

Chapter 1

The impact of the Covid-19 pandemic

Economic and sociological impact

2020 will be remembered as the year in which dental professionals had to face the COVID-19¹ pandemic, a huge global challenge with a significant sociological and economic impact.

Uncertainty can be defined as the common thread of the months of containment (lockdown) but, probably, also of the following ones. The real problem with the situation that the world is experiencing is that there are no comparable precedents, nor historical series of data that allow us to make concrete predictions about the future. Experts in the various disciplines - virologists, epidemiologists, politicians, sociologists, economists - have expressed themselves through opinions, hypotheses, and similarities with other events. In the absence of analysis and quantitative data, we were also based on hypotheses, estimates, and qualitative variables, which have changed with the progress of time and the development of the situation, as all predictive models must be constantly updated according to the evolution in health and economics.

For this reason, it is necessary to proceed cautiously, constantly looking for information that helps to correct the ongoing actions and development plans adopted by the dental practices. The bottom line is to act prudently, taking informed decisions with constant attention to the development of the situation. Nevertheless, it is essential to reflect on the past and observe the similarities found with emergency periods lived in the past.

In the dental field, the crisis lived up to the 2019-2020 two-year period can be defined as a "crisis of demand" arising due to a collapse of the economic system or financial at a macroeconomic level, with a subsequent impact on businesses both on a social level cause, in particular, of rising unemployment. Also, of course, they have affected confidence and the economy of families, leading to a sharp drop in demand for services.

Unlike the past economic crises of a purely financial nature, characterized by a systemic weakening of the international economy with a consequent impact on demand, consumption, industrial production, and GDP, the crisis due to Covid-19 has blocked demand even in Countries with rather solid economic and financial systems, recovering after the 2008-2013 recessionary cycle.

¹ COVID-19 stands for Corona Virus Disease and 19, the year in which the virus is first identified (December 31, 2019 by health authorities in the Chinese city of Wuhan, capital of Hubei Province). It is a respiratory infectious disease caused by the virus called SARS-CoV-2 belonging to the coronavirus family. On March 11, 2020, the World Health Organization declared that the international hotbed of infection with the new SARS-CoV-2 coronavirus is a global pandemic.

What emerged suddenly with the pandemic was not a “crisis of demand”, but a real block of the possibilities of exchange, that is, a so-called “crisis of interconnections”. The collapse in demand occurred due to the sudden need to respect social distancing, with a reduction in relationships between individuals, up to the point of isolation, and with a difficulty, if not an impossibility, of supplying and selling products and services.

Nevertheless, from an economic point of view, the impact has been devastating. In the period of social confinement, each country suffered a collapse in production activity, and this led to a deep and extensive shock, mainly depending on the duration of the emergency phase. But, contrary to what could initially be assumed, the economic crisis has continued and will continue as a function of maintaining the social distancing measures, which will have an impact on consumption throughout the endemic phase, due to reduced mobility, the increase in smart working and the reduction of socialization opportunities.

Since this is a sort of huge and unexpected economic situation that hit the world, economists have foreseen different possible future scenarios. At the beginning of the pandemic, the most confident hypothesized that, when the external cause ceased, and therefore at the exit from the lockdown period, the economy would recover fairly quickly, with a recovery proportional to the time of closure and containment. This type of trend is defined as a “V crisis”, but it was a hasty assessment and an unlikely and superficial scenario, because it did not consider that the management of the endemic phase would still require an extended period of social distancing, with evident consequences on the household economy and consumption. The most probable scenario hypothesized by the experts is that of a “U-shaped crisis”, characterized by a period of reduction in demand and a rather long recession, followed by a gradual recovery which in any case returns to overall values slightly lower than those before the crisis. While among the most feared hypotheses there is the scenario of a “W-shaped crisis” about the possibility that the future recovery phase will be followed by another collapse or, particularly in some sectors, that of an “L-shaped crisis” with a very slow recovery and with overall values far below those before the economic situation.

