December of 2019 in Wuhan, China. It was reported as a flu-like condition that eventually turned fatal. Currently, the amount affected is about 10% of the global population, or 780 million people (WHO estimate as of early October 2020). As the pandemic took over the globe many countries declared a state of emergency and imposed safety restrictions. One of the many countries that were affected quite severely was The United Arab Emirates [1].

The 1st case in UAE was reported on January 29th, 2020 in a family from Wuhan. By the end of February, UAE had 27 patients who contracted the virus. This rise in cases forced them to shut down schools and universities beginning in March and even reschedule an international event, Expo2020 which was predicted to bring 33 billion dollars in revenue. The first death was then reported on March 20th. Despite a sterilization campaign in mid-March to contain the virus, it had infected a total of 241 people. This led to the government implementing a lockdown which reduced movement for 10 hours. By April 24th, the government took a further initiative to impose a 24-hour lockdown for 2 weeks where only one family member was allowed to leave for essential amenities. Malls were shut down by the end of March along with places of worship. On March 22nd, UAE suspended all flights for 2 weeks and continued to restrict flights with high-risk countries such as the United States. The drastic rise in cases pushed the country to increase COVID testing for free. Currently, the UAE has had 620,309 cases till June 2021 with 1775 deaths [2,3].

As the pandemic worsened, the healthcare system took an indirect hit in delivering appropriate care. When diagnosed with a chronic condition, it becomes essential to visit a primary physician regularly to monitor the progress of the condition and prevent any complications. However, during the ongoing COVID-19 pandemic, patients have cancelled and postponed many out-patient visits due to fear of getting infected and to decrease the number of contacts with healthcare professionals [4]. Many resorted to telemedicine due to a shortage in healthcare resources. The decline in monitoring may not seem significant, but the cumulative risk over time can prove to be consequential. Under normal circumstances, chronic diseases can be controlled with timely intervention and a decrease in the regularity of check-ups can result in more visits to the ER with exacerbations.

This research observes “How the COVID-19 pandemic affects regular check-ups in Patients with chronic conditions”. Routine care for chronic disease is an ongoing major challenge. Currently, global healthcare pivots around providing relief for those affected most by the pandemic and this disrupts the continuous stable care received by chronic patients. This research aimed to observe how COVID-19 downplays health via aspects other than being infected. Moreover, it is to identify areas that impacted the regular care and allow this to be the foundation for future research. It hopes to provide data that will help

the healthcare system to better adapt and improve during a crisis, and identify the areas in healthcare that were affected most by the pandemic.

The hypothesis states that the frequency of regular check-ups has declined since the outbreak and an observational study was conducted to discover what aspects contributed to it. Some of the factors considered are the fear of infection, lack of healthcare access like transportation, difficulty obtaining medications, reallocation of hospitals to COVID facilities, and other personal aspects including adherence to medications, physical activity, financial issues, and insurance.

Methods

A total of 60 patients with various chronic diseases were asked to participate in the research. The inclusion criteria were any patients over the age of 30. It was also mandatory for them to be residents of the UAE. The exclusion criteria consisted of any patient who was diagnosed during the period of the pandemic and those who had CKD requiring hemodialysis.

A survey was created through Google Docs consisting of 19 questions (Table 1). It was then posted and shared on various social media groups. The survey provided the participants with detailed instructions of the criteria as mentioned above.

Table 1

1	Gender	Male Female
2	Age	30+
3	What disease(s) do you have?	-
4	Do you have insurance?	Yes No
5	Did you go on regular checks up before the pandemic?	Yes No
6	Did you go on regular check-ups during the pandemic?	Yes No
7	Did your health become worse during the pandemic?	Yes No
8	Were you physically active before the pandemic?	Yes No
9	Were you physically active during the pandemic?	Yes No
10	Did you notice a change in quality in the clinic? If so, was it good or bad? (More than 2 can be picked)	Yes No Good Bad
11	Did you have to change your doctor because of a clinic/hospital shut down?	Yes No
12	Did fear of getting Covid make you go for fewer checkups?	Yes No
13	Did you go for fewer checkups due to financial reasons?	Yes No
14	Did you go for fewer checkups due to problems like transport? (Note: There were periods when buses and metro were shut down)	Yes No
15	Did you take medications regularly during Covid?	Yes No Sometimes
16	Did you have problems getting medications during Covid?	Yes No
17	Did Covid cause you mental stress?	Yes No
18	If yes, did you talk to your doctor about it?	Yes No
19	During covid, did you get hospitalized because of your disease?	Yes No

