

COVID-19 VACCINES, BOOSTERS AND DOSES AND THE QUESTION OF ADDICTION

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Abstract

There is wide debate on a proper understanding of addiction anchored so far on whether addiction is a disease (that is, a pathological compulsion the individual cannot resist), or a matter of choice (that is, a matter of willpower and self-control). On the other hand, COVID-19 is a pandemic that is currently ravaging the globe since November 2019 when the first cases were reported in Wuhan, China. Today, COVID-19 has given birth to several variants forcing governments of nations, traditional authorities, among others, to call for vaccinations as a way of regulating its spread. Many have yielded to this regulation (the vaccinated) and others (the unvaccinated) have refused while very many others have stopped half way in the vaccination exercise, and governments have outlined certain mechanisms against the unvaccinated and half-vaccinated. The vaccinated are required to take boosters and doses to protect the effectiveness of the vaccine. Now the problem one stands to wonder about is that the additional booster could, in prospect, be an attempt to drive individuals into addiction (dependence on boosters and doses) to keep their immune system healthy. The question now is: what is the need for the booster after taking both the first and second shots; and with even the booster, one could still be affected by the virus? It is in this respect that the paper therefore sets out to explore the underlining addictive tendencies inherent in the management of Covid-19 through the vaccination series and the booster. The expectation from this paper is an analytical exposition that the vaccinated may be heading into addictive tendencies in the future where taking of boosters and doses becomes a compulsion for healthy immune system, as it concludes that the governments of nation-states should not only be immediate conscious but also future conscious about this. The paper shall adopt analytical and expository methods.

Key Words: Addiction, vaccinated, unvaccinated, Covid-19, Booster, Doses, Addiction

Introduction

Human history is characterized by varieties of challenges which Husserl referred to AS 'border lines or boundary situations' (Portuondo, 2016). Among these challenges are diseases and sicknesses under which COVID-19 pandemic is characterized.

Subsequently, in response, man as the most intelligent among the visible realities has always attempted to prove his humanism by intellectually engaging these existential challenges to proffering solutions to them. In the case of the COVID-19, a.k.a coronavirus, man has intervened by coming up with certain social measures, medical inventions like variants of vaccination, timing in taking the vaccination and even booster and even food therapy which have all today been referred to as the 'New Normal'. It is upon this that this paper focuses on the addictive tendencies inherent in these measures especially as they concern the medicals as pictured in the booster as an addition to the vaccination.

With the addition of booster to the two vaccination doses/shots to curb the intensity of affections of the COVID-19, one may begin to wonder if that is not indirectly encouraging and instilling, in the consciousness of the people, addiction! What are the health implications of the booster vis-à-vis addiction? Are there possible effects of all these medical intakes under different names and timings vis-à-vis human fertility, proper functioning of the body cells, sensitive parts like the brain as it concerns memory, liver, kidney, and generally the human person? It is in responding to these questions that the paper sets out to cross-examine the addictive tendencies in these vaccinations and booster and equally argues that absolute care must be taken in these medical administration and intakes.

Applying analytical and expository methods, the contribution of the paper is the analysis and exposition of COVID-19 as a pandemic ravaging the world at present, its social and medical management and the addictive implications therein its medical measurement.

The paper is structured under a summarily abstract, an introduction which attempts to expand the abstract, a section dialoguing the emergence, nature and management of coronavirus, another on the conceptualization of the virus (COVID-19), another on the COVID-19 vaccines, doses and booster and the addictive tendencies cum side effects, and finally a concluding section.

The Emergence, Nature and Management of COVID-19

COVID-19, also known as coronavirus is a novel human disease that has spread globally to become the fifth documented pandemic since the 1918 flu pandemic (Moore, 2021). The World Health Organization declared the venomously widening 2019-nCoV outbreak as a public health emergency on 30th January 2020 and as a pandemic on March 11th, 2020 (<https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov>). In the first months of COVID-19, global health authorities, government agencies, and the public were unsure of how the disease would spread and how it would impact everyday life.