In this regard, consider what happened to household spending on dental care during the Great Recession, with the first decline in 2009 and a second further decline in accesses in 2012, in particular, in those countries where dentistry was mostly private. Since 2014, the international dental sector has resumed growth with rates that are on average higher than the development of GDP in each country.

In this type of analysis, however, it must be assessed that these variations occur not strictly due to the crisis itself but rather for a whole series of factors that influence the sector and characterize its performance. The so-called external factors, a topic that will be analyzed in-depth in the following chapters.

Regarding the Covid-19 period, although various scholars are hypothesizing different possible scenarios, a real forecast is not feasible and it will therefore be essential to constantly monitor the present to be able to assume the trend of the near future and make objective decisions, not generated by a situation of temporary anxiety or euphoria.

In addition to the economic and financial problems that will impact the production system, in particular on small and medium-sized enterprises, it must be considered that this period will also lead to radical changes in the ways of socialization: attitudes and behaviors will evolve according to the situation and, in addition to the need to maintain a certain distance between

people, prejudices and distrust will develop, with a possible increase in social conflict based on the background, psychology, and sensitivity of individuals.

Nevertheless, from an economic point of view, the impact has been devastating. In the period of social confinement, each country suffered a collapse in production activity, and this led to a deep and extensive shock, mainly depending on the duration of the emergency phase. But, contrary to what could initially be assumed, the economic crisis has continued and will continue as a function of maintaining the social distancing measures, which will have an impact on consumption throughout the endemic phase, due to reduced mobility, the increase in smart working and the reduction of socialization opportunities.

Since this is a sort of huge and unexpected economic situation that hit the world, economists have foreseen different possible future scenarios. At the beginning of the pandemic, the most confident hypothesized that, when the external cause ceased, and therefore at the exit from the lockdown period, the economy would recover fairly quickly, with a recovery proportional to the time of closure and containment. This type of trend is defined as a "V crisis", but it was a hasty assessment and an unlikely and superficial scenario, because it did not consider that the management of the endemic phase would still require an extended period of social distancing, with evident consequences on the household economy and consumption. The most probable scenario hypothesized by the experts is that of a "U-shaped crisis", characterized by a period of reduction in demand and a rather long recession, followed by a gradual recovery which in any case returns to overall values slightly lower than those before the crisis. While among the most feared hypotheses there is the scenario of a "W-shaped crisis" about the possibility that the future recovery phase will be followed by another collapse or, particularly in some sectors, that of an "L-shaped crisis" with a very slow recovery and with overall values far below those before the economic situation.

In this regard, consider what happened to household spending on dental care during the Great Recession, with the first decline in 2009 and a second further decline in accesses in 2012, in particular, in those countries where dentistry was mostly private. Since 2014, the international dental sector has resumed growth with rates that are on average higher than the development of GDP in each country.

In this type of analysis, however, it must be assessed that these variations occur not strictly due to the crisis itself but rather for a whole series of factors that influence the sector and characterize its performance. The so-called external factors, a topic that will be analyzed in-depth in the following chapters.

Regarding the Covid-19 period, although various scholars are hypothesizing different possible scenarios, a real forecast is not feasible and it will therefore be essential to constantly monitor the present to be able to assume the trend of the near future and make objective decisions, not generated by a situation of temporary anxiety or euphoria.

In addition to the economic and financial problems that will impact the production system, in particular on small and medium-sized enterprises, it must be considered that this period will also lead to radical changes in the ways of socialization: attitudes and behaviors will evolve according to the situation and, in addition to the need to maintain a certain distance between people, prejudices and distrust will develop, with a possible increase in social conflict based on the background, psychology, and sensitivity of individuals.

