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Project: Reducing access inequalities in primary healthcare for socially significant diseases at CB Area's deprived communities - Equal2Health

D.3.1.1.b FINAL REPORT – PARID LITERATURE REVIEW

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Deliverable Identity

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Summary

Introduction: The ongoing covid-19 pandemic is the greatest public health threat to humanity since 1918/9 with significant implications for both health services and the physical and mental health of the population.

Aim: The present study intends to research the impact of the SARS-CoV2 pandemic on mental health services (including mental health professionals) and users of these services.

Method: This is a rapid literature review, which eventually included 31 papers published in international scientific journals, papers containing primary or secondary data (qualitative or quantitative) on the effects of the epidemic crisis on mental health services and on patients who suffer from chronic mental diseases.

Results: (A) Regarding the effects of the pandemic on mental health services, the vast majority of studies demonstrated the widespread closure of psychiatric wards in a number of countries during the implementation of social lockdown measures, the overwhelming reduction of psychiatric emergencies mainly due to the fear of infection by SARS-Cov2, mixed results on the impact of the pandemic on psychiatric care, while finally a series of studies recorded a significant increase in the use of telemedicine services with mixed results (concerning the ability of patients to use the service effectively) especially for patients with chronic mental disorder or lack of knowledge. (B) Regarding the effects of the pandemic on mental health professionals the available research data are very limited and indicate that in addition to the general effects of the epidemic on health professionals (e.g. increased stress, discomfort, sleep disorders) mental health professionals are at increased risk of exposure to SARS-CoV2 due to the difficulty that patients in psychiatric wards have in keeping social distance measures. (C) Regarding the effects of the pandemic on the patients who suffer from chronic mental diseases, the available research data are at present limited; however they indicate an increase in involuntary psychiatric hospitalisations, and mixed results concerning both the deterioration or not of their mental health and the increase in relapses.

Conclusions: The present study, although based on early research results, highlights significant negative effects on the functioning of mental health services and patient access to them during the pandemic. According to the World Health Organization, despite the objective difficulties, special care should be taken to maintain open and accessible mental

health services, in terms of safety for both patients and staff, in order for them to meet the increased mental health needs during of the current pandemic crisis.

1. Introduction

The new coronavirus (SARS-CoV2) pandemic is evolving into one of the most important public health threats since the Spanish Influenza pandemic in 1918 / 9.¹ According to the latest available data from the World Health Organization (WHO) the pandemic counts more than 62 million cases and more than 1.4 million deaths worldwide.² At the beginning of December, the epicenter was located in the USA, Latin America and India, while a second epidemic rapid spread was underway in Europe with the highest reports of new cases in Italy, Russia, Poland, Germany and the United Kingdom..

Many researchers and international organisations have pointed out in time the significant potential effects of the pandemic and the restrictive measures taken (measures of social distancing and isolation) in order to reduce its spread, to the mental health of the population.^{3, 4} Increase in the impact of depression and anxiety disorders, increase in alcohol and other psychoactive substances, increase in mortality due to suicide deaths, increased rates of discomfort, loneliness and episodes of domestic violence were considered to be the expected effects on mental health and well-being of populations in conditions of global public health threat. These effects were expected to be higher in specific population groups that had already been suffering from chronic mental health disorders before the onset of the pandemic,⁶ and, by definition, have been and still are the most vulnerable groups during crisis conditions (epidemic or not).^{7,8}

In addition to the effects on the mental health of the population, the effects of the Covid-19 pandemic on access and use of mental health services were also significant,⁹ which, even before the outbreak of the epidemic, faced severe chronic problems due to their low prioritisation and funding at national and international level.¹⁰

The first empirical data seem to confirm the above estimates and predictions. A recent World Health Organization survey in 130 countries showed both a significant increase in demand for mental health services and significant operational problems during the pandemic, with 60% of the countries reporting either cessation or significant malfunction of mental health services, during the Covid-19.¹¹ pandemic This emerging crisis in mental health services seems to be disproportionately affecting patients with chronic mental illnesses.

This study aims to research the impact of the SARS-CoV2 pandemic on mental health services (including employees) and users of these services.

2. Method

2.1 Type of study

The type of the present study is a rapid literature review. It is a form of knowledge synthesis that is widely used in the health policy-making process, where limited time often demands timely access to decision-making information.¹²

Rapid literature reviews constitute a modified and rationalised form of systematic reviews. They offer the advantages of a conventional systematic review, that is the ability to thoroughly search, evaluate and synthesise research data with systematic elements, providing reliability, clarity and repeatability, while at the same time omitting or simplifying certain steps of the process, in order to ensure consistency to its limited timeframes.¹³

2.2 Research questions

The present study should answer the following research questions:

What are the effects of the CoVid-19 epidemic crisis

a. in mental health services? b. in mental health employees?

c. in users of these services?

2.3 Research Strategy

The research was conducted on 17th of November 2020 and focused on English language publications on the PubMed website. Some of the keywords used to search in all fields of the text were - among others - "psychiatric hospitals", "mental health workers", "involuntary mental hospital admissions" (see Annex A). Additional articles were identified through the bibliography lists of related publications.

2.4 Inclusion or exclusion criteria

Included were English-language studies published in 2020 focusing on the COVID-19 epidemic in developed countries and, in particular, its effects on mental health services,