Globally, strict measures were put in place around the world to curtail the spread of the virus. Social distancing, travel restrictions, advice on proper hand-washing techniques and ways to sneeze in public were introduced. These measures were predicted to only slow the spread of the virus as scientists believed that in order to overcome the pandemic, a vaccine needed to be developed (Cyranoski, 2020). However, the introduction of

restrictions was helpful because cases of the virus and consequent hospitalizations and deaths dropped in affected countries. But like a noon day about to be struck by unwanted darkness and doom, early 2020 witnessed emergence of variants that posed increased threat to public health.

Research showed that the virus that causes COVID-19 is SARS-CoV-2 and that it changes over time having little or no impact on the virus properties, such as how it spreads, the associated disease severity and so on (<https://www.who.int>). The first VOI (variant of interest) was the Lambda variant which has spread to at least 29 countries. Another was the Alpha variant (the first VOC-variant of concern) which has evolved mutations that help it to evade immune detection and accelerate its transmission, and which is more significant than the original virus because of how fast it spreads around the world. The discovery of these variants was significant because it showed that the virus was evolving thereby causing changes in symptoms and disease outcomes. According to evidences so far gotten, the Alpha variant may pose a heightened risk of poor COVID-19 outcomes (Liu, *et al.*, 2020). Aside this variant, there are also the Delta and Omicron variants (Ellyatt, 2021). The Delta and Omicron have similar mutations found in Alpha but these are even more aggressive in transmission even though Delta remains the dominant variant worldwide. As a scientist, Zuliani-Alvarez noted, “the virus will keep evolving and adapting to the host and every time it will adapt better and better.” It should be noted that development of vaccines were based on studies around the VOCs because scientists believe that these give us ideas about how SARS-CoV-2 evolves (Marks, 2021). In March 17, 2020, the first COVID-19 human vaccine trials began with the Moderna mRNA vaccine (Cortegiani, 2020; Luo, 2020) and by November 2020 vaccinations (Pfizer, BioNTech, Moderna, University of Oxford and AstraZeneca) were developed in record time. (<https://www.who.int/news/item/31-12-2020-who-issues-itsfirst-emergency-use-validation-for-a-covid-19-vaccine-and-emphasizesneed-for-equitable-global-access>). As at 27th April, 2021, one billion COVID-19 vaccine doses had been administered as many hoped that a continued roll-out of vaccines in all countries is vital to bringing the pandemic under control and preventing future outbreaks (Moore, 2021). This paper will seek to make the case that the vaccinated might be heading into addiction.

Conceptualizing Addiction

Addiction can be described as a phenomenon that is a puzzle, a paradox and a slippery concept because definitions and classifications in diagnostic systems are prone to changes according to cultural, political and scientific developments (Berridge, *et al.*, 2014). The National Institute on Drug Abuse (NIDA) defines addiction as “a chronic, relapsing brain disease that is characterized by compulsive drug-taking and use, despite harmful consequences. It is considered a brain disease because drugs change the brain—they change its structure and how it works. These brain changes can be long lasting and can lead to the harmful behaviours seen in people who abuse drugs” (Frank and Nagel https://www.ncbi.nlm.gov/pmc/articles/PMC54864_99/). Also, the Diagnostic and Statistical Manual of the American Psychiatric Association asserts that addiction usually involves compulsive drug-taking behaviour. Consenting to these definitions, Carl Elliot (2002) argues that the addict is no longer in full control of himself, and as such, must go to

where his addiction leads him because it holds the leash. Thus, the initially voluntary behaviour of drug-taking gradually transforms into involuntary drug-taking. Ultimately, the addict reaches the point where the behaviour becomes driven by a compulsive craving for the drug (in this case, Covid-19 boosters).