Services to people, in particular health services, have therefore suffered a serious impact, both economic and social, and procedural. By focusing on the dental sector, demand is partially

conditioned by the change in economic conditions and the spending power of the population. Moreover, during the lockdown phase in March, the New York Times published the article *"The Workers Who Face the Greatest Coronavirus Risk"*, highlighting some categories of workers most at risk of contracting Covid-19. Among these, the dentist and the dental hygienist are in first place. In this context, therefore, the dental professionals have had to - and will still have to face for a long time - the possible transformation of the perception of the population regarding the "dental practice" environment as a possible place of contagion, from the waiting room to the clinical areas, and in general the doctor-patient relationship of trust. A sociological impact is mainly dependent on the persistence of the sub-emergency phase, the presence of the pathology "under trace" and the consequent impact on the behavior and habits of citizens.

Even the August 2020² World Health Organization recommendations, which called for putting off dental treatments deemed "non-urgent", have helped create a climate of insecurity. The image of the dental practice that has emerged, is that of a place with a high risk of contagion, in contrast to the real situation of the dental practices, among the first to implement the strict containment and prevention provisions of Covid-19 developed and implemented from the beginning of the pandemic in different countries.

In the first months of 2020³, the European countries that have suffered the most from a collapse in dental services are those that have decided to close the clinics as a precaution, leaving them open only for emergency cases, in particular the United Kingdom, Italy, Romania, and Spain. Moving away from Europe, India, and southeast Asia have suffered the most from the situation. Shifting attention beyond the ocean, then, the USA and Canada were deeply affected by the crisis, while, as regards Latin America, despite the wave of contagions that came later, recessionary trends occurred especially in Chile, Peru, and Ecuador.

The risk that the fear about possible contagions conditions part of the population in access to dental care is also a hypothesis far from negligible.

In this regard, Key-Stone researched⁴ to investigate the opinion of the population in full social alarm in one of the first European nations to have recorded high rates of contagion, namely Italy. The survey was carried out in the first days of the spread of the infection and intervention by the Italian government, and the reflections and feelings regarding Italian citizens in that period are reasonably shared by other European countries that have experienced the emergency in a similar way to Italy. Regardless of the result of the survey and the division between skeptics and those in favor of the measures adopted, the most surprising aspect is the radical change that occurred within a few days in the collective imagination and in social behavior concerning decisions and possible changes in behavior in the event that citizens had to undergo specialist medical consultations, diagnostic tests or dental visits during the investigated period.

2 World Health Organization, *Considerations for the provision of essential oral health services in the context of COVID-19 - Interim guidance*, 3 August 2020.

3 Key-Stone research, *Fast Track Analysis. Collection of sell-in sales from a representative panel of manufacturers for specific core segments of the dental market. More than 60 countries evaluated in Europe, Middle East and Africa, North America, Latin America, Asia Pacific.*

4 The survey was carried out by Key-Stone with CAWI (Computer Assisted Web Interviewing) modality in March 2020. A part of the sample was interviewed between 6 and 8 March, prior to the first government measures and a second sample part on 9 and 10 March, the days in which the Italian government initiated more severe measures limited to certain areas, before the lockdown phase at the national level.

In particular, the survey measured the obstacle represented by the risk of contagion in the decision to undergo one of the above-mentioned services through the following question:

Considering the alarm generated by the Coronavirus in recent weeks, if in recent days you have needed - or may need in March - medical services among those listed below, what was - or would be - your attitude?

As can be seen in the results compared by period (Figure 1.1), the increase in awareness of the general situation that the country was going through in that first period led some citizens to postponing some medical services. In particular, those that envisage a personal relationship with the doctor have been affected by the growing alarm, with a high increase in the percentage of citizens led to postpone specialist visits and, in a very marked way, access to dental practices. With the passing of the weeks and the evolution of the situation in terms of measures, there has been a significant decline in the market and a sharp reduction in dental services up to a prolonged closure of most dental practices (except for mandatory emergencies).

Dental services are not “consumable” services that are lost forever if they are not completed immediately but can be postponed for a few months or years and therefore be “recovered” over time. Dental services are not to be considered as missed meals in a restaurant or nights not spent in a hotel. We can speak of a slowdown in dental activity rather than a real loss. In this context, dental practices, laboratories, and companies must count on a certain financial solidity, allowing them to “resist” for a certain period, hoping that central governments and European authorities will come to the aid of the general economy and that the recovery of the dental sector can take place relatively quickly and with great intensity.

