The Psychological Effects of COVID-19 and its anticipated impact on mental health services

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Introduction

This paper has been produced at the request of the Directorate of Strategy. The remit was:

- To consider the likely consequences of the pandemic on mental health
- If possible, to link this to the stages of the pandemic from the present through to the medium term and longer term
- If possible, to look at this through the evidence base of comparable events

The COVID-19 pandemic is unprecedented in its scale on many counts. These include its geographic extent, its lethality, the extent to which measures have to be taken to limit those effects and its effects on the global economy, including but not exclusive to the entertainment and travel industries. Thus, there is no evidence that can be said to address the current climate. Thus inferences will have to be made based on sound judgement and from experience in the field.

Background

Wuhan Province in China was the Epicentre of this pandemic. The China Mental Health Association (CMHA) have produced a manual of many useful insights and techniques that may be applied to individuals in different strata of those exposed to COVID-19. (1) Important self-soothing techniques are described. These include self-grounding, auto-relaxation therapy and mindfulness. The advice they provide is all currently available in the UK, either through services that are currently standard or enhanced to meet an impending national psychological crisis.

The CMHA specifically note that healthcare workers are 'overly alert' and easier to scare. This hypervigilance leads to physical ailments. Highlighted are fatigue; gastro-intestinal problems; musculoskeletal pains; sleep disturbances including insomnia and nightmares; and a panoply of functional autonomic symptoms, e.g. palpitations, urinary frequency, etc. While there is no quantifiable comparison amongst the groups affected; healthcare workers, patients or the general population, the CMHA paper implies that the level of psychological distress is greatest amongst the healthcare workers.

With China now reporting virtually no new cases of COVID-19, what the CMHA paper does not do is to address the psychological consequences in the recovery phase of the pandemic.

With no previous studies looking at a pandemic on this scale, some caution in the applicability of observations on local epidemics need to be applied when looking to address the potential longer-term consequences of COVID-19. Perrin et al (2) presents a review discussing preparation for an

influenza pandemic including the psychological and behavioural reactions. It is of course noted that the influenza and Coronaviruses are different. Both may be respiratory infections, but they are not identical, influenza is a known virus whereas Coronavirus is not and there currently is a much greater population vulnerability to Coronavirus. The population reaction must take into account the nature of the epidemic and its social context. Positive outcomes have been noted, including when there is an increased sense of religious faith in survivors and greater social cohesion.

Stating other studies Perrin notes several different reactions. There is anxiety and fear that can spread like a psychological contagion. Others include depression and PTSD. Also reported is post-infective stigmatisation, relating to the degree of blame that any individual or group of individuals incur for initiating the epidemic.

Perrin notes that healthcare workers are particularly vulnerable, because they will be conflicted between the duty of care to their patients, and to themselves and their families, whilst at the same time not removing themselves from danger. Many aggravating factors were noted but one worth mentioning is having to care for patients who were fellow healthcare workers.

Perrin discusses the role of quarantine. Stated is “However, mass quarantine can have significant social, psychological, and economic ramifications, and may not even result in the detection of many infected individuals.” One study showed that of those quarantined due to SARS in Toronto, there was an approximate 30% incidence of depression and PTSD. Extrapolating to the UK now, ‘Lockdown’ and social distancing is not as severe as quarantine.

Perrin makes a number of recommendations. These include:

- having a systemic psychological health care surveillance system able to gather data as the epidemic(pandemic) progresses
- the psychological surveillance system needs to be integrated seamlessly with the physical health provision
- the surveillance system needs to be longitudinal as emotional reactions can be delayed
- as services are introduced to meet the population needs, these should be evaluated in real time

Perrin makes one final pertinent point.

> “Pro-active mental health planning is essential and requires engagement of citizens in order to reflect priorities and values of the affected community. Without planning, the psychological and social toll of pandemic can turn that crisis into catastrophe. A proper plan not only will provide necessary public health relief, but also will facilitate recovery.”

One may wish to consider the degree of planning and preparedness of the United Kingdom and thus by implication determine the degree of psychological morbidity that will be more likely to occur.

When it comes to considering the UK requirement in the current pandemic, a collaborative survey was carried out by MQ: Transforming Mental Health and the Academy of Medical Sciences. (3) The survey was undertaken on two different population groups. The first were stakeholders, largely previous service users but also healthcare workers and researchers. The second was a sample of the

public. The questions were slightly different, but each asked about the person's concerns regarding the effects of Coronavirus on their mental well-being. The themes shared by both groups were:

- Anxiety
- Isolation
- Becoming mentally unwell
- Access to mental health support and services
- Family and relationships

While acknowledging they are what is uppermost in people's minds, they can only vaguely inform the public mental health needs.