The scientific discourse about addiction has been dominated by two models: the 'disease model' and the 'choice model' (Uusitalo, 2013; Henden, 2013). The choice model holds that addictive behaviours are governed by universal principles of choice and motivation. The choice model has been referred to as the successor of the moral model of addiction (Kenett & McConnell, 2013) where addiction is considered a moral failure and addicts could be perceived as people of bad character (Pickard, 2017a). In contrast, the disease model follows a disease-like course, with behaviours that have taken hold of the person (so-called compulsive actions). A modern version of the disease model is the view that addiction is a brain disease (Kenett & McConnell, 2013). The brain disease model holds that neural processes and chemical reactions following repeated intake of drugs cause lasting brain changes so that the reward system is hijacked; it equally governs the motivations behind addictive behaviours. This model has recently been challenged from a number of perspectives (Heyman, 2009; Henden, *et al.*, 2013; Lewis, 2015; Pickard, 2017b; Heather, *et al.*, 2017). Recently, several authors have argued in favour of views that place addiction somewhere in the middle of a continuum between non-voluntary behaviour and voluntary actions (Henden, *et al.*, 2013; Holton and Berridge, 2013; Heather, 2017a). This middle ground involves excusing conditions for addictive behaviours, meaning that there are strong forces at play that are difficult, but not impossible to resist (Levy, 2011; Pickard & Pierce, 2013).

For the present paper, not that the disease model bypasses the addict's will, but that even with the addict's willpower intact, the individual moves towards taking boosters (Levy, 2006). If addiction is considered an appetite, it becomes evident that addicts are generally competent in decision-making in this respect. Addiction, is not, thus, anything that would absolutely and categorically deprive the addict from all the other possible ways of acting, unless appetites necessarily amounts to that. Nonetheless, even if the addict can act differently in this sense, it does not rule out the possibility that the addict may be compelled to follow his addiction (boosters) in some sense (for instance, the will to stay healthy and alive). In taking this line of argument, the paper considers the logic of Suzanne Uusitalo (2011) who argues that even though addicts are described in terms of not being able to control their addiction (that their action is compulsive), addiction in general is not compulsive, as addictive behaviour is not something in which people absolutely lack choices. Besides, it is not absolutely impossible for the addict to choose not to satisfy the addictive desire. So, even in the vaccinated people's addictive tendencies, they also wield the willpower to decide whether to take the boosters and continue taking it or whether not to receive the boosters and face the consequences.

Thus, the kind of addiction that is of interest to this paper involves one in which an individual would indulge in some particular behaviour (taking boosters) whether the behaviour has a positive or negative impact on his own health and or wellbeing, and the

wellbeing of those around them. These behaviours may lead the individual into treatment or a recovery program. And evidently, the COVID-19 vaccines and boosters lead one into treatment and recovery programs. The world started out with one doze of boosters and today it is talking of four boosters and nobody knows when the fifth will arise and the number keeps rising. There are presumably many addicted people who do not have any intentions to alter their behaviour (Walker 2010). In the same manner, it surely appears that the vaccinated who do not accept that they could be heading into addictive behaviours do not at present see any need to alter their behaviour (of taking boosters). Perhaps, when they realize that there is need to alter their behaviour, it might become too difficult because of their desire to stay alive through intake of boosters, or possibly under compulsion to engage in drug-taking (boosters) because of the hijacking of their brains by the chemicals used in producing the COVID-19 boosters and doses. Being an original paper fundamentally addressing the reality of situation regarding the high rate of intake of hard drugs among the people especially youths and public figures especially in the entertainment and sports industry, there should be a high fear and threat of addiction in the intake of these vaccines and boosters. Weather as another factor enhances intakes of hard drugs where the people in a society of constant low temperature are driven to the continuous intake of such vaccines and boosters in order to maintain a certain level of constant temperature in order to escape being infected. Moral decadence and erosion of the value system which today instil in the mind of the people some level of social abnormal characters of intake of certain toxic substances all in the name of trending value and attempting to belong to the civil class but ignorant to the detriment of their health and well being are factors to be considered when the issue of demand of taking vaccines and boosters from time to time in the prevention attempt of COVID-19, is brought to the table. These realities are factors to be afraid of, which could facilitate the attempt to addiction having been living in a situation that its social principles ease and enhance addiction (Ugwu and Ozoemena, 2019a, 2019b).