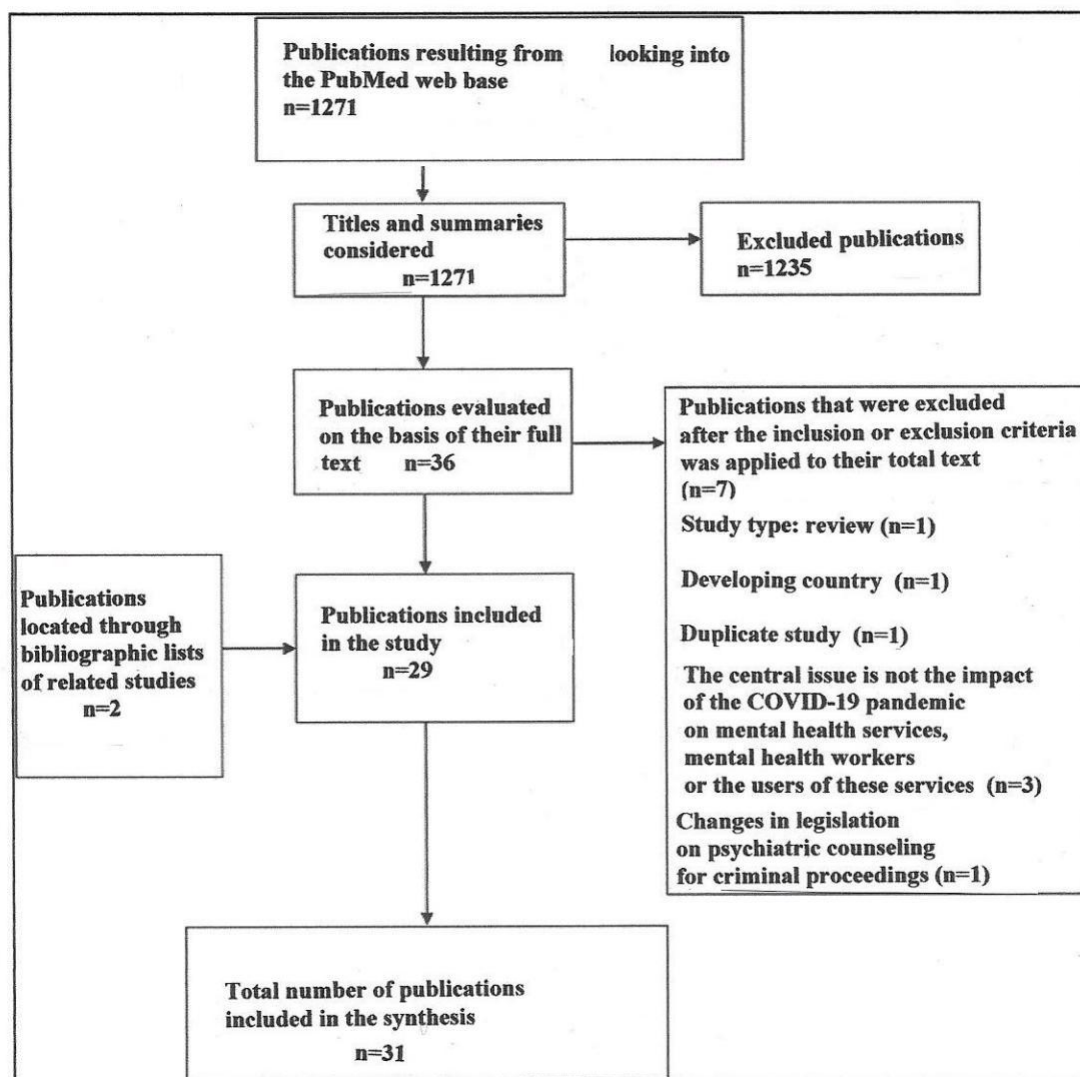
mental health workers and users of these services. Specifically, studies with either primary or secondary data, qualitative or quantitative, which had been published either in reputable scientific journals, evaluated by scientists of the field, or gray literature, such as summary reports and announcements, commentary articles and letters to publishers. However, literature review studies were excluded.

While investigating the effects of the COVID-19 pandemic on mental health workers, studies in which they were only a part of the target group were excluded, with the whole article examining the effects on health professionals in general. Similarly, in investigating the effects on users of mental health services, no studies were included in which the target group did not consist exclusively of patients with pre-existing mental illness. It should be noted, however, that in investigating the effects of the pandemic from the point of view of health services, studies were included in which the target group included patients who were diagnosed with mental illness for the first time during the pandemic, thus to make it possible to record trends, for example in visits to Emergency Departments, Regular Outpatient Clinics and admissions to psychiatric hospitals.

2.5 Data extraction

A search in the PubMed website resulted in a total of 1271 posts. (Chart 2.1) All titles and abstracts were reviewed by two researchers, who identified 36 relevant publications. After evaluating the overall extent of their content, applying the inclusion or exclusion criteria, the study included a total of 31 publications: 29 were identified by searching the PubMed website and 2 through the bibliographic lists of related publications. In cases of disagreement the final decision was made after discussion and consent among the researchers.

Diagramm 2.1



The data extraction process was performed by two researchers, by obtaining information regarding the type of studies under consideration, their purpose, the origin of their data, the target group, the place and time period of their conduct, the outcomes and the authors' possible interpretation of them. The extraction form was constructed using thematic analysis in order to identify repetitive patterns within the texts.¹⁴ In this case the material under study was approached using predefined themes, in order to reflect the research questions that the present study should answer. In particular, the topics were as follows:

1. The effects on mental health services. This topic includes, on one hand, the response policies of the countries' mental health systems to the COVID-19 pandemic and, on the other hand, the effects - both of the pandemic itself and of the traffic control measures

implemented - on the trends of visits to Emergency Departments, Regular Outpatient Clinics and hospitalisations (involuntary and voluntary) in psychiatric hospitals and clinics.

2. The effects on employees in the mental health sector. That is, the possible occurrence of negative consequences on their mental health.

3. The impact on users of mental health services. It concerns chronic mental patients, that is people with a pre-existing diagnosis of mental illness before the onset of the COVID-19 pandemic and its possible effects on the recurrence or worsening of their symptoms and their access to pharmaceutical services.

2.6 Data analysis

The results are presented through narrative description and thematic composition of the data. Although the chosen way of presenting the results is acceptable in the context of a rapid literature review, in any case the meta-analysis would not be possible, due to the high heterogeneity of the data collected regarding the outcomes, methods and target group of the studies under consideration. The thematic composition made it possible to codify and organise the texts into thematic and sub-thematic - which resulted from the repeated, in-depth reading of the content of the studies in question - as well as the inclusion of qualitative and quantitative data.^{15,16}

2.7 Quality evaluation

Due to the limited time frame of the present study and the fact that it is a type of study that simplifies certain steps in the process, the quality assessment includes only a rough estimate of the sample size and a reference to the cases in which the COVID-19 pandemic impact investigation is based on self-reports and self-assessments.