The social and fundamental role of the dental system as a service for the entire community and the need for citizens’ care is confirmed by the extensive research conducted by Key-Stone

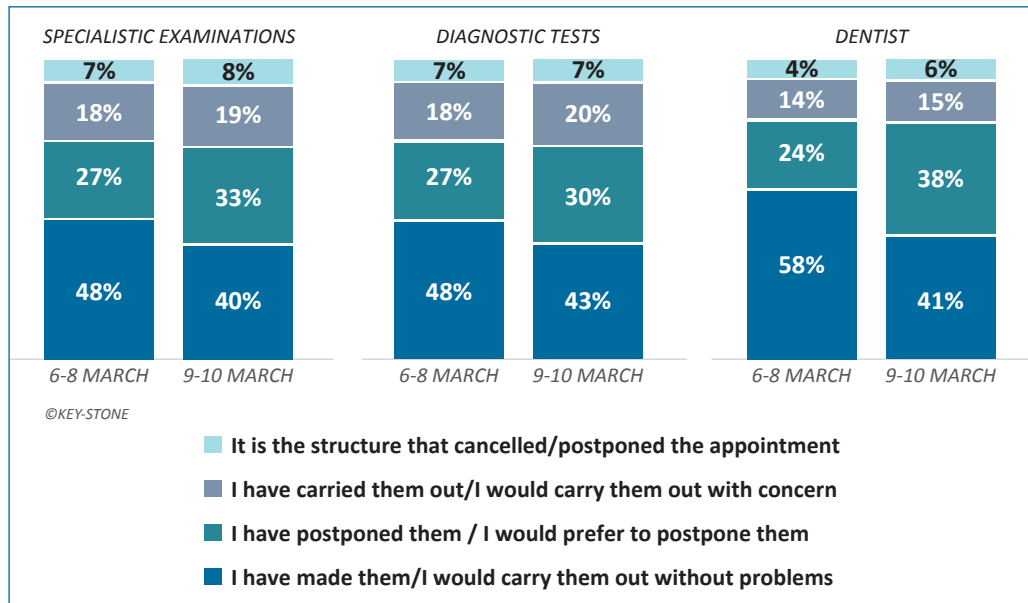


Figure 1.1 - The attitude of the Italian population

at the end of May 2020 on the Italian population⁵ in collaboration with SIdP (Italian Society of Periodontology and Implantology). Some questions focused on the feelings of the population regarding dental care and visits in the crisis period: the results, in line with the dynamics of other developed countries, indicate that, during the lockdown phase, less than 10% of the population went to the dentist, despite over 10 million Italians having problems with their teeth and gums and, among these, about 3 million citizens have worsened their health conditions for not being able, or unwilling, to go to the dentist.

In particular, of the 10 million Italians who encountered problems (Figure 1.2), only 11% of these were received by the dentist, while over 1 in 3 Italians were afraid of going to the dental practice confirming a state of bias. While 24% gave up of their own free will deeming a visit to the office unnecessary, another 20% were held back by objective limitations (“I wanted to go to the dentist but he couldn’t give me an appointment”) (Figure 1.3).

Similarly, to the sentiments of the Italian population, as reported by the journal *Odontoiatria*³³, “according to the General Dental Council in these months of pandemic 51% of British patients preferred to postpone non-urgent care”. Also, according to research from the ADA Health Policy Institute, “the volume of patients in US dental practices has been estimated at 76% of pre-Covid-19 levels, a slight decline in the past two months, according to the latest monitoring data performed in the week of November 16, 2020. The ADA survey also found that staff in the