The questionnaire was designed as a cross-sectional study to assess the risk factors affecting the regular check-ups of those diagnosed with chronic conditions. There were two components in the survey. The initial part required patients to identify optimal information such as gender, age, and the chronic diseases they suffer from. The second component consisted of observing the influence of the risk factors such as insurance, monetary funds, transportation, lifestyle modifications (physical activity, medication adherence, reallocation of primary doctor), and mental stress. It also analyzed the fear of COVID in patients and whether it deterred them from regular check-ups.

The survey was created in May 2021, and implemented throughout May-June 2021. After the survey was completed, data was collected in an organized manner.

Results

Age and Gender - 60 participants took part in this survey, out of which 44 (73.3%) were males and 16 (26.7%) were females. Although our inclusion criteria involve anyone between the ages of 30-70, most of the patients are between the ages of 54-57. In the participants ranging from the age of 30-70, the mode is 54, 57, with a mean of 52.7, and a median of 54 (Figure 1).

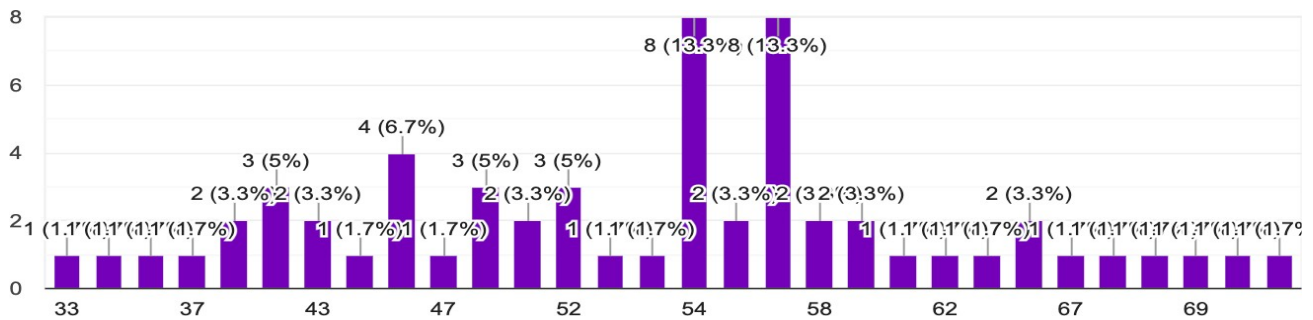


Figure 1

Distribution of Disease - The study consists of various diseases where 35(58.3%) have hypertension, 21(35%) - diabetes, 10(16.6%) - hypercholesterolemia, 5(8.3%) - thyroid diseases, 3(5%) - cardiovascular diseases, 2(3%) - gout and there were 2(3%) with other chronic illnesses like Parkinson’s disease and hemorrhoids (Figure 2).

