The influence of the advertising medium on consumer behavior in pharmaceutical products after the coronavirus crisis

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Abstract:

On 11 March 2020, the WHO characterized the latest 2019 coronavirus disease (COVID-19). This pandemic had substantial effects on the health and pharmaceuticals industries and could have significant impacts in the short and long run and could need to be detected and prepared in order to reduce their societal burden.

The present short-term contact studying analyses the pandemic's short-term and longer-term impacts on the pharmaceutical industry. The review explores the epidemic in the COVID-19 era. The short-term consequences of the COVID-19 pandemic include improvements in production, updates to legislation, changes of research and development procedures, and transitions to telecom and telemedicine. Moreover, slowing down business expansion, delays in the acceptance of the supply chain, progress towards self-sufficiency in the pharmacy industry and pattern shifts in health consumer use and ethical challenge can be expected as long-term impacts on the pharmaceutical industry at global and local levels of the COVID-19 pandemic.

The COVID-19 pandemic presents big problems on health markets, including pharmaceutical industries; and its recognition will direct politicians towards more evidence-based plans to resolve ensuing concerns.

Keywords:

Advertising, consumer behavior, pharmaceutical products, coronavirus, spirituality, economic crisis, utility, consumption

Introduction:

Pandemics are not necessarily a recent phenomenon, since they have been documented since ancient times, narrowly connected to the present modern societies. The big changes in fiscal, regional and global laws, social behavior and the minds of people have been prompted by each pandemic. The institutionalized ones are the most critical improvements (preserved over the medium and long term). [30]. By comparison, the least well maintained changes are due to the manner in which systems are modified and social behavior[31] are not adequately associated and reinforced in the way of public policy through psychosocial changes [32]. COVID-19 has triggered crucial changes at all stages of modern culture as has any other pandemic [34]. The pandemic has infected every State; continents; regions; urban and rural community; families; and finally, human thought and lifestyle[35], and we can never return to normality until COVID-19 [36,37].

Problem statement:

Each historical pandemic has also had immediate impacts on social human primary reactions, as they directly impact health, financial certainty, quality of life, and food safety [38]. For example, the economic equilibrium, the supply chains and malnutrition suddenly broke out when Cholera or Spanish flu struck [39]. Whereas there are special variations, COVID-19 essentially matched the same profile. These days, with the exception of the underdeveloped and emerging countries, there have not been substantial negative repercussions in food security. Meanwhile, developing economies faced no significant global food security issues [40,41]. Individual issues, in particular for individuals with low and very low wages, were inherently present [42]. However, food hygiene problems have become food safety concerns as developing countries' general interest has become topics like healthier eating.

Research objectives:

the demographic source of disease extends in all pandemics. In the Middle Ages , people who survived the disease would spread the pandemic from one region of Europe to another [39]. The American population was decimated by the diseases introduced by European explorationists, who lacked any hereditary immunity to Europe's infectious diseases (the first globalisation was the propagation of viruses in this situation, says Tzvetan Todorov) [43]. The Spanish hold is spreading primarily through soldiers from the WWI (when they returned home in 1918, they spread the pandemic worldwide) [44]. The pandemic of COVID-19 was primarily caused by population density [45, 46], high human migration, mass socialization, cultural, social and tourism activities. The activities of most countries worldwide have thus resolved problems such as quarantine and exclusion, the increased social division

of the population as well as economic separation between different states or territories, and between separate economic sectors [47]. This impedes the relationships between food systems that take into account any step of the processing and distribution of foodstuffs**.**

Literature Review:

The new coronavirus disease (COVID-19) in Wuhan, China was detected in December 2019 and named. The COVID-19 epidemic was identified by the World Health Organization (WHO) on March 11 as a global pandemic. COVID-19 spread exponentially across the world in subsequent months and reached approximately 2.5 million by April 23, 2020 [1]. The pandemic of COVID-19 influenced the global economy , particularly pharmaceutical industry. The drug sector is helping policymakers solve unmet needs of COVIC-19, from research and development activities to balance the supply chain of crisis-strength drugs, though no final cure for this emerging infectious disease exists. Those pharmaceutical companies fail, in the meantime, to sustain the flow of natural markets, provided that the recent pandemic had an impact on access to critical pharmaceuticals at an reasonable price [2]. In addition to evaluating the problems faced by the world pharmaceutical sector in developed countries because of their diversity, the condition study of that sector may have further implications on the pharmaceutical market. Actually, more than half of the active pharmaceutical ingredient (API) is manufactured in India and certain European and Eastern European enterprises supply the remainder with reputable firms from India , China and, in some cases [4]. A serious problem for the pharmaceutical industry is the reliance of the production of medical supplies on the import of raw materials from countries like China, impacting COVID-19.

By April 28, 2020, the SARS-CoV-2 infections had reached 0.9 million[7], which corresponded with the world adjusted figures with a mortality ratio of 1.38 percent. The gross average hospitalisation rate for COVID-19 was < 0.1% in 10-19 years of age to 4.3% in 40-49 years of age and doubled in 50-59 years to 8.2% based on global statistics [8].

Methodology:

COVID-19 effects on the pharmaceutical market both short and long term.

COVID-19 is called the hope of the pharmaceutical industry for a 100th century; the market for prescription drugs, vaccines and medical devices has grown. This may be seen as one of the primary short-term effects of the COVID-19 epidemic; but it would have longer and longer-term effects:

Short-term impacts Improved technical and research and development systems can be seen as short-term consequences of COVID-19 on the health market as demand increases, supply constraints, panic buying and stockpiling, changes in legislation and transitions of connectivity and advertising to the remote interactions (R&D).

1. The resulting market shift may be due to the pandemic (COVID-19) and also to the lack of consistencies of supply-chain requirements in the event of induced demand and panic purchases of oral medicines, especially for chronic diseases.
    - COVID-19-related, which leads to the resulting shortages of prescribed drugs. An increase in hospitalizations, a pneumonia outbreak associated with COVID-19, and increased demand for fan assignment patients. A medicinal lack is described as "a supply problem that affects how a medicinal product is packaged or dispensed or that affects patient care if prescribers have to take substitute medicinal products" [9]. Many regulatory bodies worldwide have announced a reported list of shortages including possible treatment for COVID-19 as well as related pneumonia. A scarcity list of US food and drugs administration includes anti-COVID-19 possible medication remedies, azitrome, dopamine, dobutamine, opioid, heparin, midazolam, propofol and dexmedetomidine, for instance, for the US Food and Drug Administration (FDA) and commonly used medicines for VIC-19 admitted patients with respiratory signs in critical care centres, azithromycin [10]. Moreover, an 11- medication series has been announced in the American Society of Health Systems Pharmacists (ASHP), which primarily included antibiotics at the hospital level as well as anaesthetic drugs; including meropenem, ceftacide, ampicillin and doxycycline as antibiotics and vecuronium; rocuronian as anaesthetics. In this list, albuterol and fluticasone used to clear airways in the lungs were also included [11].

      On the global scale, medicine access, retail, and hospital levels and form differentiated effects on medicine shortages. The use of drugs under study in studies that are not yet officially licenced by FDA or so called research therapies, eight times more commonly used in hospitals and have been double-decreased over the past month, including hydroxychloroqueine, lopinavir + ritonavir, tocilizumab and sarilumab [12]. The COVID-19 drug in hospitals, including cardiovascular, sedative and pain therapy, has grown from 100% to 700% since the beginning of January [12]. At the local level, sales estimates for food and drugs (IFDA) suggest that HQ, QC and lopinavir + ritonavir have 2 times and 23 times their monthly trade volume; however, the list of emergencies in the IFDA has not recorded any lack of the above-mentioned drugs or drugs needed by COVID-19 pneume dependent

patients. The other factor was the government's monetary allocation of medicines required for the import of COVID-19.