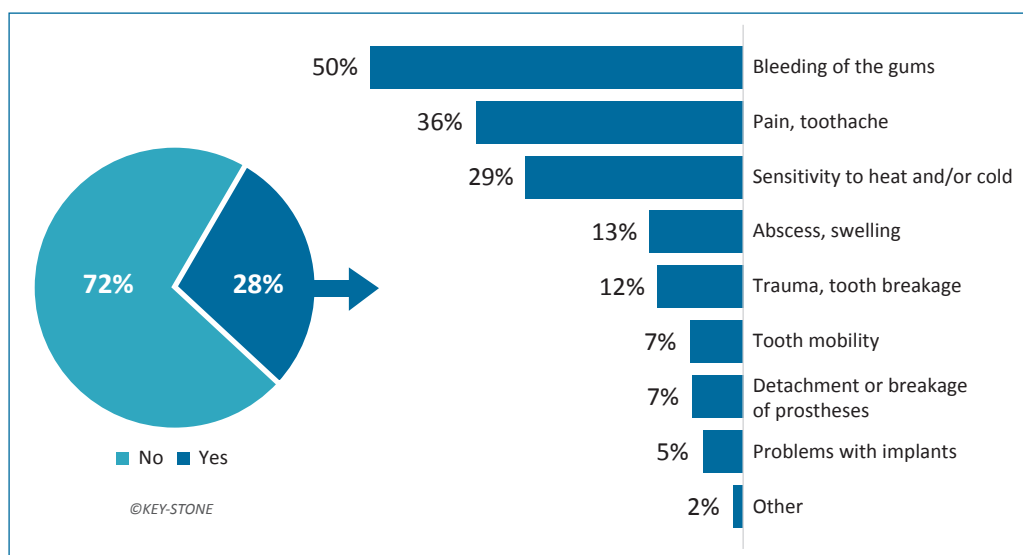


Figure 1.2 - During this lockdown phase (intended as a period of activity limitation and social distancing) did you have any problems with your teeth or gums? What kind of problem?

⁵ The survey was carried out by Key-Stone on commission from SIdP (Italian Society of Periodontology and Implantology) with CAWI (Computer Assisted Web Interviewing) modality at the end of May 2020. The research involved a sample of 2,000 Italians, aged between 35 and 74 (reference universe over 32 million people). The sample is representative and weighted at the level of geographical area and socio-economic stratification.

⁶ *Odontoiatria*³³, “Dentistry and Covid-19: reducing patients and turnover is a global problem”, Cristoforo Zervos, 3 December 2020 [in Italian].

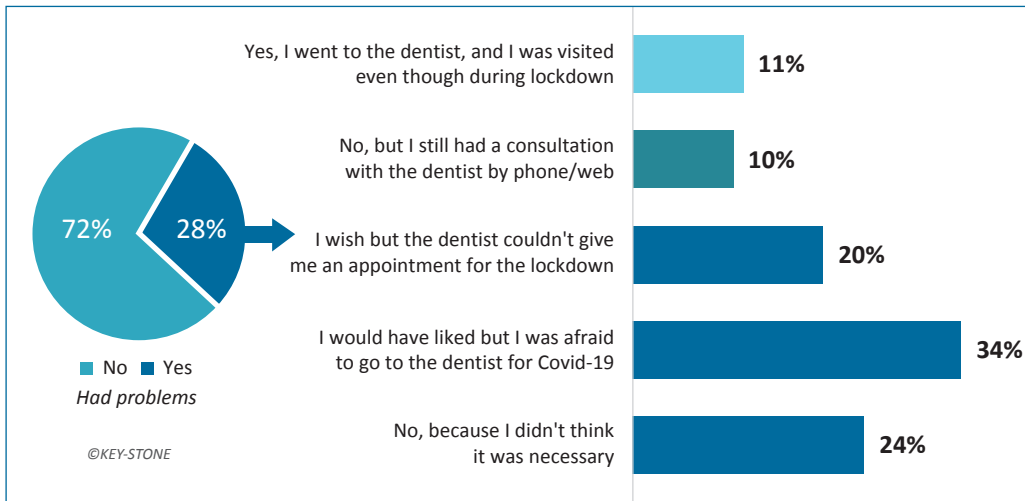


Figure 1.3 - Did you visit a dentist for the problems you reported?

practices were at 90% pre-pandemic levels and a third of those reported no significant changes in patient volume.”