The criticality and severity of the COVID-19 pandemic led to the conduct and rapid publication of a wealth of studies that have not yet been evaluated by the scientists of the field. Their primary goal was to immediately shed light on the issue of the negative effects of the COVID-19 pandemic on mental health services, their staff and the chronically ill - a particularly vulnerable population group - drawing data from the first months of countries' exposure to the pandemic. We must therefore point out that the data we present are premature. Only 11 of the 31 studies have been published in scientific journals. The majority consists of letters to publishers and brief comments.

2.8 Ethical issues

The present study does not involve the participation of people in order to conduct it. It was based on a review of published research and therefore did not require approval by the ethics committee.

3. Results

3.1 Impact on mental health services

3.1.1 Response policies and direct effects on the mental health system

Conducting a phenomenological study, Ojeahere et al.¹⁷ approached 21 psychiatrists from 16 different countries on 5 continents (South and North America, Asia, Europe, Africa) in order to describe the challenges and knowledge gained from pandemic psychiatric disease management during the pandemic COVID-19. One of the commonalities observed between the different countries was the fact that the imposition of national lockdowns led to a reduction in accessibility to mental health services, with the sole exception of emergencies. Although there were variations between countries, the lack in alertness of mental health services to treat contagious diseases was a fact. All countries turned to tele-psychiatry services, however, differences were observed in the management protocols of psychiatric patients with COVID-19.

In a time study¹⁸ conducted in March and April 2020, questionnaires were distributed to 23 mental health professionals from 23 different European countries. All participants had an academic degree and at least 15 years of experience in the field of mental health services. The aim was to represent their country, through the transmission of comments on the impact of the COVID-19 pandemic on national mental health systems. Indeed, 22 of the 23 participants claimed that the pandemic affected mental health services in their country and 61% described the incidence as significant. Several participants reported that the pandemic led to the suspension of outpatient clinics on one hand and the focus on inpatient emergencies on the other. Additionally, in most countries, there has been a rapid increase in the use of telepsychiatric methods in order to avoid interpersonal contact and consequently to reduce the rate of transmission of the virus. Some common concerns among the participants were: the prioritisation of physical health over mental health, the lack of personal protective equipment for mental health workers and the reduction of staff due to

their recruitment so as to deal with COVID-19 cases. The majority (61%) stated that the mental health services in his / her country was not sufficiently prepared to deal with such a situation and some expressed dissatisfaction regarding the cooperation and communication with the authorized organisations concerning contagious disease control.

There have been a large number of studies on the effects of the COVID-19 pandemic on Italy's mental health system^{19–22} due to both the severity with which it was affected and the particular model of organising and providing mental health services that is based on community psychiatry with complete absence of psychiatric hospitals. The imposition of the national lockdown on March 8th had a number of important consequences. In general, the provision of services was characterised by a rapid transition and adjustment to the use of methods of telepsychiatry and remote psychosocial interventions.¹⁹ Most day centres and some Community service centres have been temporarily suspended. In addition, patients in the peripheral structures were subject to traffic restrictions and visits at home and outpatient clinics were limited to extremely urgent cases.^{20,22} However, the operation of community centres continued for patients with severe mental disorders, adopting the necessary protective measures, such as avoiding cohabitation, suspension of group psychotherapy, cessation of external reintegration activities and live contacts with the family environment.²¹ As for the general hospital psychiatric clinics, many of them had to be shut down and rearranged in order to treat COVID-19 cases.^{20,22} Subsequently, several physicians and nurses from these clinics were recruited to treat the increasing number of COVID-19 patients. In the psychiatric clinics that remained open, specially designed areas were created to ensure the possibility of hospitalisation of psychiatric emergencies that were suspected or confirmed COVID-19 cases. Moreover, the treatment of COVID-19 psychiatric patients was a challenge and required the development and implementation of a specific treatment protocol.¹⁹

3.1.2 Impact on hospitalisations and visits to Emergency Department and Regular Outpatient clinics

A study²³ conducted at Northamptonshire's two largest acute care hospitals in the United Kingdom attempted to define the impact of the COVID-19 pandemic on psychiatric Emergency Department visits. Although the number of all visits to Emergency Departments significantly decreased (49%, from 19443 to 9904), the number of visits to psychiatric Emergency Departments remained stable (Mann-Whitney U 2-tailed test, $p = 0.71$) between

November 2019 (235 visits, average daily number 7.8, average 8, minimum 3, maximum 13) and April 2020, when the epidemic crisis peaked in the United Kingdom (250 visits, daily average 8.3, average 8, minimum 5, maximum 18). However, visits to psychiatric Emergency Departments doubled (from 1.2% to 2.5%).

In Madrid, where one of the largest outbreaks of the COVID-19 pandemic took place, Hernandez-Calle et al.²⁴ examined the impact of disease outbreaks on the weekly visits to psychiatric Emergency Departments and visits due to suicide attempts or suicidal ideation, to a large general hospital. They revealed that, every week since the onset of the first confirmed COVID-19 case, fewer and fewer visits to psychiatric Emergency Departments were recorded both in total (b (95% CI) = -4.68 (-3.52 to 5.83)) and in particular, for suicide attempts or ideation (β (95% CI) = -1.73 (-0.90 to -2.56)). The authors attempted to interpret their findings, stating that it is possible that the cases of suicide attempt or ideation have remained the same or even increased, however, patients have not addressed the Emergency Departments.

Pignon et al.²⁵ compared the number and characteristics of psychiatric counseling emergencies in 3 psychiatric Emergency Departments in Paris and two suburbs, during the first 4 weeks of the lockdown and during the corresponding period in 2019. Psychiatric counseling cases decreased by 50.8% (from 1124 in 2019 to 553 in 2020), a decrease that concerned all 3 Departments and all diagnoses (including suicide attempts). In particular, visits with a diagnosis of psychotic disorder decreased from 295 in 2019 (24.1% of the total) to 172 in 2020 (31.1% of the total) ($p = 0.002$) and with a diagnosis of anxiety disorder from 255 (20.8%) to 92 (16.6%) ($p = 0.038$). The most significant difference was observed in the age group 16-24, from 337 in 2019 (27.5% of the total) to 120 in 2020 (21.7%) ($p = 0.012$). The percentage of involuntary hospitalisations in terms of total hospitalisations increased from 43.8% in 2019 to 54.2% in 2020 ($p = 0.022$). The decrease of visits was attributed, by the authors, to the fear of the patients from infection with COVID-19, to the reduction of unnecessary visits, to the application of telepsychiatry and to the increase of mental endurance through the development of new defense mechanisms.

