

Drive-Thru community pharmacy in the “New Normal Era”: An innovation in pharmaceutical services and its socio-economic impact

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Abstract

The new normal has become the “now normal”. Indeed, it is now inevitable that the health care system has changed, including the pharmaceutical services. A big evolution has taken place which will correspond to a huge change in pharmaceutical practice in order to keep abreast with the new normal and continue rendering pharmaceutical services and access to the community.

The emergence of new ideas in order to meet the demands of the society in terms of pharmaceutical services while keeping the community safe from contamination with the coronavirus has taken a tool. This pandemic situation has indeed opened an avenue of new pharmaceutical services like Drive-Thru Pharmacy, Telepharmacy and Door-to-Door Delivery of Medicines. However, the full practice of these pharmaceutical services are not yet fully developed and accepted.

Several studies have indicated that during the pandemic community pharmacist have faced ample challenges like emotional exhaustion (13.39%) and depersonalization (5.64%) which were higher in comparison to pre-Covid-19 situation. Indeed, Pharmacist are experiencing burnout with work from the demands of the consumers but supplies are limited. Truly, the Covid-19 pandemic has created a great havoc in the pharmaceutical industry especially during the lockdowns. Though market trends for Drive-Thru Pharmacy is suggestively positive but the actual materialization of this new pharmaceutical service innovation is left to be further studied for full global development and acceptability.

This review aims to elucidate the possible good benefit of Drive-Thru pharmacy especially during the pandemic. Its birth, challenges, potential market trend and socio-economic implications shall be discussed and its corresponding correlation.

Keywords: Drive-Thru Pharmacy; Pharmaceutical Services; Coronavirus; Socio-Economic; Market Trend; Challenges

1. Introduction

Ever since the beginning of lockdowns in 2020 in almost all countries globally, many businesses have suffered financial losses because the world is not ready for the lockdowns. But the Covid-19 pandemic has placed the pharmaceutical industry at the pedestal of health care globally. Because of this, pharmacies have thrived in the business amidst the months of lockdown. Pharmacies became one of the well-sought forms of businesses as many people are scampering to purchase in large volumes of different vitamins and health supplements in order to enhance their immune system [1]. Moreover, during the pandemic, community pharmacies became part of the essential services. Hence, it should remain

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open throughout the day or even better if the operation is 24-hours, so as to provide continuous pharmaceutical care and supplies to the populace in need [2]. Consequently, the pandemic has brought the pharmacy industry and the profession itself to an era of role evolution in order to meet the market demands [3]. Therefore, it is highly important to open and change into a new pharmaceutical business landscape because the world is now evolving and transforming into the new era of pharmaceutical healthcare delivery system. It is paramount that Pharmacists likewise, must take initiative on extending pharmacy services in order to provide easy, fast but safe access to medicines while reducing patient waiting time and close contact [4, 5].

Indeed, the coronavirus pandemic has led to the birth of novel pharmaceutical innovations in some countries in order to meet the new market demands. Over the past decade or so, community pharmacies have managed to adopt transformations in terms of giving pharmaceutical services. Recent of this innovation is the Drive-Thru Pharmacy [6]. It was first created by Calvin Michael Bruton, but it was Gary Clinton who first applied the Drive-Thru Pharmacy services in 1971 at his own drugstore. Due to the difficulty of looking for a parking space, the once innovation in his mind has become a necessity for the people in the community. This brilliant idea of putting up a Drive-Thru Pharmacy turned out to be a big hit to the customers [7]. Presently, this Drive-Thru Pharmacy as part of a service-based modification has surfaced due to the challenges brought about by the Covid-19 pandemic which facilitated better access to medicines [8]. This type of pharmacy services are regarded as an added or extended pharmaceutical service. It can obviously make accessibility of the drugs easier while keeping the safety of the patients in the comfort of their own vehicle for transportation. This set-up safeguards the World Health Organization protocol on the prevention of contamination from the coronavirus [9].

Currently, the pharmaceutical industry is doing all its effort to meet the increasing demand of the market on medicines as many people are getting sick due to the Covid-19 infection. Likewise, community pharmacies especially in the Philippines have started to embark on new pharmaceutical services to cater the needs of the people in a fast manner but with less close contact to the customers. At present, Mercury Drugstore Corporation has planted its first Drive-Thru Pharmacy in its branch at San Juan City Greenhills, Ortigas store. And now, they are already on its fifth branch with Drive-Thru services at Quirino Avenue which is open for 24 hours [10]. The current trend of consumer's mind set is more on efficiency and convenience, hence Drive-Thru Pharmacy is such a perfect opportunity for this. It offers a lot of advantages namely; quick service, less hassle for parking, easy access and a lot more. Abu Hammour *et al.* also revealed in his study that the drive thru pharmaceutical service is very much useful to customers with busy schedules. But, this may pose a threat on the salary of the pharmacy as it may stay flat because pharmacy technicians can manage to do the tasks especially if the drug order does not require medication counselling [6, 11]. Consequently, other concerns were reported from this Drive-Thru Pharmacy Service which is poor communication between customers and pharmacists which in some cases has led to the rise of medication error [12] like dispensing of a drug that may be incorrect, including its wrong dosage, strength and label [13].

In the cross-sectional study conducted by Reem Diri in 2020 using a questionnaire made available on WhatsApp and Twitter with 1001 participants, she found out that the most common purchases are more on over-the-counter drugs (36.4%) and 78% of the participants would love to have the Drive-Thru Pharmacy services as it is more convenient to all customers of all ages and those special needs [14].

This review aims to explore the potential good business aspect of Drive-Thru Pharmacy which may possibly generate more income to the pharmacy as it will ensure fast pharmaceutical services while helping the community secure safety and still upholding the World Health Organization's protocol on preventive measures.