This associated scarcity of COVID-19 has had an effect on the health industry of surgical equipment and personal shielding equipment, including covering lenses and visors, protective nose equipment and protective clothing and gloves. The European Commission (2020/403 of 13 March 2020) gives one example at global level of market access and export limitations for PPE and selected medical devices [13]. In addition, the process of awarding emergency medical equipment licences was streamlined by forwarding it to the online contact system and by initial clearance within one business day to speed up the distribution and also to decrease the amount of face-to - face visits. Customs steps to tackle this pandemic included a ban on goggles, surgical vests, handkers, disinfectants, soap, detergents and alcohol, as well as the issuing of clearance permits for coronavirus and dressage exemptions linked to manufactured products [15]**.**

- Induced demand and panic purchase: Induced public stockpiling demand called 'panic purchasing,' may result in a regular market shortage, in particular for medicinal products with chronic diseases. Studies have shown that demand for chronic disorders in the global pharmaceutical market was estimated at +8.9 per cent by March 2020, due to mainly 'panic buying' medicines [16]. Studies in the US showed that asthma medicines grew 65% from 13 to 21 March 2020, with type 2 diabetes medicines up 25%. In the same way, the number of claims have rose considerably in drugs treating high cholesterol, migraine and thyroidism [17]. Excess purchasing in USA even amounted to 0,6%, 0,3%, 0,4%, 0,4% and 0,1% for hypertension and diabetes, respiration and mental wellbeing as well as terror [12]. The panic buying situation has been somehow handled in Australia by a one-month supply regulation for prescription drugs [18]. In Germany, the BfArM issued an allocation request for storage and demand-driven procurement of human medicines on March 2020. The German Institute of Drugs and Medical Devices published the order. The delivery order asked pharma and wholesalers to not have drugs above regular demand [19]. In comparison, in some countries the "stay at home" order may have contributed to decreased demand, but retail pharmacies stated only informally because of the absence of such legislation.
- Lack of supplies of active pharmaceutical ingredients (APIs) and finished products: the world's largest sources are China and India, primary starting materials (KMIs) and finished medicines. As the epidemic struggles and the development downturn can also lead to shortages and fluctuations in costs for important prescription drugs, including antibiotics. This is especially

important in the case of non-substitutional core APIs like amoxicillin, clavulanate potassium, ceftriaxone potassium sterile, meropenam, vancomycin, gentamycin, and ciprofloxacin. In India the Indian Pharmaceutical Alliance (IPA) urged the government to limit only domestic use of all pharmaceutical goods and APIs. The lack of API or bulk pricing in Indian party trades has already started to influence. It has been shown that the average rise is around 10-15%, in some cases can reach 50% [20].

At global level, FDA and the European Commission have proposed and released regulations based on both optimization of demand and rational supply [21] in order to deter shortages. These amendments to the legislation:

- COVID-19 prescription approvals in fast-track; this is for inclusion in and registration of the Medicines List (IML).
- Compulsory licencing for future treatment of the COVID-19; moreover, this applies in the form of countries which are members that cooperate with the rules on intellectual property and are not subject.
- More import regulation to sustain integration of the supply chain; but this regulation is not subject to current context.

However, as about 5% of overall selling volumes and 30% of sales value of finished pharmaceuticals[6] and about 50% of the API are imported to the country[4], this shortening of the form would have an effect on the local pharmaceutical sector, again because of an excess of stock dependent on economic and political uncertainty**.**

2. Distanced social vigilance, marketing and promotion of health-cares is being transferred to supplier from face to face for distant connections and telecommunications; advertisements and assistance are being shifted at the international and local level, by social distance safeguards .. The number of patients attending medical clinics in the USA has fallen by 70 to 80% [12].

   the Telemedicine Insurance Coverage is first governed by the High Insurance Council in May 2020. This could lead to long-term health industry behavioural improvements**.**

Results:

Includes market updates, legislative improvements, changes in the research and production processes and transitions to tele- and telemedicine, which are the short-term impacts of COVID-19 pandemics. Furthermore, slowing down business expansion, delays of clearance, heading towards self-sufficiency in the supply chain for pharmaceutical manufacturing, and pattern shifts

in health-market consumption along with ethical dilemmas can be expected to have long term consequences of COVID-19 pandemic in both the global and local pharmaceutical industries.