Locally in Greater Manchester (GM) the Manchester Resilience Hub was established following the Manchester Arena attack in May 2017. It is care delivered by Providers across Greater Manchester. These are Pennine Care NHSFT, Greater Manchester MHFT, North West Boroughs MH and Manchester FT. In association with the Lead Provider, Pennine Care NHSFT, The Hub prepared a report. (4) The report, signed off by the GM MH Executive Board stated how it would respond to meet the anticipated local psychological needs of keyworkers across GM following the COVID-19 outbreak. This report highlights the distinction between the Active and Recovery Phases but acknowledges that this infection may appear in waves with the Recovery and Active phases overlapping several times. While the report focussed on the stresses that would be faced by healthcare workers, some of the impact is likely to be applicable to the wider population. This includes:

- The increased time to reflect
    - implying past upsets and regrets will not be curtailed by keeping busy
- Poor coping strategies becoming entrenched i.e. alcohol or substance misuse
    - Alcohol and cannabis are increasing
    - Lockdown appears to have impeded the supply chains of Crack, SPICE and heroin. The purity has decreased.
    - To limit daily attendance, larger quantities of methadone have been issued, which may not be in the addict's best interests.
- Chronic psychological difficulties
- Physical Health Problems

The concerns from all these papers paint a picture. There will be a population increase in anxiety, depression and other mental health disorders. There will be increased morbidity, particularly in 2 specific populations. These are patients who have recovered from a prolonged stay in ICU and from frontline healthcare workers. Both groups are expected to have significant numbers with PTSD. Healthcare workers are anticipated to show more physical illness, both pathological and somatic.

What will be described are the more expected specific mental health conditions, and why these are more probable.

Method

Despite there being an overall lack of direct evidence, general mental health principles relating to the aetiology and manifestation of conditions can be applied. So, while the above gives some indication, of what is to be faced, many of the likely outcomes can be predicted, or certainly

anticipated. Based on what we know is currently happening in Manchester and in the rest of the UK, what this document lists are my own thoughts of what may ensue, but supplemented by other contributions from other clinicians, each drawing on their own experiences. What is described is the collective informal thoughts brought together.

Mental Health issues manifest when the normal, healthy and usual coping means of people break down. They breakdown under stress. Any change of circumstances must be seen as a stress. While certain stresses may be overpowering, and in themselves lead to emotional breakdown, others may be more incremental and give rise to distress after an accumulation of stressful events. Not everyone has personal resilience to protect themselves from stress and changes in circumstances.

The United Kingdom like many nations is going through a national stress related to both the fear of self, friends and family being infected by COVID-19 and the local measures trying to curtail its spread. On a National level it is inevitable that there will be an increase in individual emotional breakdown with a concomitant increase in psychological morbidity.

For the purposes of this advisory document, the effects of COVID-19 have been sub-divided into four separate time periods. They are:

1. The Active phase: the peak of the infection and 'Lockdown'
2. The Early Recovery Phase, In the period once the infection has been controlled and immediately after the easing of 'Lockdown' measures
3. The Medium and Later Recovery Phases, i.e, longer term consequences
4. A prolonged pandemic course with Acute and Recovery phases coalescing

During the Active/pandemic phase

We have seen the social consequences of 'lockdown'. Some of these include:

- Work related stresses depending on the role.
    - The Self-employed losing their business
    - Some employees being told to work when not feeling safe
        - includes pregnant women, those with LTCs
        - threats of redundancy
        - Some threats towards 5G Telecom workers
    - Frontline NHS workers feeling unprotected and having to make decisions they were not trained for.
- Social isolation, particularly the elderly.
- Distancing within the extended family e.g. grandparents from grandchildren
- An Increase in abusive relationships and domestic violence. Being inescapably together there will be perpetrators with no other outlet for their uncontrolled frustrations and recipients with no avenue of escape.
- Effects on children not attending school.
- Increased anxiety in those already with MH services in which the topic being addressed is COVID-anxiety rather than the problem they were referred for.
- Current therapy being impacted because the priority has become to 'stay safe' and service users immediate need is a 'supportive hand' rather than formal psychotherapy.
- Paradoxically acute hospitals are reporting bed occupancies sometimes down to 50%. It has been necessary to protect those not acutely ill from developing hospital acquired COVID.