From this lens comes the validity of Levy argument (2015) that pharmaceuticals currently in widespread therapeutic use are already having unintended effects on processes (such as cognitive, affective and motivational). In recent past, there have been attempts to develop pharmaceuticals designed specifically to enhance normal cognitive, affective and motivational processes. Some scholars have expressed worry over these pharmaceuticals basing their argument on the ground that these may be used to enhance human beings in ways that are unacceptable because they conflict with reasonable social norms and manner of behaving. Again, they raise significant concerns about social justice, and because they may have serious side effects and for other reasons (Fukuyama 2002; Kass 2003; Sandel 2007). At this point, it could be seen the rationale behind the scholarly criticisms against these pharmaceuticals especially the ones designed to morally enhance human psychology/behaviour (Harris and Chan 2010; Harris 2011; Harris 2012; Sparrow 2014). The essence of Levy's work was to motivate others to engage in the scientific and normative work of further exploring these effects, investigating other drugs (Covid-19 vaccine and boosters inclusive) for similar effects, and examining the ethics of using drugs that have these effects. Levy (2014) mentioned examples of cognitive enhancers to include modafinil, atomoxetine and methylphenidate. On examination, Levy found that

pramipexole and some other dopamine agonists used to treat parkinsonism also produce pathological gambling and hypersexuality in some people, as well as more rarely, to induce extreme paraphilias as noted by Bostwick, *et al.* (2009) and Wolters, *et al.* (2008).

Covid-19 Vaccines, Boosters/Doses: Side Effects and Drive towards Addiction

COVID-19 vaccine is a drug developed to help an individual's body immune system to fight against the virus. A COVID-19 booster shot is an additional dose of a vaccine given after the protection provided by the original shot(s) has/have begun to decrease over time. This additional dose was originally called a 'third dose', and is given to people with moderately or severely compromised immune systems to improve their response to the initial vaccine series. 'Third dose' was itself first used to refer to additional doses from the two mRNA vaccines but, now called 'additional dose' because persons who received Johnson & Johnson (J&J) vaccine 'one dose' may also be eligible for a dose based on their immune system. Typically, an individual gets a booster after the immunity from the initial dose(s) naturally starts/start to wane. The booster is designed to help people to maintain their level of immunity longer. These COVID-19 vaccine boosters and additional doses have been authorized by the U.S. Food and Drug Administration (FDA) and recommended by the U.S. Centres for Disease Control and Prevention (CDC) for certain people. These include persons who are 18 years or older and have received the (J&J) vaccine at least two months before; persons who are 18 years or older and have received both required doses of the Moderna vaccine at least six months prior; persons who are 16 or older and have received both required doses of the Pfizer-BioNTech vaccine at least six months prior. The Pfizer-BioNTech vaccine is the only vaccine and booster authorized for people ages 16 and 17. Additional dose is also recommended for persons receiving active cancer treatment for tumours; persons who have received an organ transplant and taking medicine to suppress the immune system; persons who received a stem cell transplant within the last two years and are taking medicine to suppress the immune system; persons diagnosed with moderate or severe primary immunodeficiency; persons diagnosed with HIV and have a high viral load or low CD4 count, or are not currently receiving treatment; persons who are taking drugs like high-dose steroids or other modifications that may cause severe suppression of the immune systems (Kelen 2021).