Another study, also held in Paris²⁶, attempted to highlight the change in the number of Emergency Departments' visits to the largest psychiatric care centre (Centre Psychiatrique d'Orientation et d'Accueil, Sainte-Anne Hospital) during the moving restriction due to the

COVID-19 pandemic. The average number of daily visits in 2020 (March 17 to May 10) was significantly lower ($N = 10.8$; $SD = 3.3$) than the corresponding period in 2017 ($N = 23.3$; $SD = 6.1$; Student's t-test, $p < 10^{-15}$), in 2018 ($N = 24.4$; $SD = 5.9$; Student's t-test, $p < 10^{-15}$), and in 2019 ($N = 26.4$; $SD = 7.3$; Student's t-test, $p < 10^{-15}$). It was also significantly lower than the corresponding one before the moving restriction (January 21 to March 16) ($N = 23.6$; $SD = 6.2$; Student's t-test $p < 10^{-15}$). Possible interpretations included: the fear of being exposed to the virus, the fear of being fined for unnecessary moving, and the increase in mental endurance through the development of new defense mechanisms.

Rosso et al.²⁷, in a letter to the publisher of the journal *Psychiatry Research*, described the results of a small study they conducted, that focused on investigating the impact of the early period of lockdown on the use of mental health services in a hospital in Italy. In April 2020, fewer requests for appointments at the Regular Outpatient Clinic of psychiatry were recorded compared to April 2019 (494 vs 884). At the same time, both hospitalisations (39 vs 47) and visits to the psychiatric Emergency Department (67 vs 88) decreased. However, the ratio of hospital visits remained stable (April 2020: 1.71, 67/39 vs April 2019: 1.69, 88/52). According to the authors, the findings can be attributed - among other things - to the reluctance of patients to visit hospitals due to the fear of contamination by COVID-19, thus reducing the need for immediate visits for mild symptoms.

In a letter to a publisher, Carpiello et al.²² presented the early data of a study by the Italian Society of Psychiatry, conducted in order to examine the effects of the COVID-19 pandemic on the functioning of mental health services. According to questionnaires collected from 71 employees at the heads of the Departments of Mental Health and 107 of the General Psychiatric Clinics from April 1 to 11, 87% there was a decrease in admissions to psychiatric clinics, and 8% there was an increase in involuntary hospitalisations.

A study conducted in Lombardy²⁸, the most COVID-19-burdened region of Italy, aimed to evaluate hospital admissions in 7 psychiatric general hospital clinics, 40 days after the onset of the COVID-19 epidemic and compare them with the corresponding periods of 2019. During the period after the outbreak of the COVID-19 epidemic in Italy (21/2/2020-31/3/2020) there was a decrease in hospital psychiatric hospitalisations compared to the period before 21/2/2020, as well as the corresponding time intervals of 2019 ($p < 0.001$). The difference is due to the reduction of voluntary hospitalisations ($p < 0.001$), as the number of involuntary

hospitalisations remained relatively stable ($p = 0.87$). The decrease applied to all diagnostic groups, except for the category "others" which includes anxiety disorders, neurocognitive disorders, etc. The most significant decrease concerned emotional disorders ($p < 0.001$), while for diagnoses such as schizophrenia and personality disorders no statistically significant difference was found. Finally, the average length of hospital stay in March 2020 was longer than in March 2019 (14 days vs 10, $p = 0.021$). The researchers attributed their findings to the possible avoidance of hospitals by patients due to - among other things - the fear of being contaminated by the disease and the reluctance of hospital doctors to treat patients so as not to jeopardize the transmission of the virus inside the psychiatric clinic.

In Mannheim, Germany, an attempt was made to quantify the use of emergency psychiatric services during the COVID-19 pandemic and the assessment of the potential effects of the partial lockdown on it.²⁹ The target group consisted of the visitors to the Emergency Department of a large psychiatric hospital, and the results showed a significant reduction in the use of emergency psychiatric care services by 26.6% [RR = 0.734, $p = 0.009$, 95% CI 0.58–0.93] before (1st-11th week of the year) and after the outbreak of the pandemic (12th-15th week) in 2019 and 2020. In addition, a positive correlation was found between the reduction of the use of psychiatric care services and the reduction of movement of people in general, due to the lockdown (after the 12th week) (number of trips $r_s = 0.631$, $p = 0.012$, kilometres traveled $r_s = 0.538$, $p = 0.038$). The authors stated that the results may be due to the discouragement of citizens' movement.

A study in Connecticut, USA³⁰ investigated the impact of the COVID-19 pandemic on the number of visits and subsequent admissions to psychiatric Emergency Department at Yale-New Haven Hospital, comparing the period January-early March 2020 with the corresponding period in 2019 and 2018. In January, February and the first weeks of March 2020, the total number of visits to Emergency Department (in all departments) and psychiatric Emergency Department remained stable compared to previous years. However, from mid-March 2020 until the first week of May, there was a significant reduction in visits to psychiatric Emergency Department of 26%, with the average daily number of visits falling from 24.2 to 18. In April 2020, the first month of the local outbreak, the number of visits to psychiatric Emergency Departments accounted for 70% of the average number of visits in previous years. Respectively, the number of total visits to the Emergency Department was 58% of the

average number of visits in previous years. While the percentage of total Emergency Department visitors who needed treatment increased, the percentage of psychiatric patients who needed treatment remained relatively stable compared to previous years. Once again, the authors attributed the reduction in visits to psychiatric Emergency Departments to the fear of contamination and the misconception that hospital services were intended solely to treat COVID-19 cases.