- Increased deaths amongst the elderly and in care homes. Some unexpected deaths in younger individuals.

It has to be acknowledged that for some, good emotional resilience will enable individuals to cope well; perhaps even having the opportunity to thrive. But the overall effect is expected to be negative. Below are the anticipated adverse effects that these social changes will have on the psychological well-being.

1. Very much higher levels of anxiety will be manifest.
    - Anxiety is the emotion of uncertainty. It is the not knowing that increases anxiety. The potential personal losses include:
        - Worries over one's own health, particularly if in a vulnerable group.
        - Worries over losing loved ones particularly if either elderly or a frontline NHS worker.
        - Financial worries including mortgage payments and earnings
    - Uncertainty from not knowing how long the lockdown will last.
    - Exacerbating pre-existing anxiety disorders. This is now being seen within the IAPT service.

2. Social Isolation. We need social contact in order to express our thoughts and feelings. Those such as the elderly and the physical LTC patients, who are the ones most in need of having physical contact for their well-being, are also the ones who need most protection from the Coronavirus, and are being urged the most not to have visitors. Furthermore, many in this group are not IT-savvy.

3. As a result of social isolation, potentially there will be more acute and chronic confusion in the elderly with or without manifest dementia. The elderly person's coping routines will break down. Compensated dementia will de-compensate. Expect an increase in the utilisation of elderly care mental health service. However, with an increase in deaths in this age group, including in care homes, it is also possible that in the short term there may be less pressure on the capacity in caring for the elderly.

4. A possible increase in psychosis as fake news and conspiracy theories will feed into sub-clinical thought disorders. This will be felt more in the CMHTs and psychiatry rather than in the IAPT service.

5. A reduction in an individual's sense of self-worth.
    - This may be due to not working, or not being able to help others, or not being part of the collective helping spirit.
    - A reduced sense of personal freedom. Personal self-worth is very closely associated with personal freedom.
    - I think we will see this as real, but by itself, it may not manifest in an increased need for services as this group usually will be of the view that others are more deserving.

6. Increased anger and hostility
    - Possibly as a consequence of not being able to otherwise express oneself.
    - Possibly aimed at those who are out of step with the public mood and everyone doing their bit.
    - Anger and hostility are often recognised by others first. This may be more noticeable by the police as they become aware of a different spectrum of crime, but some individuals may seek help to MH services.

7. Insomnia and disturbed sleep patterns
    - This will be mediated by increased anxiety and a change or loss of routine.
    - A lack of sleep will result in the deterioration of many physical and mental health conditions.
    - Within mental health services this is unlikely to be seen in isolation. Rather this will present to GPs who will need to assess the best approach

8. A change in the type of substance abuse seen
    - Alcohol and cannabis are increasing
    - Lockdown appears to have impeded the supply chains of Crack, SPICE and heroin. The purity has decreased.
    - To limit daily attendance, larger quantities of methadone have been issued, which may not be in the addict's best interests.

The immediate Recovery, post-Active phase

At the time of writing, there is no news on the 'exit strategy' from Lockdown. The government will need to consider very carefully the balance between containing the virus and preventing its widespread re-emergence; economic situations, both personal and commercial; and what the public will be able to tolerate. They are all clearly inter-related. The public's perspective will be reflected in the degree of the population's psycho-social well-being/morbidity. It will need to be managed well. With other factors being equal, considerations that will decrease the public health psychological well-being, and therefore create more demand on services include:

- prolonging widespread social distancing.
- a strategy that does not provides sufficient certainty
- needing to re-introduce social restrictions after its relaxation.
- how any message is delivered to the public

These are only being highlighted here so that commissioning managers may be aware of potential consequences. Uncertainty and vacillation will only exaggerate pre-existing psychological morbidity.

Once the exit strategy is known, the immediate emotional reaction may be relief, and a sense of having one's freedom back. There could be some very short-lived revelry with A&E departments becoming busy due to the consequences of excess.

At this stage a rise in any one particular physical or mental health condition is not expected. But the initial impact has been away from managing non-urgent medical cases. This in part may be a consequence of restructuring services, but the public too have shown reluctance to use the NHS for non-COVID conditions. So, while clinically every care will have been made to ensure that all urgent non-COVID cases are seen, inevitably there can be anticipated a number of significant consequences.