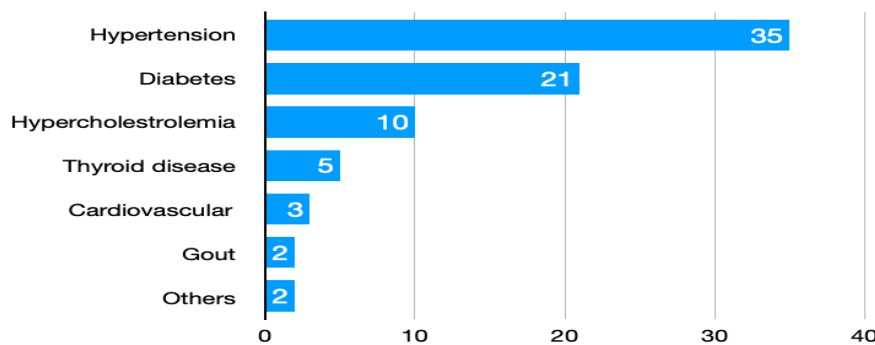


Figure 2

Impact on the regularity of check-ups - Before the pandemic started, 54 (90%) of our participants were compliant with regular check-ups. However, since the pandemic began, there was a decline of 42.5% in regular check-ups, where 23 people stopped going for check-ups (r=0.425), and 31 continued to attend (r= 0.57). 6 participants were not visiting clinics regularly amongst whom 1(16.6%) switched to regular check-ups while the rest continued to neglect regular care (Figure 3).

Physical activity levels -The survey also observes the changes in the lifestyle habits before and during the pandemic, i.e., medical adherence and level of physical activity. 88.3% claim they were active before the pandemic and 11.3% were not. Amongst the physically active participants, there is a decline of 20% activity whereas 79% continue to exercise. This shows the lockdown had a considerable impact on the ease of exercising (Figure 4).

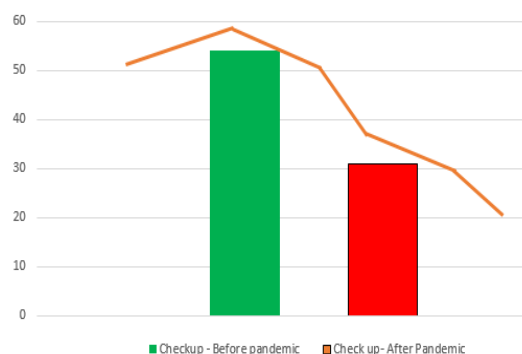


Figure 3

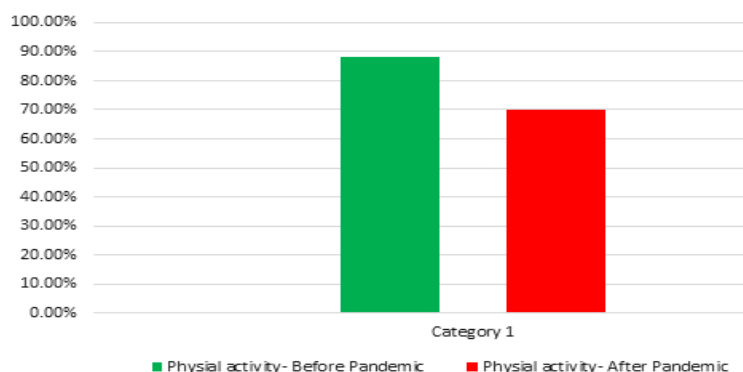


Figure 4

Adherence to Medications - When medication adherence is assessed, 85% claimed to take medications regularly, 13.3% said sometimes and 1.7% said they didn't. It is also important to note that 18.3% faced difficulty in getting medications which could be due to various reasons, for example delay in import of foreign medications. However, to further understand the association between regular check-up and medical adherence, it can be seen that amongst the 23 people who stopped regular check-ups, 73.9 % are adherent to medication and the rest 26.1% are adherent to medications sometimes. In the same manner, when physical activity and regular check-ups are assessed, only 56.5% of 23 participants are physically active (Figure 5).