Ye et al.³¹ in a letter to the publisher of the Asian Journal of Psychiatry described the challenges posed by the COVID-19 pandemic in a psychiatric hospital in Guangzhou, China, during the first four months of 2020, comparing the number of patients and of visits to Emergency Departments and Regular Outpatient Clinics with the corresponding period for 2019. According to their results, the sum of visits remained stable (153436 visits in 2020 vs 155271 in 2019), however, the number of hospitalised patients decreased significantly (1201 in 2020 vs 2219 in 2019).

Kølbæk et al.³² examined the impact of the COVID-19 pandemic on the number of general practitioners' referrals to mental health services during the lockdown in Central Denmark Region. According to their research, in the 9th and 10th week of the year (lockdown in Denmark was announced in the 11th week) 19% more referrals were recorded in 2020 compared to 2019 (1224 vs 1032). However, the number of referrals in the 12th-16th week of 2020 (n = 1471) was 40% lower than in 2019 (n = 2465). With the gradual removal of the lockdown in the 17th and 18th week, the number of referrals in 2020 was close to that of 2019 (868 vs 922). The authors claim that during the COVID-19 pandemic, patients in need of psychiatric treatment did not consult their GPs - and consequently did not go to mental health services - for fear of infection and the misconception that GPs were dedicated exclusively to COVID-19 incidents.

3.1.3 Telepsychiatry

The rapid increase in the use of telepsychiatric methods to provide services in the midst of the COVID-19 pandemic has been a recurring theme for the studies in question.³³⁻³⁷

Concerning the USA, this was the product of an unprecedented relaxation of a variety of precautionary and regulatory measures, due to the special conditions created by the pandemic COVID-19.³³ According to the early results of an initiative which tried to improve

the quality of mental health services provided by the Regular Outpatient Clinics of the Massachusetts General Hospital, the transition to telepsychiatry took place in just one week.³³ In March 2019, teleconferences as a percentage of total visits to the Regular Outpatient Clinics amounted to only 5%. However, in March 2020 this percentage reached 97%. Total visits were maintained at high levels (95% of the previous ones), for both individual and group sessions. Some of the advantages of telepsychiatry that were pointed out were: the reduced number of absences from the sessions, the employees' feeling of insecurity due to their indirect contact with patients with aggressive behaviour and the flexible treatment programs (e.g. shorter but more frequent sessions). At the same time, however, technological and administrative obstacles were recorded, which burdened the workload of hospital physicians.

In the US state of Texas, the immediate adaptation of an outpatient clinic to the provision of exclusively telepsychiatric methods, without the possibility of live visits even in extremely urgent cases, was a source of useful information.³⁴ Their experience underlined the importance of using multiple communication methods (E-mail, Zoom, Microsoft Teams, phone calls, etc.) in order to ensure a smooth transition to telepsychiatry, providing flexibility, convenience and satisfaction to the patients. It also highlighted the challenges that may arise, such as handling high-risk patients, potential staff refusal to adapt to new conditions, and the inevitable technical difficulties with online video conferencing platforms. The benefits of telepsychiatry included the relief of patients in continuing their monitoring and treatment in the midst of a pandemic.

An ecological study by Connolly et al.³⁵ demonstrated the rapid increase in the use of telepsychiatric methods at the weeks following the announcement of the COVID-19 pandemic in the Department of Veteran Affairs, one of the largest health care systems in the United States. According to their results, daily teleconferences increased from 1739 on March 11 to 11406 on April 22 (556% increase). Telephone conferences also increased, but to a lesser extent (442% increase), while at the same time live visits decreased by 81%. Between March 11 and April 22, 114714 patients participated in video conferencing, of which 77.5% used video conferencing for the first time. Respectively, 12342 mental health service providers completed at least 1 session via video conference in the same time period.

In Australia, the introduction of telephone communication and teleconferencing in the Medicare Benefits Schedule led to an increase in total sessions (live and telepsychiatry) in March and April 2020, compared to the live average monthly number of sessions during the previous financial year (July 2018-June 2019), in all smaller territories except Tasmania.³⁶ This fact is likely to be a reflection of increased demand and improved access to mental health services. However, the rate of telepsychiatry sessions decreased in May compared to April, possibly indicating the return to live sessions as soon as restricted mobility measures eased.

In a time study conducted in the United Kingdom, online questionnaires were collected from 2,180 mental health workers between April 22 and May 12.³⁷ 43.4% said they had completely stopped live visits, while 55.2% said they make concessions when deemed. Almost all employees in community service (94.1%) and crisis management (83%) said they had replaced at least some of their live visits with phone calls or teleconferences. Regarding their views on the effectiveness of telepsychiatry, the majority of respondents agreed that teleconferencing is a useful tool for monitoring the progress of some patients with pre-existing contact with mental health services, but not for the initial assessment of a new patient's condition. 65.8% claimed that the replacement of interpersonal visits by telepsychiatric methods led to the termination of their contact with some patients.

3.1.4 Children and adolescents

In an opinion paper on the effects of the COVID-19 pandemic on mental health services for children and adolescents in Germany, Fegert and Schulze³⁸ claimed that some psychiatric clinics in university general hospitals were closed in order to create intensive care units, while some psychiatric clinics did not. The provision of inpatient services in most areas continued while taking the necessary measures (maintaining distances, using a mask, drastic reduction of visits), however, for outpatient services teleconferencing was used.

A study by the Chinese Society of Child and Adolescent Psychiatry³⁹, conducted in March 2020 in China, used questionnaires distributed to the country's psychiatric hospitals for children and adolescents in order to evaluate the services provided during the COVID-19 epidemic crisis. 33 of the 50 hospitals completed the questionnaire. According to the results, 3 hospitals completely stopped providing outpatient services. In addition, the total number of visits to Regular Outpatient Clinics decreased to 53% comparing to the period before the

outbreak of the new coronavirus. Regarding the provision of in-hospital services, 25% of the hospitals ceased their operation and the referrals were reduced by 50%. In addition, more than 15% of the 33 hospitals turned to the use of telepsychiatry.