Naturally, the repercussions of the pandemic on the dental industry have proved to be multiple at an economic and sociological level and affect both patients and dental practices (Figure 1.4). In the containment period in which families were unable to consume, fewer expenses occurred, but, at the same time, in some cases, also lower revenues and liquidity due to the reduction or suspension of working activities. The pandemic has raised serious economic problems from the loss of jobs of one or more family members to situations of layoffs or job instability. An uncertainty that could persist over time or worsen further in the medium to long term.

Considering these difficult situations, it is clear that dental spending could, consequently, not occupy the first positions in the family-scale of values. The qualitative research carried out by Key-Stone reveals that a dental expense, when it exceeds certain cost thresholds, different from country to country, is not considered as an individual choice of the patient, but enters the

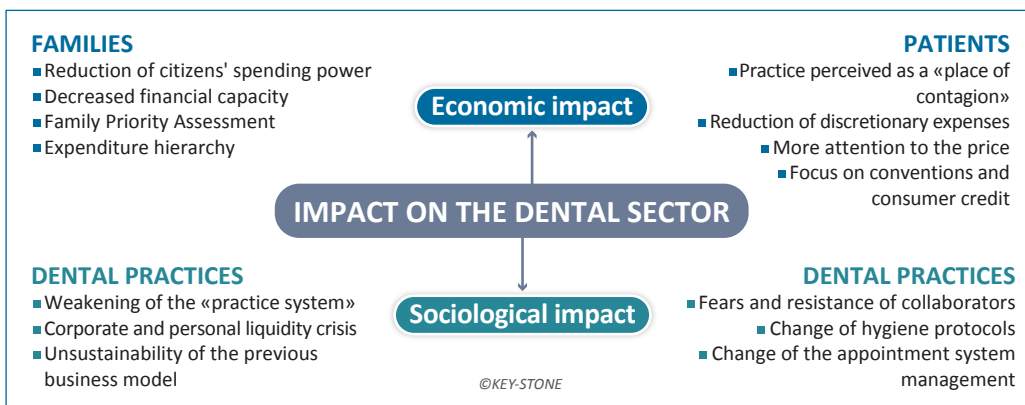


Figure 1.4 - The economic and sociological impact on the dental industry

basket of different family expenses. The expenditure is therefore evaluated and hierarchized, also according to other family priorities, not always linked to the world of health.

Non-urgent services of high economic value, such as orthodontics and prosthodontics, could be more easily postponed but, above all, treatments with esthetic purposes could be penalized, while those that solve functional problems could suffer a lower negative impact. Given that all this will have to be demonstrated, there is no doubt that in a "Maslowian"⁷ logic, in a hypothetical scale that goes from "pain" to "pleasure" (to socialize, please others and oneself) in case of lower economic possibilities or psychological resistances, the therapies aimed at esthetics will be those that could initially be reduced, because they are less urgent and considered more as luxury expenses.

In fact, during the containment period, it is as if people had suddenly become protagonists of a huge social experiment and "regressed" to the satisfaction of basic needs due to the fear of dying, losing their jobs, being confined to their homes without being able to go out freely. Certainly, the recovery of secondary motivations, the more hedonistic ones, does not generally happen for everyone at the same time.

Furthermore, as previously mentioned, from a sociological point of view, families could perceive the dental practice as a possible place of contagion. The emotional insecurity, fueled by anxiety and fear, is thus added to economic and work insecurity. The former modifies the population's perception of possible places with a high risk of contagion and people's attitudes towards the expenses to be realized, even in the health field.

According to research carried out on the populations, although most of the population looks to the dentist with confidence, there is no lack of doubts and fears of possible contagion which can however be easily resolved by presenting the key aspects of the safety protocols adopted by dental practices.