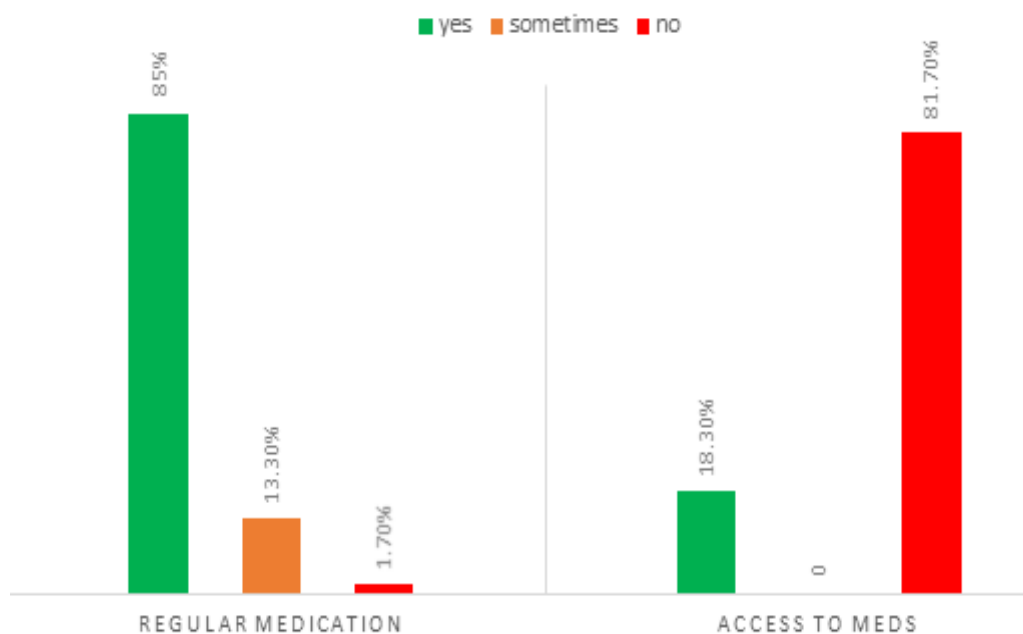


Figure 5

These results can be further combined to show that 13 participants amongst the 23 practice both lifestyle habits. (Ratio of 0.56).

Access to medication was also assessed, and no significant data was found.

Finance and insurance - 78.3% of the participants have medical insurance and 21.7% don't, but when inquired about financial problems only 15% stated that they did face an issue in getting appropriate care. Of the 23 participants who did not go for regular check-ups, 8 had financial issues, among which 5 participants had monetary issues due to factors other than insurance, and 3 of them faced financial difficulties due to lack of insurance. From this, we infer that although finance was a considerable factor that affected the regularity of check-ups, insurance in itself did not play a great role.

Fear of Infection - Fear is a major factor that is associated with the decline in check-ups. In general, a ratio of 0.55 of participants admitted to having fear of being infected with COVID-19. However, specifically, there is a ratio of 0.65 that stops regular check-ups due to fear of the virus.

Transport - Transport can be a major barrier to accessing healthcare services. About 85% of participants in the study did not have these issues. In the 15% of people with transport issues, it was noticed that 56% stopped regular visits. This value holds a great significance in associating lack of transport with fewer check-ups.

General effect on health - 86.7% said their health did not deteriorate and 13.3% said that their health did, but contrary to our expectation only 1.7% were hospitalized for their condition. The worsening of health in this situation can be attributed to lack of healthcare since 6 out of the 7 patients that had exacerbation of their condition were not attending regular check-ups. The minimal deterioration of health in comparison can go to confer that although the regular check-ups were lacking, the participants managed to overcome the risk of increased mortality of their disease by adhering to their medications timely among other healthy practices (Figure 6).

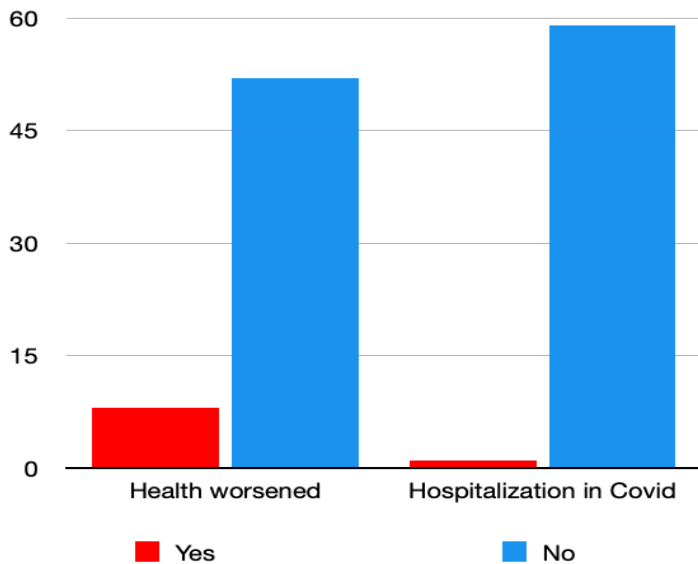


Figure 6

Clinic Quality - Upon asking about changes they might have noticed in the healthcare system 58.3% noticed a good change in the quality of the clinic and additionally 13.3% said they’ve always had a clinic of good quality which shows that the health care system took early precautions against the virus and improved the experience of the general public. However, out of the 23 people who stopped going for healthcare 4 claimed that the experience was bad. This infers that one of the factors that provoked delay in healthcare was a decline in its efficacy (Figure 7).