2. Methods

This review article utilizes recovered studies and peer-reviewed articles from various journals in Researchgate, Science Direct, Google Scholar, CrossRef, Pubmed, Sage Journals and other online research platforms. The article search started on November 15, 2021. Topics searched were all focusing on Drive Thru Pharmacy services as a new pharmaceutical market innovation during the SARS-CoV-2 pandemic, its influence on healthcare professionals which led to the series of dispensing errors due to several predisposing factors. Moreover, the impact of Drive Thru pharmacy in the market has also been reviewed. All journals reviewed were organized systematically and filed in one folder for easy access and for prevention of any documentary discrepancies. The review was done comprehensively in order to address the benefit and repercussions of Drive Thru Pharmacy both on the Pharmacists and the consumers. Possible impact of Drive Thru Pharmacy in the market is also established taking ground on its business aspect [15].

2.1. Impact of the Pandemic on Community Pharmacies: The Challenges

Table 1 Aspects in community pharmacy practice affected by the pandemic

Core Themes	Participants Quotes
Communication	'Since health protocols include wearing of face masks and ensuring social distancing, communicating with the patient is kind of difficult. Delivering effective communication between patient-pharmacists becomes hard which leads to some instances of hand-out errors'. (Participant 333: Pharmacist)
Clinical appropriateness	'Since clinics of the physicians were shut, several errors in prescriptions were noted which is hard to correct as contacts from these GP clinics cannot be found. Also plenty of emergency supply requests were left to the clinical judgement of the Pharmacists and this is somehow very stressful'. (Participant 647: Pharmacist)
Increased workload	'Since it is inevitable for some staff to get contacted with Covid, it resulted in a shortage of staff on duty. As a result, workloads were doubled or even tripled. Also, it was an added pressure since GPs were informing their patients to have their blood pressure check at the nearest pharmacy in the area which will compromise the safety of both the pharmacist and patients'. (Participant 505: Pharmacist)
Medication requirements	'Since people were panicking, they resorted to stockpiling of medicines, which led to an increased workload as bulk of patients were purchasing in big volumes'. (Participant 736: Pharmacist)
Near misses/mistakes	'The pharmacy experienced a shoot up in dispensing errors which created a big emotional impact to all the staff. And, it has been coming frequently which resulted in body and mental exhaustion. We expose ourselves to other tasks in the pharmacy in order to temporarily forget all the issues at hand but it seems that we become more fatigue just as easily'. (Participant 631: Technician)
Provision of services	'During the pandemic, other tasks including non-essential and advanced are added to our workload and chances of patient counselling was reduced'. (Participant 753: Pharmacy student)
Staff shortages	'Largely big impact – starting with resignation of experienced staff and training a new one with the way we work resulted in financial implications and stress because best practices were hampered as transfer of learning has to start again. We had to keep on hoping for the best' (Participant 040: Dispenser)
Standard operating procedures (SOPs)	'Due to the increase in workloads, there were many instances that SOPs were disregarded or we cut it short in order to squeeze in several tasks. Sometimes, even the sale of OTC medications outside their licensing has to be given to patients who were not able to see a physician. Nevertheless, in order to reduce the risk of exposure from the customers, the company has decided to strictly follow the standard working hours. However, there were instances that working hours were extended due to an increase in workloads. (Participant 105: Technician)
Working hours	'When the pandemic struck, the workloads were increased immensely but after two weeks, it started to become silent as most of the student customers went home to their hometown. Nevertheless, we were not given chances to take a leave, so it was quite a struggle'. (Participant 436: Dispenser)

Source: Impact of the coronavirus pandemic (COVID-19) on the professional practice and personal well-being of community pharmacy teams in the UK by Sukvinder Kaur Bhamra et. al.

In the pandemic and lockdowns situation that we are in right now, the brave Community Pharmacists are always in the frontline communicating with customers to assist all their needs for medicines. In the study conducted by Bhamra *et al.*,

through a 25-item survey questionnaire via SurveyMonkey.com, it elicited around 758 participations from the community pharmacists (75% completion rate). The study included participants who are engaged in a task from the community pharmacy like the managers of the store, owners themselves, and all staff pharmacists including pharmacy technicians or assistants and pharmacy students. The study showed a big impact on the Community Pharmacists and other participants of the study (n = 257, 35%) which include the following: (1) increased workloads (94%) regardless of the pharmacy type either stand alone or chain drugstore), (2) increased working hours (59%) due to staff shortages, (3) compromised professional practice (35%), (4) state of emotional well-being (n = 433, 76%) which comprised mental stress, loneliness, anxiety and depression, and (5) state of physical well-being (n = 322, 56%) which is somehow influence by lack of sleep, more body fatigue due to increase labor and issues on weight. Although some participants mentioned that there was no change in workload (1.5%) and no change in working hours (31%) because their drugstores have permanent working hours. Table 1 present key factors which impacted community pharmacy practice [16].

Table 2 Community pharmacy challenges brought by the pandemic

Core Themes	Participants Quotes
Medication	• High demand but the supply of medicines were limited. • Drastic increased from the wholesaler's price which affected the retail prices of OTC medicines. • Since there were limited GPs and Dentists on duty at their respective clinics, there were unprecedented sale of unlicensed medicines.
Patients	• Attitudes – obnoxious, exasperated and troubled patients. • Expectation - Expect too much which is beyond the capacity of the pharmacy to render. • Experience – services were decreased however the waiting time has increased.
Professionalism	• Since Health Care Practitioners (HCPs) were not available, many decisions were made without consultation from them. • Since workloads were increased, professional practice were compromised most of the time as SOPs were not being strictly followed anymore. • Continuing professional education were limited and to most extent were restricted since it is not an immediate concern as of the moment.
Safety	• In order to maintain social distancing, entry of patients were regulated. • Added protection were given like PPE – in order to ensure safety of both patients and pharmacy staff. • Since some staff were immunocompromised, they need to shielded which resulted to shortages and increase pressure on the remaining available staff.
Workload	• Added workload including an increased in working hours. • Great work pressure which influenced negatively on the total well-being of the staff. • Since staff shortages has manifested, the pharmacy services was compromised. As a result, services were already limited due to the increased in backlogs.