Discussion:

HCQ is available through the manufacture of local goods, with a price of $0.1 and a total number of 5 active vendors, and is being tested in 64 COVID-19 patient MOH clinical studies. Included Locally as a high risk additive for patients with COVID-19 as the CQ or HCQ protocol (additive to CQ or HCQ)[22] and available through generic import from Indian providers at a reported cost of US $0.82 per unit) CQ, also available at the local manufacturer price, is the intervention arm for 29 Saudi Arabian MOH trials and lopinavir / ritonavir. Moreover, several clinical tests have been done to test medicines not found in IML; favipiravir and remdesevir are identified. Favipiravir is undertaking a pharmaceutical and stability study in three MDM-supervised trials and in the aforementioned pharmaceutical policy three local factories perform. Remdesivir is now under clinical study, which is an antiviral in the first steps of drug production MOH-registered clinical studies [23, 24]. On 1 May 2020, the FDA approved this substance for the emergency care of chronically ill patients hospitalised [25]. Furthermore, pseudo-research and industrial investments in drugs, described in the near future as non-effective, could ultimately be a major burden on the health system. There is no doubt. Inside the enthusiastic judgments on use of treatment plan, ethical issues on the basis of findings of these pseudo-research must be addressed [26].

Long-term impacts Long-term impacts of COVID-19 may be considered as long-term consequences of shortages, step towards self-sufficiency in pharmaceutical supply chains, a decline in manufacturing development and potential pattern shifts in usage.

1. Delayed prescription approvals for non-COVID products; all countries, under crisis pressure and COVID19 management as a priority, allowance deadlines could be detected due to the postponement of several months of compliance reviews. the economic downturn has triggered tremendous retardation for IML inclusion, enrollment and reimbursement decisions, and could make it as far as possible. The semi-closure of regulatory agencies for approximately one month is also affecting.
2. Moving to autonomy of the pharmaceutical industry. Future deficit due to export prohibitions in India and China, which are the major API and generic manufacturers, caused governments of a variety of countries to recognise the autonomy of the supply chain [27]. The European Commission issued a new guidance on foreign direct investment and the free flow of capital from third countries in March 2020. In that regard, it declared that foreign investments,

particularly those impacting health markets, must be subject to risk evaluations within the European Union (EU) in order to prevent damaging implications for the EU's ability to cover its health needs. [28].

3. Slow-down in the pharmaceutical industry; the coronavirus pandemic has resulted in economic slowdowns in many nations, likely leading to a slow-down in pharmaceutical sector development that are vulnerable to the economic growth of the countries. The fact that newer drugs are released adds to this sluggish demand growth. Due to shifts in their portfolio in the goals of pharmaceutical firms. It can, however, be remembered that the health sector was less susceptible to slow economic growth in prior recesions and did not always follow this pattern [29].
4. Ethical considerations: The use of improperly evidence-centric treatments is one of the long-term consequences of the health science connected to the ongoing pandemic. In their use as an off-label, ethical concerns should be considered [26]. The long-term therapeutic implications of using these techniques should be studied in the years to come and health care professionals should decide about how to apply these procedures in clinical practise on an off-label basis.
5. Consumption trend changes in health-related products: Change in consumption and reconstitution practises, especially in therapeutic areas for chronic diseases; and the emerging telemedicine may also be affected further.

   The preservation of the personal hygiene of the public is currently concerned with the prevalent use of nose / mouth safety, ambient anti-infection material, clothes and hand sanitizers. This intake will linger in collective activity nationally and locally as a consequence of the prolonged pandemic.

   The short- and long-term consequences addressed in this paper can be found in several studies from worldwide developments [12, 30, 31] and those impacts can be expected by increasing COVID-19 prevalence in countries such as Africa. Table 1 indicates the impacts recorded.