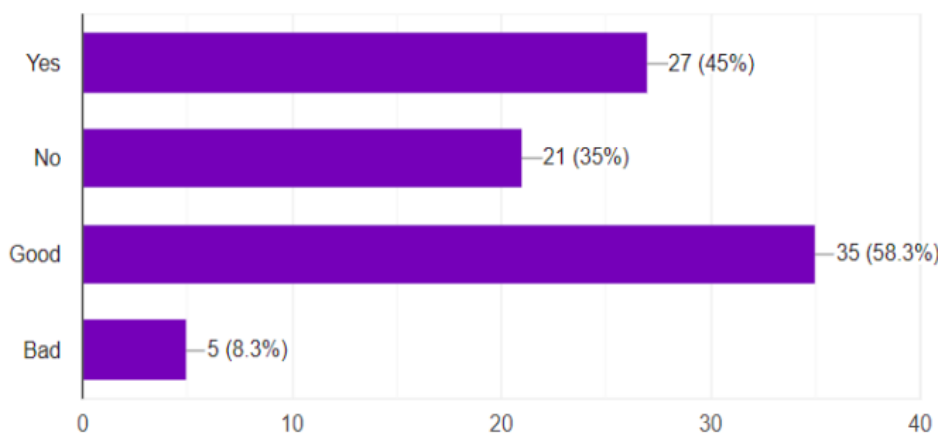


Figure 7

Hospital Shut down - One of the major outcomes of the pandemic is the lack of resources due to the shutdown of hospitals. The patients in the survey were asked if they had to switch their primary health care clinics and 81.7% deny any such changes which go to show that most clinics in UAE had a separate unit for Covid patients. However, amongst 11 people who did have to change, there is a decline of check-ups in 8 patients (ratio of 0.34). The information shows that although most did not change clinics, this dilemma may play a significant role in reducing check-ups as most of the medical personnel reallocated into Covid departments.

Mental Stress - Mental stress, in general, can affect your overall health and this has majorly been impacted in the pandemic. 53.7% of the patients faced mental stress but only 16.7% talked to their doctors about it. The decline truly can be attributed to whether they had an opportunity to talk to their physicians. It is noted that among the 23 patients (16.7%) who claim a lack of conversation with their doctor, 12 had stopped going for regular check-ups. Hence, it is seen that among the 32 that faced mental stress, only 11 truly lacked a mental assessment during check-ups. This percentage, although small, shows that mental health is not prioritized during the ongoing pandemic and the health care providers must actively monitor the mental health of the patients as it can affect morbidity and mortality (Figure 8).

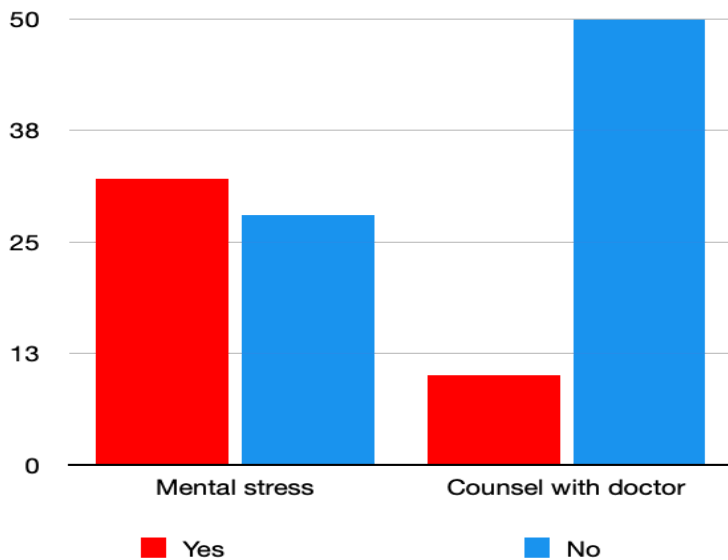


Figure 8

Risk factors are summarized in Table 2.