Source: Impact of the coronavirus pandemic (COVID-19) on the professional practice and personal well-being of community pharmacy teams in the UK by Sukvinder Kaur Bhamra et. al.

In addition, several key challenges were elucidated which include: (1) covid-19 contamination distress and its possible transmission to the other staff. Around 78% (n=578) from the participants contributed to this kind of feeling, (2) bulk purchases from the patients for stocking purposes. Around 71% (n = 530) are doing this kind of buying activity, (3) surgical operations by the doctors were suspended. Around 70% (n = 517) confirmed this surgeries' cancellation, (4) difficulty working due to family concerns. Around 40% (n = 296) confirmed to have been facing family issues during the pandemic. Considering the result in the study, it is very clear that the community pharmacies and their staff are facing difficulties like all other businesses. In fact, around 45% (n=258/569) of the participants started to re-evaluate their community pharmacy practice as a chosen career since the majority of them sensed a feeling of discouragement, unappreciated from their work performance and a continued feeling of absence of support from the company. Table 2 shows the key challenges [15-16].

Yimenu *et. al.*, studied the effect of SARS-CoV2 pandemic on the Pharmacists in the community and its roles and services. Around 79 (98.8%) of the participants agreed that the SARS-CoV2 pandemic greatly affected the pharmaceutical care services specifically on its business side. Among these factors include (1) decreased in customer flow rate (n= 63, 78.8%), (2) shortage of pharmaceutical products (more than 60%), and (3) change in cost of pharmaceutical products (n=70, 87.5%). Most of the pharmaceutical products which experience shortage in supply include (1) medicines for chronic diseases, (2) face masks, (3) hand gloves and PPE's, (4) personal hygiene products like sanitizer and alcohol [17].

Indeed, there are different challenges which surfaced during the lockdown state caused by the pandemic situation due to the coronavirus scare. It is evident that Pharmacists both in the Community and Hospital setting have faced several challenges during the pandemic. The Drive-Thru service was added to their workloads and hence they got all the more burnout. So, the burden of this challenge goes both to the Pharmacists and the owner of the business. On the part of the Pharmacists their professional worth was lessened due to limited medication counselling in Drive-Thru Pharmacy and the issue of getting burnout due to the additional task at hand. While the owners have to invest more on manpower to supplement the demand and keep the sanity of the present staff by providing them with a work-life-balance program.

2.2. Drive-Thru Pharmacy: An Evolution in Pharmaceutical Service

"Drive-thru pharmacy" has truly gained a new market window for pharmaceutical service innovation during the pandemic period we are currently in. This type of market venture can be considered as a value-added pharmaceutical service in order to cope with the increasing demand for quick processing of the prescription and OTC medications – also known as facilitated prescription processing [13]. The main aim of this pharmaceutical market innovation is to give a quick, hassle-free but safe medication dispensing practice thereby cultivating high patients' satisfaction and convenience. This mechanism allows customers to be encouraged in ordering their prescription refills and other medication needs at the dispensing window because it is hassle-free and there is no need to look for a parking space [18]. Though in the early 90s, Drive-Thru pharmacies existed already in most industrialized countries, nevertheless, some studies have claimed that most of the customers including the Pharmacists ideally chose to receive and give pharmaceutical service directly from the counter [18, 19]. However, with the advent of the coronavirus scare which led to a series of lockdowns, drive-thru pharmacy services seem to be highly acceptable and convenient at the present pandemic situation [20]. In fact, several countries have adopted it already in connection with the principle of saving time since processing of the medications are facilitated in a fast manner [6, 21]. In some countries like Malaysia, the existence of services like Drive-Thru pharmacy elicited very vital performance indicators in the course of the pandemic situation [22]. According to their study, this new market innovation receives great patient satisfaction by reducing the waiting time of the patients which is more beneficial to every customer, most especially for patients who belong to the physically debilitated group while managing the problems on parking [8, 23].

There are several studies which proved that Drive-Thru pharmacy gained great patient satisfaction. In the study conducted by Queen Elizabeth Hospital (QEH) in Malaysia, it indicated that most of the customers were highly pleased with the new pharmaceutical service [24]. In addition, Taiwan also conducted the same study and discovered that "drive-thru pharmacy service" allows access to fast and convenient prescription refills [21]. Also, Jordan has conducted a study which agreed on the improvement of patient's access to medicines via Drive-Thru Pharmacy [6]. In another Jordanian study conducted about the awareness and perception of customers on Drive-Thru Pharmacy, this elicited a huge positive feedback [25]. Moreover, in 2010, Australia conducted a study on the impact of Drive-Thru Pharmacy which gave a positive feedback of two, namely: more time saving and patients felt self-dependent [26]. Lastly, Croatia in 2017, elicited a positive response which states about the improvement of availability and health care services

provisions favourable to seniors who are having difficulty in walking and also to parents who are still having young children to take care of [22].

Indeed, Drive-Thru pharmacy can help improve the safety of both the patients and attending pharmacy staff. In this particular innovation of pharmacy services, the dispensing mechanics allows patients pre-ordered medications to be dispensed at the drive-thru window. In this whole process, the pharmacists do pre-checking of the medicines, including the label and then packed in advance. Hence, the patient doesn't have to get out of the car which prevents more human interaction compared to the traditional method of medication dispensing [8]. This simple but fast dispensing process safeguards complete protection of the staff in the pharmacy as well as the consumers throughout the pandemic situation. As a result, several pharmacies have established Drive-Thru pharmacy service on a global scale, to name a few: (1) Thumbay University Hospital in UAE has introduced Drive-Thru pharmacy operating for 24 hrs [27], (2) Capital City of Doha in Qatar which allows social distancing to secure public safety [28], (3) Australia has launched several pharmacies with Drive-Thru including Discount Drug Stores (DDS). Their mechanics also allows placing the order online and it will be available for pick-up at the dispensing window [29]. Likewise, one of the largest military hospitals in the USA - Madigan Army Medical Center has provided Drive-Thru Pharmacy to facilitate fast pharmaceutical services to the beneficiaries [30].