Childs and Unger⁴⁰, in a brief statement, presented the early results of the evaluation of an initiative aimed at rapidly preparing and implementing virtual, group, Intensive Outpatient Psychiatric (IOP) services for high-risk adolescent psychiatric patients in Connecticut, USA. According to their results, live visits were replaced within a few weeks, first, by telephone communication (accounting for up to 99% of total contacts) and then by group videos (up to 69.9%). In general, the transition to telepsychiatric services was rapid and created no gaps in the monitoring and treatment of patients.

3.1.5 Psychogeriatric

An ecological study⁴¹ conducted in Hong Kong attempted to examine the impact of the COVID-19 pandemic on psychogeriatric hospitals' patients by recording their number for 3 months before and after the epidemic crisis (November 2019-April 2020) and comparing them with the corresponding period during the previous 2 years (November 2018-April 2019, November 2017-April 2018) and the year of the SARS epidemic crisis (November 2002-April 2003) in a large inpatient psychiatric hospital. The results revealed that psychogeriatric hospitalisations increased by 21.4% after the COVID-19 epidemic, an increase that could not be explained by seasonal fluctuations and lasted longer than SARS.

3.2 Impacts on mental health workers

Just one publication⁴² was detected which focused on the impact on mental health workers. 18 nurses from a psychiatric hospital were interviewed with more than 1,200 patients during the COVID-19 epidemic in Chengdu, China. The factors that caused stress were: the lack of readiness of psychiatric hospitals to respond to public health threats, combined with their increased risk due to congestion in psychiatric clinics, the inability of some patients with aggressive behaviour to provide information on Emergency Departments concerning their epidemiological history and their tendency to remove the protective equipment (e.g. masks, goggles) from the workers. In addition, they referred to the suspension of their personal and professional plans, as well as the difficulty of handling both their heavy duty and family responsibilities at the same time.

3.3 Impact on mental health beneficiaries

3.3.1 Symptoms and possible relapses

Franchini et al.⁴³ telephoned 101 patients with major depressive or bipolar disorder, in a state of euphoria, to make an appointment at the Regular Outpatient Clinic in the Mood Disorder Centre at San Raffaele Hospital in Milan during the national lockdown (March 9th – April 9th) in order to self-assess their reaction to travel restraint measures that prevented them from attending their scheduled session in person. According to the results, 76% of participants reported disturbance / discomfort due to limitations, 53.5% fear of infection, 45.5% financial worries, 44.5% anxiety, 40.6% decreased mood, 36.6% somatisation, 31.6% increased alertness, 29.7% sleep disorder and 20.8% use of sedatives. However, no one reported symptoms of early relapse.

A phenomenological study conducted in Galway, Ireland, aimed to investigate the psychological and social impact of the COVID-19 pandemic in patients with a pre-existing diagnosis of anxiety disorder⁴⁴. 30 semi-structured interviews were conducted between the 5th and 7th week after the lockdown in Ireland (April 20-May 7). Fifteen interviewees (50%) described the impact of the pandemic as very aggravating for their mental health and 12 (40%) as very aggravating for their stress symptoms. The biggest impact was on their social functionality (mean = 4.5, SD = 2.9) and their quality of life (mean = 4.2, SD = 2.6). The effect on their stress symptoms was moderate (mean = 3.8, SD = 2.9). 8 of the participants (26.7%) showed a worsening of their symptoms compared to their previous evaluation before the lockdown and 14 (46.7%) showed improvement. Patients with non-triggering disorders such as generalised anxiety disorder showed a negligible increase in their anxiety symptoms compared to patients with non-triggering disorders such as social phobia. The authors stated that the lockdown might have had a positive effect on the symptoms of the latter, but underlined that the observed changes may not be related to the pandemic itself, but they may be an independent part of the natural course of their disorders and / or their treatment.

A case-control study by Hao et al.⁴⁵ attempted to assess the psychological status of people with pre-existing mental illness during the COVID-19 epidemic in China - and more specifically, during the implementation of strict travel restrictions. 76 psychiatric, non-psychotic patients from the database of First People's Hospital based in Chongqing City and

109 healthy controls were selected to complete an online questionnaire from 19 to 22 February. According to the findings, the mean scores of Impact of Event Scale-Revised (IES-R), Depression, Anxiety and Stress Scale (DASS-21) and Insomnia Severity Index (ISI) were higher in patients compared to controls ($p < 0.001$). In addition, patients had higher levels of anxiety about their physical health, anger, impulsivity and intense suicidal ideation ($p < 0.05$). More than 1/3 of psychiatric patients may meet the diagnostic criteria for Post-Traumatic Stress Disorder (PTSD) and more than 1/4 suffered from moderate to severe sleep disorder (insomnia). According to the authors, some possible factors that led to the deterioration of patients' mental health were delays in the delivery of psychotropic drugs due to the lockdown, extended incarceration periods and limited access to mental health services due to the prioritisation of COVID-19 cases and the discouraging of patients from visiting health care facilities.

A time study conducted in the USA⁴⁶ aimed to research the impact of the COVID-19 pandemic on the symptomatology of patients with a pre-existing diagnosis of severe mental illness. 148 participants, of whom 92 with a diagnosis of schizophrenia and 56 with emotional disorders were asked to, complete a telephone survey from April 3 to June 4, 2020. According to their results, the severity of their symptoms remained stable and no differences were observed between the different diagnostic categories.

According to questionnaires completed by mental health professionals in the UK regarding the major barriers faced by their patients during lockdown, social difficulties such as loneliness and lack of support from those around them ranked first, followed by limited access to mental health services and the worsening and relapsing of their mental illnesses.³⁷

3.3.2 Access to pharmaceutical services

Four publications^{21,22,33,47} referred to the possible effects of the COVID-19 pandemic on the access of chronically ill people to pharmaceutical services and more specifically, to the administration of long-acting injectable antipsychotics. Two of them^{21,22} concerned Italy's mental health services and one concerned the United States.³³ They unanimously stated that their provision had continued normally.