Table 1 The world-wide reported short- and long impact of COVID-19 on pharmaceutical sector

Impact		Middle-East [31]	EU5 countries [30]	United States [12]
Short-term Medication shortage due to induced demand	COVID-19 related	+10.8%: OTC category (cold, cough). +403%: Personal hygiene +67%: ICU medications	+10.8%: OTC category (vitamin-- minerals,) Investigational treatments have seen a 2-fold increase. +62%: Personal hygiene	Investigational treatments have seen a 2-fold increase.
	General (panic buying)	+23%: Lipid lowering +40%: Anti-diabetes +29.1%:Anti hypertensives	+7.0%: Highest volume growth in ATC N class of RX-category in Spain	Medicines used in hospitals for the treatment of COVID-19 have increased between 100% and 700% since the beginning of January. 7, 6, 5, 4 and 2 million excess prescription in hypertension, mental health, respiratory, diabetes and anxiety
	Supply shortage	Medicines for chronic diseases are at high risk of shortage or supply chain		Supply shortage of both active APIs and finished products (About 40% of APIs for the U.S. generic drug market come from India) Supply shortage of the COVID 19 related complications treatment
R & D shifts		156 clinical trials are running for COVID-19	140 clinical trials are running for COVID-19	
Shifts towards tele-medicine		WhatsApp calls is the most preferred digital channel for both patient consultation and communication with peers Digital channel has wide adoption with over 75% of physicians but physicians prefer traditional F2F communication	320% increase (v. PY) in remote interactions in Spain. The corresponding increase in Italy (v. PY) was 471% 51% decline in specialist consultations and 25% decline in GPs visits	70–80% reduction in the number of patient visits to doctor offices Tele-medicine growth accounts for 23% of interactions
Long-term Approval delays (non-COVID-related products)	Shifts towards self-sufficiency in pharma industry	WhatsApp calls is the most preferred digital channel for both patient consultation and communication with peers Digital channel has wide adoption with over 75% of physicians but physicians prefer traditional F2F communication Clinical trial 8% delay existing enrolment 16% delay new trials only 32% delay new trials and existing patient enrolment	320% increase (v. PY) in remote interactions in Spain. The corresponding increase in Italy (v. PY) was 471% 51% decline in specialist consultations and 25% decline in GPs visits Pharma companies report delay in new trial starts Product launches delayed, disrupted or impacted Direct investment and free movement of capital from other countries	70–80% reduction in the number of patient visits to doctor offices Tele-medicine growth accounts for 23% of interactions

OTC Over the Counter, *ICU* Intensive Care Unit, *ATC N* Anatomical Therapeutic Chemical Classification Nervous system, *U.S.* United States, v.

PY: versus Previous Year, *F2F* Face-to-Face, *GPs* General Practitioners, *APIs* Active Pharmaceutical Ingredients, *R&D* Research and Development

Conclusion:

The international COVID-19 pandemic can be related to multiple short- and long-term impacts on the health markets , particularly the pharmaceutical industry. Identifying these effects will allow leaders to overcome related problems in evidence-informed planning and decision-making. Short-term effects should be identified and assessed in sufficient data collection in order to avoid long-term complications. Identifying these results is crucial for governments to direct towards more evidence-informed preparation to address associated obstacles. In developed countries with more scars in health services and pharmaceutical sectors, this may be more relevant.

Future Research Directions:

The marketing world needs to consider and examine the role of spirituality in modern consumption urgently. This is the point of departure for customer emotions or the need to purchase 'what is sufficient' within the marketing landscape and how the post-COVID crisis can be improved in order to guarantee business model sustainable growth. Students are encouraged to discuss this market practise on the merits and inconveniences. The relationships of this forced customer behaviour with other factors are important to explore: crisis learning, simplicity, requires improvement, personality, ethnicity, community, frugal behaviour and age. Other important questions like "will maintain or reduce the after-COVID-19 scenario for this spiritual dimension of consumer behaviour" will be useful to investigate the potential for new industries to display new behaviour. A determination to resist spirituality and faith conflict is crucial to this debate in order to grasp this phénomene fully and expound its dynamism in the marketplace of the post-COVID crisis where it involves concepts of spirituality in consumerism in qualitative and quantitative analysis. This will provide the post-COVID world with a philosophical market paradigm that re-establishes a rich cultural history, not the myths of textbooks but the doctrines of coexistence with Mother Nature.

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