Obviously, this new market innovation has created a huge niche during the pandemic situation on a global scale and has aroused more positive feedback in the current market trend. Therefore, it is without question and doubt that Drive-Thru Pharmacy can be considered a "must-have" innovation since it provides a quick, safe, and hassle-free medication dispensing that is truly workable and advantageous for the present pandemic situation.

2.3. Drive-Thru Pharmacy: Repercussion on Pharmaceutical Practice and to the Healthcare Professionals

Drive-Thru Pharmacy service has indeed elicited a positive response and outcome from the consumers due to its ability to cater a fast, safe and hassle-free delivery of medication to the customers during these challenging and stressful situations. Nevertheless, this new innovation which sprouted globally has its corresponding effects especially on the aspects of psycho-emotional state of the community pharmacists and proper medication counselling [31].

While fast and convenient service is important during the pandemic situation, it is also equally significant not to be impartial to the consumers especially in matters of giving the correct drugs and appropriate medication counselling. This matter has been studied thoroughly and has been found that Pharmacists at the dispensing window get extra disruptions related to the window service which corresponds to the delays in processing of the order (average response of 3.7), reduced efficiency in dispensing the correct drug resulting to errors in dispensing (average response of 3.8) and frequent incidence of errors in communication (average response of 3.3) because in this mechanism, Pharmacy staff takes an extra mile of service which may physically drain them (average response of 3.7) [32].

According to the article of Bookwalter, PhD, drive-thru windows are linked with more pharmacist exhaustion or burnout. The study resulted in a whopping 84% rate of a state of burnout among community pharmacists in comparison to 16% in the absence of a Drive Thru pharmacy service [33]. But with the pandemic and lockdowns situation we are in, the CDC is left with no choice but to encourage customers to utilize the Drive-Thru pharmacy services because this manner of drug dispensing reduces the risk of Covid-19 infection due to less exposure and observation of social distancing. This endorsement from the CDC truly resulted in an influx of customers at the Drive-Thru dispensing window [34]. Since utilization of the Drive-Thru pharmacy services has exploded immensely, most of the community pharmacies have devised a workflow process in order to streamline as well as expand the Drive-Thru services [35].

2.4. The Bottom Line.

Healthcare professionals including the Pharmacists have experienced getting so much drained due to the ample work during the SARS-CoV2 pandemic. In fact, healthcare professionals are among the most affected workers physically, psychologically and emotionally. And yet, there has been no research study about this case because everybody is relying on their assistance. This remains a fact that Pharmacists and other healthcare professionals are hardly considered topics in the research studies which describe both the physical and psychological impacts of Covid-19 pandemic [36-38]. However, among the workers they are the most who experienced burnout, anxiety, depression, and insomnia due to work-related factors like being exposed to an unfamiliar role, due to inadequate resources and manpower, unfamiliarity with the use of personal protective equipment (PPE) along with the discomfort from wearing it and highly augmented workloads [39-41]. While some have personal concerns like an increase in fear from contamination, resulting in anxiety while on duty as well as a feeling of uncertainty. Aside from the negative feelings and fears, the pharmacy staff have a deep longing of being appreciated, respected, and supported from the management which are somehow being neglected and have not been given due consideration [42-44].

Pharmacists are indeed super exhausted throughout the lockdowns associated from the SARS-CoV2 pandemic. At this point, we will look into the different dimensions connected with burnout which include (1) emotional exhaustion – a state of feeling worn-out and drained due to energy depletion as a result of accumulated stress or exhaustion, (2) depersonalisation – manifested by occurrence of negativity, pessimism or a sense of loneliness and detachment and (3) reduced sense of personal job satisfaction and achievement – manifested by a sense of decreased professional efficiency [45, 46]. In another study it was reported that the occurrence of the sense of burnout in pharmacists differs by over 50%. This burnout feeling or state is associated with several factors including: long working hours, extreme workloads, amplified administrative or organizational tasks and a reduced clinical encounter with limited to absence of rewards and insufficient to absence of support [47-50].

Furthermore, another study led by Johnston et. al., regarding the burnout challenges of Pharmacists through a survey questionnaire, 647 responses were analyzed. The survey were actively participated mostly by female, $n = 487$ (75.7%) and well represented from those working in the hospital $n = 269$ (42.2%) and also working in the community $n = 253$ (39.9%). As presented in Table 3, the study showed similar mean (SD) on the aspect of emotional fatigue. Males scored 28.2 with a mean (SD) of 14.6. While the females scored 28.8 with a mean (SD) of 13.0; and a $p = 0.656$. On the other hand, personal job satisfaction and achievements of males elicited a score of 36.8 with a mean (SD) of 7.7 while the females got a score of 36.6 with a mean (SD) of 7.5, and a $p = 0.790$. This would mean that there is no difference at all. However, on the aspect of depersonalisation, the males got a higher score of 9.2 with a mean (SD) of 6.1. In comparison to the female pharmacists, they got a score of 7.6 with a mean (SD) of 5.5, $p = 0.004$. This would show that females are less likely to be prone to burnout in comparison to the males. Hence, males are more subject to easy burnout as manifested by their negative attitude while on work like pessimism and a sense of being detached compared with the female pharmacists [51].