- A rebound upsurge of referrals for all the non-urgent conditions that would have been investigated and referred but were deferred until such time that Coronavirus was being satisfactorily managed.
- Impact of delayed diagnoses on physical and mental illness
    - Delays provide potential for conditions to deteriorate with increased complications, morbidity and distress
- Delays in elective therapies and surgery

These will apply to both physical and mental health. Without extra resource, a sharp increase in waiting times and not meeting referral to treatment targets is to be expected.

Longer term consequences, Recovery Phase

There is no precise demarcation time from the end of the immediate post-infective phase and the start of this one. From 3-6 months onwards is seen as a reasonable estimate. It is partly chosen to reflect a timescale whereby a mental health problem first becomes apparent to the individual, next for them to seek help from their GP and finally for them to access therapy. An increased demand on services is anticipated. No endpoint to this phase is proposed as it is suggested that if any increase in services can be sustained, it will be continued to address pre-existing unmet morbidity.

Everybody will have a story to tell, about how they were affected by the Coronavirus pandemic. For some the effects may be relatively minor or even positive. For example, it may bring couples and families closer together. But it may have the opposite effect. So, for many, living during this pandemic will be traumatic, harrowing and upsetting.

Here are just a few of the scenarios that are likely to require formal therapy.

- COVID-19 survivors
    - Post-(ICU/ventilator) traumatic stress disorder
    - Mortality anxiety
    - Survivor guilt (Others were more deserving to live)
- Family bereavement and grief.
    - There could be multiple griefs for several family members
    - Some deaths may be perceived as being preventable and unnecessary and therefore exhibit increased morbidity
    - Interruption of healthy grief patterns due to social isolation both during the ante-mortem and post-mortem phases
    - Some ethnic and religious groups have an ethic of a rapid burial of their deceased. Increased numbers of deaths in the system will put a strain on what is their cultural norm.
- Frontline healthcare workers
    - Personal trauma and moral injury
    - Constant exposure to a sense of danger
        - This may lead to increasing physical illness and symptoms
    - Emotional burnout, compassion fatigue
- Relationship and family breakdowns
- Unhealthy coping strategies
    - Increased substance misuse
    - Increase in smoking
- Child education
    - With education brought into the home for a period of time, the individual outcomes will be very much dependent on the atmosphere within the family. Adverse domestic situations, including parental stress could result in increasing childhood anxiety, impaired social development and behavioural problems
- Poverty, debt and socioeconomic vulnerability
    - These will undoubtedly feature strongly. Even pre-COVID, IAPT teams were already facing a large cohort of patients with financial and housing difficulties. These patients present with mental health symptoms due to their

personal circumstances. Economic forecasts suggest that economic recovery will take several years. Unless it is addressed, we can expect to see mental distress aggravated by financial and possibly housing concerns for quite a few years hence.

There are certain demographics groups that appear to be more susceptible to the harmful consequences of being infected from the Coronavirus. In addition to the elderly and those with pre-existing physical conditions, there is some evidence that suggests that ethnic groups with close extended family ties, e.g. BAME group, orthodox Jews, currently appear to be more affected from the physical effects of Coronavirus. How this will manifest in subsequent mental health problems is not clear. Nor is it clear how language barriers will impact on Post-COVID-19 mental Health.

While one could see a general increase in psychological morbidity and a lack of mental health well-being, one can anticipate an increase in the following conditions.

- Those psychological conditions arising as direct consequence of COVID-19
  - Depression
  - PTSD
  - Burnout/Exhaustion
  - Post-viral/Chronic fatigue syndrome
    - There does not appear to be any evidence yet from survivors to know whether this will be a problem, but theoretically there ought to be some cases.
  - An increase in chronic pain.
    - Chronic pain and depression are closely associated. Together there is an increased incidence of suicide attempts.
- Those conditions that have been created or aggravated by public information messaging
  - General Health Anxiety
  - Agoraphobia
  - Obsessive Compulsive disorder, specifically excessive hand washing
- Those conditions aggravated by coping with social isolation and other stresses
  - Drugs and alcoholism
  - Gambling addiction
  - Emotionally Unstable Personality Disorder
  - Self-harm
- Pre-existing sub-clinical psychological conditions that became clinical due to the emotional stress
  - This could be any condition, and it could affect any part of the mental health system.
  - A generalised increase in clinical emotional distress is likely to result in a pro rata increase in attempted suicide and self-harm.