In each country, the competent institutes have developed guidelines, operational directives that professionals must follow in the global uncertainty of this pandemic. Rigor in these cases is essential: compliance with these principles, which provide for certain clinical protocols, patient management, and the use of personal protective equipment, requires a lot of organizational and economic commitment, but all professionals adopt them to ensure their health, that of collaborators and patients.

Furthermore, it must be considered that dentists have always worked in almost complete asepsis conditions and biohazard management is nothing new for the dentist. It is true that in this case, we are dealing with pathogens that are transferred by air, while dental practices have been structured to avoid cross-infection mainly by blood, but the protection measures used by dental operators are already high. Advances in dentistry have led to interventions that make dental practices more and more similar to medical operating theaters. The culture of risk protection and control is therefore already innate in the professionalism of the dental staff.

7 Abraham Maslow, an American psychologist, designed the Maslow pyramid (or Maslow scale). This tool, officially proposed in 1954, is used to illustrate the theory of the hierarchy of needs and is based on a five-stage model, where needs are organized in hierarchical levels from the needs necessary for the survival of the individual to those of a social nature. According to Maslow, human needs are organized according to a hierarchy in which some take precedence over others and the individual is realized by passing through the various levels of the pyramid, which must be satisfied in a progressive way. The theory will be presented in the chapter on "The Sales Process in the Dental Practice".

As for the patients, who are increasingly attentive and demanding, they need to be reassured and informed with objective data regarding the procedures and devices adopted, confirming the strong attention to the safety of all those involved, including the collaborators of the practice who could advance also fears and resistances generating potential conflicts.

According to the results of the Key-Stone surveys in the European countries most affected by the pandemic, the overall impact of the demand reduction is estimated at between 20% and 25% in 2020 compared to 2019. The situation is more serious in North and Latin America, where a reduction in the consumption of dental products was reported at the end of the first half of 2020, worse than the European one; which suggests a recession in dental care that could be around -30% at the end of 2020.

In particular, at the end of 2020, the traditional dentistry channel will show an estimated drop in turnover of around 25% in Italy and 24% in Spain.

The dental practices that have suffered the most from the serious negative economic situation are above all the mono-professional ones (without other stable collaborators in the office) and, in particular, the small structures with one or two dental units, which are unlikely to have sufficient resources to resist the persistence of the crisis.

Even beyond the ocean, the aforementioned ADA Health Policy Institute survey presented the difficulties encountered by dentists due to the reduction in the number of patients assisted. Professionals in the U.S.A. have taken various measures to maintain the financial sustainability of their profession, similar to European countries. More Dental Service Organizations (DSOs) affiliated practices have had to downsize the dental team, while unaffiliated have raised fees or borrowed from bank loans. Among dentists aged 65 and over, more than a third said they would consider selling their practice and about 40% would consider retiring. An attitude and a vision of the future similar to those of Italian colleagues: through the Key-Stone survey carried out on the professional channel⁸, the dentists were asked to evaluate the situation corresponding to the near future of their dental practices.

As can be seen from Figure 1.5, about 25% of the sample predicted a potentially harmful recessive situation, with an impact that, for some, could mean the very closure of the dental practice

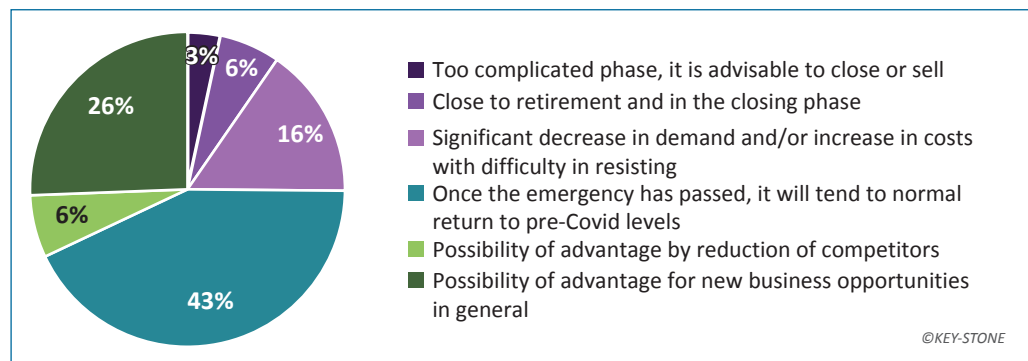


Figure 1.5 - Perception of Italian owners regarding the future of their dental practice