Table 2

Risk factors	Yes	No	Sometimes
Insurance	47	13	
Transport	9	51	
Med.adherence	51	1	8
Mental stress	32	28	
Finance	9	51	
Change in hospital	11	49	
Fear of Covid	27	33	

Discussion

Numerous studies have been conducted on account of chronic patients who delayed regular check-ups during the pandemic. Many countries such as the USA, India, and Germany have participated in these surveys and portrayed significant results. However, our research is one of the first to be conducted in the United Arab Emirates and has assessed the delay quotient and the risk factors that provoked the outcome.

An article from India that assesses check-ups in patients with diabetes during the pandemic noted that 80% of the study population were regular with their exercise. In compliance with this, our research also averaged that 70% of the population were consistent with the same. It was also noted that 40% of the Indian population expressed some form of anxiety, and 53.7% of our population also experienced considerable mental stress [1].

In a research-based study in the United States, an estimated 41% of US adults had delayed or avoided medical care. Our research shows that 23 out of the 60 participants (38.3%) who were compliant with check-ups have postponed their visit due to the pandemic [6]. Therefore, it can be presumed that there was an overall decline in the regularity of check-ups in various countries due to the pandemic (US> UAE).

The same source states that among 8% of the population that does not have insurance, 81.6% continue regular check-ups [5].

On the contrary, in our research 21.6 percent of the population did not have insurance yet out of these, 69.2% received healthcare on a normal basis from which we can infer that the effect of lack of insurance on chronic check-ups is more severe in the UAE than in the US. In addition, the article from the US stated that 69.7% of their patients with chronic conditions delayed routine healthcare check-ups,

however, the sample population of UAE showed that only 36.7% delayed their check-ups. This infers the factors provoking delayed check-ups were more severe in the US and less problematic in the UAE [5].

In terms of future perspectives, the research can expand its sample size to factor in a larger population's opinion. It can take into account more varied risk factors such as diet, contracting the virus, etc, to have a broader spectrum of results. Our research can be the basis to lead appropriate changes in the healthcare system to increase its efficacy and pattern of care.

Health education and promotion are important components of disease prevention in general but during a pandemic or healthcare emergencies they play a key role in active response by offering well-established tools (in case of absence of specific drug therapies or vaccines) in communicating and effectively engaging with the public. The usually long-lasting and trusted relationship between primary care physicians and patients ensures an open line of communication and may even prevent misinformation and misperceptions.

Well-developed primary health care systems can help identify high-risk groups i.e. chronic patients, and focus on preventing the infection more aggressively. It also improves patient satisfaction, hospitalization rates, and clinical outcomes.

Telemedicine has played a remarkable role during the pandemic due to benefits such as time efficiency (no waiting period in clinics, no commuting) and a decrease in direct contact with physicians. It helps reassure patients that they can reach out to their providers without putting their health at risk. Furthermore, it can help with decreasing the frequency of onsite visits by encouraging at-home monitoring of certain health parameters [6].

We have inferred that lack of insurance has deterred people from going for their regular check-ups to be more cost-effective, as many face obstacles regarding their financial situations. Here, in addition to the fact that telemedicine is the safest option in such situations, it also proves to be a better alternative option for those who lack healthcare insurance as it is relatively inexpensive [5].

The pandemic has affected the health of many by either inducing a certain degree of worry, anxiety and fear or worsening existing mental illness. According to our survey results, although several patients faced these issues, only a fraction of them had a conversation about it with their physician. This goes on to show that there isn't enough importance put on mental health which can be combated by physicians running screening tests and enquiring about the patients' stress levels at every check-up [5-7].

By studying the facts highlighted by our study we can better strategize how to maintain quality healthcare provided to chronically ill patients in adverse conditions such as the CoVID-19 pandemic.

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