A prolonged pandemic course with Acute and Recovery phases coalescing

Much of the evidence of the advice that the Government is receiving is coming from The Imperial College COVID-19 Response Team. They have projected a 20-month course of events that is based

on a transmission suppression strategy that is continued lockdown, intermittently interrupted with a five 1-month periods of relaxation. Threshold points have been set for both relaxing the lockdown when the number of ICU beds is below a certain level and reinstating lockdown when it has gone above a certain level. This timescale has been determined to allow the time for continuous transmission to give sufficient herd immunity to be reached or for a vaccine to be developed. An alternative to the intermittent cycles of lockdown and relaxation is a continuous less intense social distancing policy.

There is no clear end in sight. At the time of writing there are no researched estimates to the level of Coronavirus immunity in the community. Calculated figures based on assumptions and the number of known cases to date suggests this figure is still very well short of achieving herd immunity. It remains to be seen if a policy of contact tracing and quarantining will be decided and if it will help keep numbers of new cases down.

If there is any prolonged Active phase with associated counter measures, society will require to establish a modus operandi that is sustainable. For the NHS, it will be how to organise its workforce and its other resources. It may be that NHS structures, e.g. hospitals, or departments within hospitals will need to be considered in terms of their individual status to Coronavirus prevalence; e.g. certain areas will be designated as Coronavirus positive areas, and others at high, medium or low risk. High risk may be A&E departments. Low risk may be elective surgery wards.

Regardless, of the strategy, the effects on everyone will be psychological attrition. As the public's patience will wane, it is difficult to see the population tolerating the limitations for any prolonged piece of time. The public will be looser in their adherence to the current temporary social norm. For their own well-being they may feel the need to re-interpret the rules for themselves. Others may feel that for financial reasons, risking being infected, or infecting others may seem like the less perilous option than the complications of clearly impending major debt.

Unless contact tracing proves very successful what will happen is that there will be a steady stream of new COVID-19 infections. Even if somewhat reduced in numbers relative to the April 2020 peak, with or without prolonged social distancing, one can perceive the Recovery Phase conditions described above being heightened by both the longevity of the social disturbance and the continued anxiety from uncertainty. Thus, this scenario will see the Acute and Recovery Phase problems co-existing. It will require a different type of analysis to the one presented here to be more quantitative.

Considerations for the commissioning of services

Stress implies uncertainty, but uncertainty can also be an opportunity for change and change for the better. It is about seeing and then grasping that opportunity. In considering and organising services for the longer period it helps to be creative and to think wider than the obvious and immediate needs. Based on what is anticipated, I am presenting a few ideas.

1. Services for gambling addiction
    - A gambling addict is no less in need of therapy as those with other mental health disorders. There is a new service The NHS Northern, Gambling Service based at Salford Quays. Historically, this has been a very neglected condition. While there is no sport to bet on, there still are on-line casinos. Some people

bored at home may resort to gambling and create a habit. This is one certainly worth watching.

2. Aiming that post-COVID there will no longer be any homeless sleeping rough on the streets.
    - As I understand it, the Everybody-In scheme for the homeless has been a success and all except the claustrophobics, are now all staying in hotels. Hopefully social policy will promote their rehousing in a single step. It is a social example but nevertheless an important one with much to be gained psychosocially.

3. To bring forward and enable previously held thoughts and discussions addressing managing the social aspects of patients' psycho-social difficulties before attending for therapy
    - Hopefully, there will be additional funding to support the anticipated demand. Even if not, and prior to undertaking a cost-benefit analysis; it is anticipated that by promoting social prescribing and social support, and by easing the social aspects of those patients presenting to the IAPT service with psycho-social difficulties, space will be generated for the therapists to undertake therapy. This would benefit the existing caseload and any increased demand. Extra resource would support the social prescribing organisations to ease the strain on the IAPT services. Supporting trained social prescribers will cost less than more skilled mental health therapists.

Conclusions

The COVID-19 pandemic and the consequential social upheaval is having a major impact on the psychological well-being of the nation. There will be an inevitable increased requirement for mental health services. Specific clinical areas where there is likely to be greater demand are highlighted. These can only be considered as best judgements, but they are presented based on clinical experience.

This pandemic provides an opportunity to improve mental health services. There is a strong recommendation that whatever additional resource is made available that this is invested more in social prescribing and social support. The benefits to mental health service will be that social difficulties will be resolved elsewhere and prior to therapy, allowing for more appropriate and efficient use of the therapeutic mental health resource.

Mike Capek 7th May 2020

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