⁸ The survey was carried out by Key-Stone using CAWI (Computer Assisted Web Interviewing) mode in October 2020. The research was carried out in Italy and involved a representative sample of 400 dental practice owners.

(at least 9% between the hypothesis of closure for retirement or to devote themselves to consultancy) and 16% who fear they will not be able to resist financially.

However, one can note a positive and proactive attitude of about a third of the structures, willing to bet on the future and invest accordingly, while a fifth has shown that they are perfectly aware of the possibility of organizational and economic suffering.

It must be remembered that correct planning of dental therapies is essential for the health of the population: choices of procrastination or the impossibility of access to the dental practice lead to a worsening of the overall situation in terms of both public health and the economy of a whole sector is far from negligible.

In conclusion, professionals must face a weakening of the “office system”, a corporate and personal liquidity crisis and, consequently, the unsustainability of the previous business model. It is therefore essential that the post-Covid-19 dental practices have a business planning and analysis system in place. It will make it possible to assess the need for financial provision, useful for sustaining a long phase of “resistance”; to be able to overcome the health and economic crisis unscathed and to be able to intercept a subsequent expansion phase, which, considering the indispensability of services for the population, can only develop.

Based on this, the need arises to provide, through this text, an educational and practical tool leading the dental practice owner to face this new era of dentistry with renewed business strategies and managerial methodologies.

Organizational impact

The real big problem of the post-Covid-19, even in the years to come, will not so much concern the demand for services or the economic power of families, but the objective capacity of dental practices, because there is no doubt that, with the same working hours, they will be able to accommodate fewer patients.

For years it was thought that the profitability and profit of the dental practices would come through saturation, that is the ability to make the most of the production time and the operating units available, to reach maximum profitability, within the limits of the business model of the practice. In this way, if each unit was used up to about 85% of the available time (still leaving space for peak moments), the management was considered optimized having reached the maximum exploitation capacity of the structure; possibly looking for further improvement in other areas (costs, prices, performance mix, etc.). Few succeeded, for some it was a kind of mirage. Never before has the use of the imperfect been more appropriate, an imperfect that will very soon be distant past.

The advent of Covid-19 and the consequent social distancing, as well as the new protocols, have forced a change in the paradigm. Here the concept of dilution came into play, understood as the ability and the possibility to optimize work dilution.

Each dentist will find their solutions: from longer appointments to perform more treatments, to the extension of opening hours, to the use of digital technologies, from tele dentistry for the development of some remote services, to serious and rigorous engineering of flows, the elimination of some operating units to increase waiting spaces, up to the reduction of the workforce if the unsustainability of fixed costs compared to the satisfactory demand is observed. In the same way, expansion projects could be carried out, e.g., associations with colleagues for the construction of a new dental practice model.

Digital technologies will represent a great resource, both to reduce “channel risks” such as, for example, the sending of impressions and to make the most of new telemedicine technologies applied to dentistry, in particular for some disciplines, for which some checks could be carried out from the patient’s home.

It is therefore clear that the new business model must in any case be virtuous over time. Professionals should not make hasty structural decisions, but begin to change and adapt to new dynamics, trying to understand which are the actions needed to react to new situations and taking into account that a phase of learning and experience will be required to allow reorganization of one’s business within a few months.

It is not enough to resist, even if it already seems a lot. To face the new scenario, and to protect oneself from possible future recessive situations, it’s necessary to have a strategic vision and to design different dentistry and business model.