Table 3 Overall results from the survey on burnout with respect to sex ($n = 647$)

MBI Burnout Category	Overall $n = 647$	Females $n = 487$	Males $n = 149$	<i>P</i>
Emotional exhaustion (0-54), mean (SD)	28.5 (13.4)	28.8 (13.0)	28.2 (14.6)	0.656
Depersonalization (0-30), mean (SD)	7.98 (5.6)	7.6 (5.5)	9.2 (6.1)	0.004
Personal accomplishment (0-48), mean (SD)	36.6 (7.6)	36.6 (7.5)	36.8 (7.7)	0.790

Source: Burnout and the challenges facing pharmacists during Covid-19: Results of a national survey by Karlee Johnston et. al. Int J Clin Pharm. 2021 Apr 13: 1–10.

2.5. Addressing Pharmacists' Concerns during Covid-19 Pandemic

Healthcare professionals including Pharmacists have suffered great distress during the pandemic situation. The evidence of a burned-out workforce has never escaped from the lenses of our eyes. In fact, during the severe state of the pandemic many citizens have contributed much support to our healthcare professionals including giving of food, ride, supply of PPE and many more. Amidst of this support, still many healthcare professionals submitted resignation due to the unmanageable and seem to be unending distress caused by the numerous admissions in the hospital from patients who got infected from the SARS-CoV2. Consequently, the influx of consumers in the community pharmacy with their demands and queries has become stressful. Indeed, the impact of SARS-CoV2 infection globally has obviously reached a significant toll to the pharmacy workforce, patients, and the entire healthcare system [50]. Hence physical and psychosocial and emotional issues among the community pharmacists have risen to a concerning extent, most especially in first world countries. With these, there is a need to address the issue by presenting interventions to limit or reduce the effects of the pandemic on pharmacists [52].

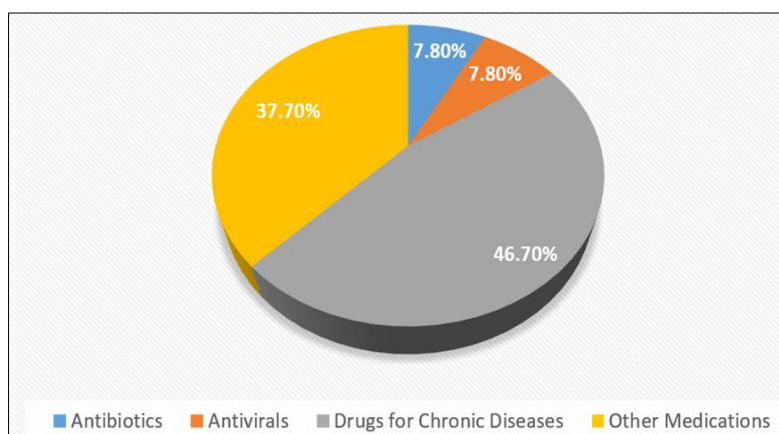
In the recent past, there have been very limited literature resources which we can examine in order to help the pharmacy leaders in the healthcare system to establish a good and effective resolution or strategies to manage the issues of the Pharmacists in the frontline. However, there are nonspecific strategies that may help prevent or eliminate burnout in the workplace and develop resilience, namely: (1) managing to achieve low turnover rates of the staff, (2) making deviation from the tasks and duties daily in order to eliminate episodes of dull state due to routinary daily activities, (3) developing work-life balance activities for the employees, (4) forming focus groups to share life's experiences and challenges, [5] limit but as much as possible do not allow pharmacy staff to work overtime unless agreed upon voluntarily, and [6] pharmacy supervisors should manage to create a fun and harmonious relationship [53, 54]. Another good and proven strategy against burnout issues is mentorship which will help develop familial relationship, knowledge and motivation [55]. Also, the HR Management can develop proactive and sustainable training programs like resiliency

training to overcome burnout concerns, yearly team building activities, mandatory summer vacation and a lot more strategies [56].

2.6. Drive-Thru Community Pharmacy: The Emerging Pharmaceutical Market Trend

Due to the emergence of Covid-19 infection globally, pharmacy practice has changed fast and developed a new market trend for pharmaceutical business and services [57]. Currently, there is a rising burden to our healthcare professionals which necessitates the need for further role and services innovation of the pharmacists. If sufficient manpower can be provided and location is very strategic, Drive-Thru Pharmacies can be an excellent prospect for good business ventures. It is absolutely an excellent pharmacy services innovation of the future, and even now, in our present pandemic situation [58].

While patient interaction is vital for medication counselling, the advent of pandemic has caused much evolutionary segment in pharmaceutical practice which purports the birth of telepharmacy and drive-thru pharmacy [59]. Since we are in the digital era, it would be highly practical to utilize technology for the betterment of the pharmacy services, like what the UK's National Health Service (NHS) has promulgated as part of their long-term plan [60]. In this pandemic situation, we need to go digital in giving services to our patients in order to minimize close contact [61]. Hence, there is a need to move forward in the digital world within the context of Drive-Thru pharmacies to enlarge the scope of community pharmacy services [62]. If we are to consider the most highly consumed medications after the outbreak of Covid-19, we can see that most of the consumers are purchasing medications which belong to chronic diseases (46.70%) and other medications (37.70%) which are perhaps OTC drugs, see Figure 1. With this Drive-Thru pharmacy can be of great advantage since a big portion of the consumers are utilizing maintenance and OTC medications which may possibly warrant minimal time for medication counselling when needed unlike with Antibiotics and Antivirals [17].



Source: Impact of COVID-19 on Pharmaceutical Care Services and the Role of Community Pharmacists: A Multi-Center Cross-Sectional Study in Ethiopia by Dawit et. al., Sage Journals. Jun 2021

Figure 1 Statistics on the Common Drug Categories Purchased at the Community Drugstores

In the report on the E-pharmacy market – there is a forecast that seems to continue growing until 2026 regarding the use of over-the-counter (OTC) drugs. There is an expectation of its increase at the fastest rate. This forecast enables drug manufacturing companies to produce more OTC drugs since there is an increasing trend towards self-medication in highly developed countries. Moreover, this switch from prescription to OTC can be beneficial to consumers as this will be of great saving advantage to them. Also, at the present pandemic that we have, the e-pharmacy market on OTC medications, gained momentous progress since the consumers are hesitant to pay a visit in clinics for simple health conditions in dread of getting of Covid-19 infection. In addition, on the financial aspect, OTC medications are more economical because they are less expensive. These factors – cost effective and no more clinical visits considerably resulted to a vertical progress in developing economies [63].