However, in a letter to the publisher of the journal Schizophrenia Research, Ifteni et al.⁴⁷, describing the results of their study from a Romanian public psychiatric hospital, argued that

their prescriptions had dropped dramatically. Specifically 49% for antipsychotics with the active substance risperidone, 70% for aripiprazole, 81% for paliperidone and 90% for olanzapine.

4. Discussion

4.1 Summary and interpretation of results

Measures to limit the transmission of the new coronavirus directly affected mental health services. The imposition of national lockdowns has led to the closure of some psychiatric clinics and their redesign for treating COVID-19 cases, the issuance of emergency discharges to prevent co-morbidity, the recruitment of community mental health and social reintegration programs, and the rapid growth of telepsychiatry.^{17–22,48}

Despite the fact that Emergency Departments remained in operation, a number of publications included in this review recorded a decrease in visits.^{24–27,29,30} In a study in which the number of visits remained stable, it actually doubled as a percentage of total Emergency Departments visits,²³ while in another study that showed that the sum of visits to Emergency Departments and Regular Outpatient Clinics remained stable, the numbers for the two categories were not reported separately.³¹ In the majority of cases, the reduction in emergencies was attributed to the fear of disease transmission and misconception that health services dealt exclusively with COVID-19 cases. As far as hospitalisations are concerned, the picture is less clear. Some studies claimed that they decreased,^{27,28,31} others that they remained stable as a percentage of visits,^{27,30} while one study showed an increase in the percentage of involuntary hospitalisations in relation to total hospitalisations.²⁵ The partial or even total suspension of the operation of the various structures for the provision of mental health services has led to an increase in the use of telepsychiatric services. Despite the obvious benefits it offers, some studies have not failed to address the negative effects.^{34,36,37} For example, managing high-risk patients (e.g. patients with suicidal tendencies) through a virtual environment is an extremely difficult task while, at the same time, the adoption of telepsychiatry inevitably led to the cessation of contact with some patients. In addition, patients who are unable to understand the need to continue their monitoring and treatment, elderly patients who are unfamiliar with advanced technology and people facing financial difficulties and homelessness – common fact to patients with severe

mental illnesses - have limited access to one of the few forms of mental health services left in operation. In this way, the underlying social inequalities are highlighted and questions are raised about the possible role of telepsychiatry in the near future and the possible consequences for access to vulnerable and marginalised social groups in mental health services.

Elderly people with mental disorders - and especially those with reduced levels of cognitive function - are a group at increased risk of the negative effects of the COVID-19 pandemic, both on their physical and mental health.⁴⁹ Indeed, in one study on psychogeriatric care, there was a 21.4% increase after the COVID-19 epidemic, which could not be justified by seasonal fluctuations.

Regarding the impact on mental health services for children and adolescents, the identified studies recorded the closure of some psychiatric clinics, the significant reduction of visits to Emergency Departments, the complete suspension of outpatient services, and the rapid transition to telepsychiatric services.³⁸⁻⁴⁰

Numerous studies have shown the negative effects of the COVID-19 pandemic on health professionals, especially front-line workers.⁵⁰⁻⁵² Anxiety, discomfort, sleep disturbances and symptoms of depression and obsessive-compulsive disorder are some of the consequences recorded in health care staff during the outbreak of COVID-19, due to insecurity, stress and fear of illness and transmission of the virus in the family environment of workers. In the course of this study, only one publication was identified regarding the effects of the pandemic on mental health workers.⁴² According to that, the nursing staff of psychiatric hospitals is exposed to an increased risk of infection with the new coronavirus, due to the aggressive behaviour of some patients and their inability to provide an accurate epidemiological history. At the same time, it has been repeatedly noted: the lack of preparedness of psychiatric hospitals to deal with outbreaks of communicable diseases,^{17,18,42} shortages of personal protective equipment for workers, and staff shortages due to their recruit in other sectors in order to deal with the pandemic.¹⁸ It is safe to assume that the negative effects that have been recorded on health professionals in general also apply to mental health workers.

The chronically mentally ill people consist a particularly vulnerable group who is at increased risk of getting sick with COVID-19.⁵³ The conditions of confinement in psychiatric clinics combined with the fact that patients with reduced perception are unable to understand the risk and high transmissibility of the virus and therefore apply personal protective measures, such as frequent and thorough hand washing and distancing, increase the transmissibility of the new coronavirus.⁴⁸ In addition, patients with mental disorders face barriers to accessing health services due to the stigma and prejudices that surround mental illnesses to this day.⁵⁴ This population group appears to have a worse outcome and increased mortality compared to the general population⁵⁵ which can be attributed to the comorbidity of mental illnesses with other diseases, such as cardiovascular, diabetes, obesity, etc.

The results of the publications identified in the present study do not provide a clear picture regarding the effects of the pandemic on the symptoms of the chronically ill. On one hand, negative effects were recorded in patients with mental illnesses, such as worsening of their symptoms, discomfort, anxiety, fear, sleep disturbance and suicidal ideation.⁴³⁻⁴⁵ In addition, in a time survey, 46.3% of mental health professionals claimed that The pandemic led to a worsening of mental illness and relapses.³⁷ On the other hand, however, it was argued that the condition of some patients remained stable, that no early relapses were observed in euphoric patients, and that one study showed improvement in 46.7% of participants.^{43,44,46}

It is possible that the limited access to mental health services, which was caused due to the reduction or even closure of outpatient services, led to unsatisfied medical needs. In most countries, the provision of mental health services continued only for emergencies, however, as revealed by the present study, visits to psychiatric Emergency Departments also decreased dramatically. The possibility that the number and symptoms of patients have actually decreased seems unlikely. Studies have shown the negative effects of the pandemic on the mental health of the general population.⁵⁶⁻⁵⁸ Considering that the chronically ill are a vulnerable population group, one would assume that social isolation, insecurity about the future and incarceration due to lockdown would be aggravating factors for their symptoms. A case-control study included in the review actually revealed the significantly worse mental health outcome of patients with mental disorders compared to the general population.⁴⁵ The fear of being contaminated by the virus when visiting mental health facilities - and especially in psychiatric Emergency Departments housed in hospitals - combined with the

misconception that clinicians dealt exclusively with COVID-19 patients seems to have prevented chronically mentally ill people from addressing mental health services. However, ensuring the continuity of treatment is a prerequisite for effective control of symptoms and prevention of relapses. At the same time, visits to Emergency Departments are, in some cases, the only form of assistance received (e.g. suicide attempts). Avoiding contact with hospital facilities can be overwhelming in these cases. The present study provides evidence from the early results of research conducted in the first months of the pandemic. The total extent of the negative effects of limited access and delayed mental health care may take some time to uncover.