According to the World Health organization (WHO), the vaccines are safe; and getting vaccinated will help to protect one against developing severe COVID-19 disease and avoid death eventually. For WHO, the vaccines are therefore designed to give persons immunity by increasing blood flow so that more immune cells can circulate and raise an individual's body temperature in order to kill the virus. First mass vaccination programme started in early December 2020. However, there are reported cases of side effects to COVID-19 vaccines which the WHO reports have mostly been mild to moderate and short-lasting though. The WHO regards these as signs that an individual's body is building protection against the virus. These side effects include but are not limited to fever, fatigue, headache, muscle pain, chills, nausea, diarrhoea, pain at the injection site, severe allergic reactions, such as anaphylaxis, bell's palsy (temporary one-sided facial drooping), enlarged lymph, unwell insomnia, difficulty in breathing and myocarditis (inflammation of the heart). Some side effects as observed may even temporarily affect an

individual's ability to drive or use machinery. Notably, these effects may differ according to the specific vaccine. More worriedly, series of clinical trials have also shown the possibility of more serious or long-lasting side effects (<https://www.health-govt-nz/our-work/diseases-and-conditions/covid-19/novel-coronavirus/covid-19-vaccines/covid-19-vaccine-side-effects-and-reactions>, <https://www.who-int/news-room/feature-stories/detail/side-effects-of-covid-19-vaccine>).

Experiencing side effects after drug-intake is often a normal occurrence and so it can be accepted that experiencing side effects after getting vaccinated means that the vaccine is working, and immune system is responding as it should. However, in recent times, there have been reports of the vaccinated getting sick again with COVID-19. Mikel Arteta (Arsenal FC head coach) and many others are examples (BBC News). In response to this occurrence, the WHO says that after vaccination, it usually takes a few weeks for the body to build immunity against SARS-CoV-2 and this creates the possibility of a person to be re-infected after vaccination. Consequently, the person will require treatment programmes and boosters or doses which is the claim of the proponents of disease model of addiction. It can now be seen why the paper considers COVID-19 management and treatment as having the tendency to lead the vaccinated into addiction because of their dependence on boosters and doses from time to time as the need arises. Besides, WHO admits that there is currently no evidence that people who have recovered from COVID-19 are protected from re-infection since they do not know how long the antibodies developed by people who get COVID-19 last and even add that the current vaccines are not as effective when it comes to protecting an individual from catching newer variants (WHO, <https://who.int>). In the words of U.S Food and Drug Administration (FDA) and US Centres for Disease Control and Prevention (CDC) officials, these doses are '*booster shots*', a term that suggests they will need to be regularly repeated to maintain protection against SARS-CoV-2 infection. In fact, Moderna and Novavax, have announced that they are working on combining COVID-19 and seasonal influenza shots, which would make an annual booster against SARSCoV-2 more convenient (Rubin 2021).

In another dimension, one who lives with anxiety might start drinking to cope with stress. Overtime, this person would become reliant on alcohol, which would increase anxiety and push them further into substance use. In the same manner, the vaccinated overtime might become reliant on boosters and additional doses in order to protect their immune system against the virus. This no doubt is a disease as said earlier that demands treatment programme as argued by the disease model of addiction and which will consequently drive the vaccinated into substance use. This may be a speculation but all science begins with speculation or hypotheses. Presently, no research or study has been conducted or is known by the researcher that looks at how vaccines might affect the vaccinated in the case that even more subsequent doses will be needed. So, while the globe seeks immediate ways to manage and respond to the spread of COVID-19, there is also urgent need to consider the tendency of these vaccines and doses driving the vaccinated into addiction because only time will tell whether COVID-19 vaccines require periodic boosting.

Conclusion

Much can be learned from the story of the COVID-19 pandemic, and many lessons hoped to be learnt will prepare one for future infectious disease outbreaks; and equally prevent potential future pandemics (Moore 2021). This article indicates that the vaccinated may be heading into addictive tendencies in the future where taking of boosters and doses become a compulsion for healthy immune system. The paper therefore concludes that the governments of nation-states should not only be immediate conscious but also future conscious. This motivation applies also to the scientists and stakeholders who are encouraged to research more on the future effects of the COVID-19 vaccines, boosters and doses.

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