2.7. Drive-Thru Pharmacy: Its Socio-Economic Impact

Drive-Thru services have been very common worldwide. It has been in existence for the past several years. It is actually very common in fast food restaurants. This kind of service has been loved by so many people for it offers fast and efficient food services. With the advent of the SARS-CoV2 pandemic, Drive-Thru and food delivery services became so prevalent due to the lockdowns and limited mobility of the people. Community pharmacies did not escape this kind of fast service demand. Drive-Thru services in the community pharmacies became a new avenue for pharmaceutical

services. In the United States, Drive-Thru pharmacies promoted quick dispensing of the customer's medications which gained a good feedback of improved customer satisfaction. Nevertheless, we cannot expect that quality pharmaceutical patient care can be well-delivered in this kind of platform. Social factors such as education level and buying habits are something that we can explore to establish the implications in the utilization of Drive-Thru Pharmacy. The level of educational information in the interaction between the pharmacist and the patient will have a corresponding effect on the buying habits of the customers or patients since the time and amount of information as independent variables in this relationship will play a big impact. And, this can be evident in the study conducted by Odukoya *et. al.*, where he examines the variances between the impacts of the time spent in counselling and the amount of knowledge given to both the patient in the Drive-Thru window and traditional counselling. He noticed that the interaction between the pharmacist and patient in the walk-in is longer and the amount of information provided is higher in comparison to the Drive-Thru window [64-66]. See Table 4.

Table 4 Differences in Patient Encounters at the Drive-Thru and Walk-in Windows

Education Level Social Factor	Drive-Thru Window (n=961)	Walk-in (n=1098)	P
Independent Variable : Time (seconds)	%	%	
Pharmacy Technician's Time with Patient			< 0.001
Mean	84.4	47.5	
S.D.	108.7	90.5	
C.I.	77.3 – 91.4	41.9 – 52.9	
Pharmacists' Time with the Patient			< 0.001
Mean	65.4	97.2	
S.D.	78.7	114.1	
C.I.	60.3 – 70.5	90.2 – 104.1	
Independent Variable: Amount of Information or Knowledge Given			< 0.001
Mean	1.9	2.2	
S.D.	1.8	1.8	
C.I.	1.8 – 2.1	2.1 – 2.4	

Source: Factors influencing quality of patient interaction at the community pharmacy drive-through and walk-in counselling areas by Olufunmilola K. Odukoya et.al. Int J Pharm Pract. Oct 2013; 22(4): 246–256.

If we are to compare the time of interaction between the pharmacy technicians and pharmacists with the patients, we can obviously see a variation. As presented in the table above, we can see significant time differences in counselling to both drive-thru and walk-in patients. On average, at the walk-in counselling area, the pharmacists-patient interaction was 32 seconds ($97.2 - 65.4 = 31.8$) longer compared to the drive-thru counselling area with a P-value of <0.001. On the other hand, pharmacy technician-patient interaction is higher in drive-thru compared to walk-in by a difference of 37 seconds ($84.4 - 47.5 = 36.9$) with a P-value of <0.001. In terms of the amount of information given to the patients, the walk-in patients were given much information in comparison to the drive-thru patients [67].

Table 5 below shows the regressions analysis of the three variables namely predisposing, enabling and need factors. These three variables may correlate to the amount of time expended by the pharmacist in both the walk-in and drive thru areas. It can be seen that the age under predisposing variables had a substantial influence on the time spent by the pharmacists on both the drive-thru and walk-in patients. The result shows that the main enabling variables influencing the amount of time spent were the level of pharmacy busyness and location of interaction in either drive-thru or walk-in). Comparing the time spent by the pharmacist in both drive-thru and walk-in patients, it can be seen that drive-thru patients have less time interaction with the pharmacist with a ratio rate of 0.70. Also, shown above is the level of pharmacy busyness. As busyness increases, the time spent by the pharmacist with the patients is also lesser with a ratio rate (RR) of 0.80. In terms of the need variable, it can be seen that Pharmacists give much time to patients with new

prescriptions with a ratio rate (RR) of 1.72. This indicates that Pharmacists spend less time on patients with refill prescriptions and more time on patients with new prescriptions.

Table 5 Interaction time of Pharmacist with the Patient in both Drive-Thru and Walk-in Patients and the Factors associated with it

Variable	Unadjusted	P	P/E	P/E/N
Predisposing Variables				
Observed age range	1.07 (1.00-1.16)	*1.09 (1.01-1.17)	1.07 (0.99-1.16)	1.11 (1.02-1.20)
Male	*0.88 (0.79-0.99)	*0.90 (0.78-0.97)	*0.83 (0.75-0.93)	0.91 (0.81-1.02)
Female	-		1	1
Enabling Variables				
Drive-Thru Interaction	*0.67 (0.61-0.75)		*0.70 (0.62-0.78)	*0.75 (0.67-0.84)
Walk-in Interaction	-		1	1
Talking on the Cell Phone	0.83 (0.58-1.19)		0.94 (0.65-1.34)	0.88 (0.60-1.30)
Not Talking on the Cell Phone	-		1	1
Level of Pharmacy Busyness	*0.82 (0.78-0.86)		*0.82 (0.78-0.85)	*0.80 (0.77-0.84)
Need Variables				
New Prescription	*1.66 (1.47-1.87)			*1.72 (1.51-1.95)
Refill Prescription	-			1
Mobility Impaired	1.36 (0.82-2.25)			1.12 (0.66-1.85)
Non-mobility Impaired	-			1

Note: RR = Rate Ratio; () is 0.95% confidence level; * is $p < .05$; P is the model with only predisposing variables, P/E is the model with both predisposing and enabling variables only; P/E/N is the model with the predisposing, enabling and need variables. Source: Factors influencing quality of patient interaction at the community pharmacy drive-through and walk-in counselling areas by Olufunmilola K. Odukoya et.al. Int J Pharm Pract. Oct 2013; 22(4): 246–256.