4.2 Policy recommendations

The new coronavirus pandemic was not only a threat to public health. The consequences for the provision of mental health services disrupted or even hindered the access of the chronically ill to them. It is therefore of the utmost importance that mental health services remain operational in order to meet the growing needs of the population created in times of crisis. In addition, the necessary medical and nursing staff, as well as beds for the treatment of patients with COVID-19, should result from recruitment and increase of funding for health, and not to the detriment of mental health services through recruitment and closure of entire psychiatric clinics. Especially for the chronically ill, the policies promoted must ensure their unimpeded access to mental health services and the continuity of their care. Finally, mental health professionals - who face the pandemic in an environment with non-cooperative patients - must be provided with the necessary personal protective equipment, as well as timely information and training on the control of the spread of contagious diseases.

At the same time, the authorities should inform the citizens about the availability of mental health services and point out the protection measures taken in them in order to prevent the transmission of the virus, so that they do not hesitate to visit them.

Finally, the use of telepsychiatric methods must be limited to the minimum necessary and must only be complementary. Although it has been proven to be a useful and flexible tool in mental health services, it cannot replace live contact because it excludes vulnerable populations from accessing it.

4.3 Strengths and limitations

The strengths of the present study include the systematicity in the research and extraction of data and the satisfactory geographical representation. However, it is characterised by several weaknesses. First, there is a limited evaluation of the quality of the publications included in the study, the majority of which consisted of letters to publishers and opinion articles rather than articles published in scientific journals. Second, the bibliography concerning the effects of the COVID-19 pandemic on mental health workers is very limited, with only one article referring to the stressors they faced. Third, studies examining patients with pre-existing mental illnesses and mental health professionals as part of the general population and all health professionals respectively are not included, thus excluding a significant portion of the bibliography that may contained a wealth of useful data.

5. Conclusion

The present study was based on early results, so the conclusions that can be drawn are limited and need attention. Based on the available data, the negative impact of the COVID-19 pandemic on mental health services is obvious. There are, moreover, early indications of the negative effect both on the mental health of the chronically mentally ill patients and employees of these services. However, the existing bibliography does not allow definitive conclusions to be drawn. All the publications under study have examined the effects of the epidemic wave in the immediate period from the imposition of the national lockdowns in each country. It is possible that the overall effects of the COVID-19 pandemic and the reduced accessibility to mental health services that followed will take time to appear. Future research could review the long-term effects of the pandemic, as well as the impact of the second wave of the COVID-19 epidemic on mental health services in countries around the world.

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Annex A

PubMed:

("covid 19"[All Fields] OR "covid19"[All Fields]) AND ("mental health care"[All Fields] OR ("hospitals, psychiatric"[MeSH Terms] OR ("hospitals"[All Fields] AND "psychiatric"[All Fields]) OR "psychiatric hospitals"[All Fields] OR ("psychiatric"[All Fields] AND "hospital"[All Fields]) OR "psychiatric hospital"[All Fields]) OR ("mental health"[MeSH Terms] OR ("mental"[All Fields] AND "health"[All Fields]) OR "mental health"[All Fields]) AND ("occupational groups"[MeSH Terms] OR ("occupational"[All Fields] AND "groups"[All Fields]) OR "occupational groups"[All Fields] OR "worker"[All Fields] OR "workers"[All Fields] OR "worker s"[All Fields])) OR ("involuntary"[All Fields] AND ("mental health"[MeSH Terms] OR ("mental"[All Fields] AND "health"[All Fields]) OR "mental health"[All Fields]) AND ("admission"[All Fields] OR "admissions"[All Fields])) OR (((("access"[All Fields] OR "accessed"[All Fields] OR "accesses"[All Fields] OR "accessibilities"[All Fields] OR "accessibility"[All Fields] OR "accessible"[All Fields] OR "accessing"[All Fields]) AND ("mental"[All Fields] AND "health"[All Fields] AND "care"[All Fields])) OR "mental health care"[All Fields]))

Annex B

	Authors	Title	Scientific Journal	Country
1	Lee ATC, Mo FYM, Lam LCW.	Higher psychogeriatric admissions in COVID-19 than in severe acute respiratory syndrome	International Journal of Geriatric Psychiatry	Hong Kong
2	Looi JC, Allison S, Bastiampillai T, Pring W	Private practice metropolitan telepsychiatry in smaller Australian jurisdictions during the COVID-19 pandemic: preliminary analysis of the introduction of new Medicare Benefits Schedule items	Australasian Psychiatry	Australia
3	Sasangohar F, Bradshaw MR, Carlson MM, Flack JN, Fowler JC, Freeland D, Head J, Marder K, Orme W, Weinstein B, Kolman JM, Kash B, Madan A.	Adapting an Outpatient Psychiatric Clinic to Telehealth During the COVID-19 Pandemic: A Practice Perspective	Journal of Medical internet research	USA
4	Mustafa FA.	No reduction in psychiatric emergency department visits during COVID-19: A downside of telepsychiatry?	The international journal of social psychiatry	United Kingdom
5	Connolly SL, Stolzmann KL, Heyworth L, Weaver KR, Bauer MS, Miller CJ.	Rapid Increase in Telemental Health Within the Department of Veterans Affairs During the COVID-19 Pandemic	Telemedicine and e-Health	USA
6	Chen JA, Chung WJ, Young SK, Tuttle MC, Collins MB, Darghouth SL, Longley R, Levy R, Razafsha M, Kerner JC, Wozniak J, Huffman JC.	COVID-19 and telepsychiatry: Early outpatient experiences and implications for the future	General hospital psychiatry	USA
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		existing Severe Mental Illnesses		
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