Table 6 Reasons linked to the Extent of Information given to the patients in both Drive-Thru and Walk-in Window

Variable	Unadjusted	P	P/E	P/E/N
Predisposing Variables				
Observed age range	0.97 (0.93-1.03)	*0.97 (0.91-1.02)	0.98 (0.93-1.04)	1.05 (0.99-1.10)
Male	*0.87 (0.81-0.95)	*0.92 (0.85-0.99)	*0.87 (0.80-0.94)	0.95 (0.88-1.02)
Female	-	1	1	1
Enabling Variables				
Drive-Thru Interaction	*0.86 (0.80-0.93)		*0.86 (0.93-1.03)	*0.92 (0.86-1.00)
Walk-in Interaction	-		1	1
Talking on the Cell Phone	0.89 (0.69-1.16)		0.91 (0.70-1.20)	1.02 (0.77-1.34)
Not Talking on the Cell Phone	-		1	1
Level of Pharmacy Busyness	*0.96 (0.93-0.99)		*0.96 (0.93-0.99)	*0.96 (0.94-0.99)
Need Variables				
New Prescription	*2.68 (2.51-2.86)			*2.74 (2.56-2.94)
Refill Prescription	-			1
Mobility Impaired	1.30 (0.94-1.81)			1.09 (0.81-1.46)

Non-mobility Impaired	-			1
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Note: RR = Rate Ratio; () is 0.95% confidence level; * is $p < .05$; P is the model with only predisposing variables, P/E is the model with both predisposing and enabling variables only; P/E/N is the model with the predisposing, enabling and need variables. Source: Factors influencing quality of patient interaction at the community pharmacy drive-through and walk-in counselling areas by Olufunmilola K. Odukoya et.al. Int J Pharm Pract. Oct 2013; 22(4): 246–256.

The presentation in the above table is about the amount of information given to the patients both in the drive-thru and walk-in area. As revealed, the amount of counselling in both groups showed significant difference with RR of 0.92 and CI: 0.86-1.00. This means that walk-in patients receive more information than the drive-thru patients. Moreover, considering the busyness of the pharmacy, the amount of information can also be affected with an RR of 0.96 and CI: 0.95-0.99. Consequently, it shows that patients with new prescriptions are given more information compared to the patients with old prescriptions with RR 2.74 and CI of 2.56-2.94. This means that the need variable plays a significant role in considering the amount of information given to the patients.

Table 7 Significant Predictors for Time Spent and Amount of Information at the Drive-Thru only and Walk-in Window only when controlling for all the variables in the models

Predictors	Drive-Thru Model	Walk-in Model
Pharmacist Time		
Level of Pharmacy Busyness	*0.75 (0.70-0.81)	*0.84 (0.79-0.89)
New Prescription	*1.68 (1.35-2.09)	*1.74 (1.48-2.05)
Observed Age Range	Not Significant	*1.13 (1.02-1.25)
Amount of Information		
Level of Pharmacy Busyness	*0.93 (0.90-0.98)	Not Significant
New Prescription	2.78 (2.47-3.11)	*2.73 (2.50-2.98)
Observed Age Range	Not Significant	1.08 (1.02-1.15)

Note: RR = Rate Ratio; () is 0.95% confidence level; * is $p < .05$ Source: Factors influencing quality of patient interaction at the community pharmacy drive-through and walk-in counselling areas by Olufunmilola K. Odukoya et.al. Int J Pharm Pract. Oct 2013; 22(4): 246–256.

The table 7 above presents the significant factors affecting the amount of time and information given to the patients in both groups. It can be seen that the factors on the level of pharmacy busyness, patients with new prescription and observed age range influenced the decision of pharmacist in giving counselling at the drive-thru window and walk-in area. It is notable that Pharmacists spend more time with patients with new prescriptions in the walk-in area with an RR of 1.68 and CI of 1.35-2.09 in comparison to the patients at the drive-thru window. Also, on the aspect of the level of busyness, walk-in patients are given a higher amount of time (RR of 0.84 and CI of 0.79-0.89) in comparison to the patients at the drive-thru window. But, as the level of busyness increases, the time spent by the Pharmacist on both groups decreases. Furthermore, there is more time spent and more information is given to patients in walk-in but in drive-thru it shows no significant difference [67].

On the other hand, various economic factors may have an impact on the utilization of a Drive-Thru pharmacy. This review article however, will limit these factors, namely: demand and supply, salaries, labor and inflation especially during the pandemic.

3. Demand and Supply

During the early days of the pandemic, there were profound challenges and deviations to the dynamics of the healthcare system, which led to the massive detour of investment on disease prevention medications and digitalization of pharmaceutical services [68]. In the United States, some of their pharmaceutical raw materials are imported from other countries, namely: India – around 18%, Europe – constitutes 26%, while China has 13% share of the pharmaceutical supplies and 39% share of medical devices. Though the production became slow, but nowadays, pharmaceutical companies have started to recover from economic losses [69].

Prior to the pandemic, drug manufacturing industries have predetermined projections based on the usual trend of the demands. However, when pandemic struck, the usual existing orders were disrupted, including the inventory patterns of drug products and raw materials. The coronavirus pandemic has increased demand which persisted longer than the anticipation of the pharmaceutical companies which prompted a domino effect of disruption in inventories and supplies

[70-71]. Indeed, the pandemic has triggered scarcities of pharmaceutical products necessary to control the infection, to sustain and support life including management of similar related conditions. Truly, the scarcity of medicines has led to a series of problems related to drug product manufacturing as the increase in demand resulted to great degree which is beyond the capacity of the drug companies to adequately supply the medicines on a faster rate [72].

In a study conducted by the British Plastics Federation (BPF), it projected an anticipated decline in turnover with 98% admitting the adverse impact of the pandemic in the business area [73]. Since there was a disruption in the supply chain including the workforce, issues on importation and staffing deficiencies took a toll as the primary concerns for businesses especially in manufacturing companies since 'work from home' strategy cannot be doable in such a case. Since there is a global overlap of supply chains, it is expected that the chemical industry may show a reduction in the production of raw materials by 1.2%, which is truly the worst growth since the last financial collapse of 2008 [74]. Badische Anilin und Soda Fabrik (BASF), one of Germany's largest chemical companies who are in the process of beefing up their production in China has to delay plans due to the pandemic, which contributes to a slowdown in expected growth [75, 76]. This concern is similar to all industries including the pharmaceutical manufacturing industry. Failure of chemical production for raw materials needed in drug formulation will have a domino effect in the production of pharmaceutical products. When the demand cannot be supplied it will result in increase of product prices because there is a limited supply [77].

4. Salaries

A certain pharmaceutical journal has made a survey on salary and job satisfaction last May 2020. The survey was participated by 1,228 pharmacists which shows an overall 56% (685) pharmacists who have mentioned that their duty hours were increased and only 40% (489) confirmed to have stayed in the same duty hours while 4% (54) confirmed to have decreased duty hours.

In the community pharmacy practice, the data were so explicit, with 64% of the community pharmacists whose working hours have increased while in the hospital pharmacists, 55% have admitted working overtime. With this, 62% of Pharmacists have confirmed that they did not receive extra pay for working and extended hours every duty schedule. However, in other places, it's on a fifty-fifty percent basis, 50% receive extra pay while the other 50% did not receive any [78].

Indeed, like all other industry salaries and wages for the pharmacists stood still during the pandemic, there was no increase and no overtime pay. This is perhaps due to the overall financial condition of the people where most of the businesses suffered losses. In return, owners of pharmaceutical businesses have to keep a financial buffer in preparation for possible emergency or business closure due to lockdowns. Nonetheless, the pharmaceutical sector is considered as part of the essentials therefore it remained open for business. However, as financial managers in big businesses, it is at this particular time that they have to be careful of any extra expenditures because uncertainties for the future are evident. Hence, many pharmacists turned out to be unpaid with their overtime work during the pandemic. The manpower sector of the pharmacies has indeed suffered in order to accommodate demands of the customers but without pay. However, this is not true to all cases because some countries were able to manage just fine [79].

While salaries have remain still during the pandemic period and others have been privilege to have an increased, we cannot deny that the level of work in most of the pharmacists in the community have increased with the Drive-thru innovation in order to cater the needs of the consumer in a fast and easy manner that limits close contact with the patients. On this note, opening of a Drive-thru service has been an added task and responsibility for the Pharmacists that should merit additional benefit to the Pharmacist in terms of salaries which likewise increases expenditure of the company. Nevertheless, many companies have gambled on this venture since the daily sales of the company have gained a massive increase with the opening of a Drive-thru service.

5. Inflation

During the pandemic, global trade has been disrupted due to the experienced limited or restricted international travel. The volume of products and commodities traded have suffered a big decline to 3%. Moreover, there was a decrease in demand for some commodities and it remained static for a long duration. The supplies were also limited as transportation was disrupted. Like all other businesses, the pharmaceutical industry was not able to escape from the impact of the pandemic as the demands were not completely met by the suppliers [80].

Crude oil and inflation are linked together because crude oil plays a major role in the world's economic system. Any changes in oil prices affect the cost of end products. Being a major asset in the commodities market since transportation of supplies entails the use of crude oil, we have seen a tremendous increase in prices of all commodities as crude supply has become limited [81, 82]. Moreover, any variations in the prices of the oil will have a corresponding impact on the financial markets of each country [83]. Currently, oil price has tremendously increased and we all know that when oil price is increased serious market inflation of commodities and rents also increases. In short, it is a domino effect when there is inflation. Hence, the economic impact of Covid-19 pandemic has caused serious and rapid inflation in all commodities [84]. Considering this inflation in oil prices, it is undoubtedly going to affect the prices of medicines as well, which is now already happening. According to the survey, for the year 2021, the prices of medicines for the first days of January generated an increase of 3.3% on average, while in January 2020 there was an increase of 5.8% on prescription drugs and 5.2% increase in 2019, accordingly. For this year 2022, the prices of medicines have increased to about 5% on average and it is expected to further increase as oil inflation rate has increased crazily due to the conflict between two countries [85].

6. Afterthought

Nowadays, the pandemic has appeased and brought under control and people are back in the streets for business, transportation and all transactions. So now, our policymakers are hoping for consumers to begin spending in order to resume the normal socio-economic pattern in order to reduce the pressure of inflation. Though prices are high, investors are encouraged to give extra investment in order to normalize the supply chain which will help stabilize prices as time goes by John Kemp [86]. Hence, making an investment at present time for a Drive-Thru pharmacy is an excellent opportunity to give an added innovation in pharmaceutical service that provides fast and easy access to medicines.

7. Conclusion

Seeing the current trend and the excellent forecast for 2021-2026, there can be a definitive market advantage of Drive-Thru Pharmacy in the landscape of pharmaceutical service innovation during this Covid-19 pandemic as everyone goes online for security reasons and quick service. And, the beginning of global digitalization now in all aspects is no longer going to end; it will advance more on a digital platform beyond our imagination. Indeed, the pandemic has become an economic advantage to the pharmaceutical industry as it has led to an increase in the production and sales of drugs. Likewise, it has paved the way to a new pharmaceutical service which serves the consumers in a quick manner creating more room for service to various customers.

Compliance with ethical standards

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