

EXAMINE THE RELATIONSHIP BETWEEN THE PREVALENCE OF COVID-19 PANDEMIC AND THE LEVELS OF HDI'S BASED ON A COMPARISON OF THE ARAB REGION'S SITUATION WITH THE GLOBAL LEVEL IN 2020

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ABSTRACT

The COVID-19 pandemic has become a situation threatening levels of human development around the world which necessitated researchers to make more efforts to examine the impact of that pandemic on many aspects of life, especially the global human development levels as a vital indicator of the current situation. The international community and its suffering from the escalating consequences of the Corona crisis, and trying to recover little by little according to precautionary plans and policies to deal with the current situation, in a manner that does not affect the levels of human development fundamentally. Consequently, this study aims to analyse the relationship between the current situation of the exacerbation of the spread of cases of the COVID-19 pandemic and the values of the HDI's worldwide in order to reveal the extent to which the values of human development are affected by the number of cases of the Coronavirus pandemic in 2020, according to the reliance on the statistics published in International reports issued by the World Health Organization (WHO) with regard to monitoring cases of Covid-19, and the United Nations (UNDP) with regard to the values of the HDI's for all countries over the world which were published in the report 2020 as well.

In addition, the study will be based on a comparison of the developmental and demographic situation of Arab region in MENA to monitor the extent of vulnerability caused by the Corona pandemic compared to the global situation, and this would contribute to providing valuable information to planners and policy makers in MENA region to highlight the impact caused by that pandemic, whether on the Levels of human development or the demographic situation in general to re-work to address any aspects that require the adoption of improvement plans to maintain reasonable levels of the human development index during the coming period within the efforts of some Arab countries to recover from this global crisis, whether economically or socially, and to re-anticipate the future of the most important future factors of ambiguity from in order to reduce unexpected health risks in the first place, and ultimately to ensure adopting the happiness and wellbeing initiatives for the population within the Arab region.

Keywords: COVID-19, HDI, Demographic Situation, Arab Region (MENA).

INTRODUCTION

In late December 2019, a matchless outbreak of COVID-19 pandemic that was caused by SARS coronavirus 2 (SARS-CoV-2) in Wuhan at China became the most challenging health emergency due the rapid prevalence in most of countries over 2020. Thus, the World Health Organization (WHO) declared COVID-19 a public health emergency of international concern (PHEIC) on 30th January 2020 and a pandemic on 11th March 2020. As a result of this pandemic, thousands of deaths cases with no vaccines or specific antiviral drugs for COVID-19 until the end of 2020 since some countries have initiated to develop some kinds of vaccines and drugs to face this crisis and started to test its effective on various samples of patients in many regions. Consequently, it is crucial to have a comprehensive understanding of this health crisis is relevant with examining its correlational relationships and the extent of its expected impact on levels of human development in order to adopted mechanisms and plans of continuous improvement that reduces the consequences of COVID-19 which taking into account the improvement of the development situation in every country or certain region that includes countries have common characteristics.

The COVID-19 pandemic has disrupted global economies and businesses, and resources have been at the heart of it (PwC, 2020). Therefore, one thing is for certain that this pandemic has inherent effect on the development of countries, and it has been highlighted the need for adaptability and resilience in-today to accelerate the shift towards a new digital economy and accentuated the importance of the human development. Additionally, the initial spread of COVID-19 was mostly affected by patterns of socioeconomic vulnerability in the development levels rather than population age structure and prevalence of health risk factors, as death rates accelerated until June 2020, especially in the regions with the highest rates of weakness in the affected levels of development associated with this crisis (Rocha et al., 2021). The United Nation has stated recently that the COVID-19 pandemic has gravely wounded the world economy with serious consequences impacting all communities and individuals (United Nations, 2020). As, the COVID-19 has shaken the trade and development landscape, and accordingly this has negatively affected human development levels of all countries, so this will require the global interest with financing the response and recovery from the pandemic in developing countries, and then to reinforce the most priorities of development towards the most regions in need of this interest.

Obviously, the COVID-19 pandemic becomes a one of the negative causes of deteriorating the human development levels over the world. In 2020, the United Nation has shown the importance of promoting equity in capabilities for all countries in conjunction with the worsening severity of the COVID-19 pandemic and its negative affecting on various sectors and all countries of the world in terms of each region should close the gap with the leaders in its human development category (UNDP, 2020), particularly by the countries have similar conditions and common boundaries within each region towards supporting the human development capabilities during facing this crisis by developing comprehensive response plans effectively in all fields of development that were affected such as Arab Region, the focus of the current study for enhancing the values of human development index for this region in the first place in light of the negative impacts of COVID-19 pandemic.

Accordingly, this paper attempts to examine the relative differences between Arabic region in MENA and the global level, according to some factors and demographic characteristics, as well as examine the relationship between the HDI's values and the prevalence of COVID-19 cases in general. The ultimate objective is to reach a new set of indicators that help

policymakers to determine the appropriate plans or initiatives for improving the decent living level and development conditions within the countries of Arab region (MENA) and try to refine that by adopting a set of efforts and activities in support of facing this epidemic optimally in light of the international interest in precautionary measures for social distancing so as not to affect the bad deterioration in the trends of human development values of Arab countries within MENA region in shaping the future or becoming a Future-Proof for the next generations. This in turn, it could boost the efficiency and effectiveness of development policies and plans for the coming years in terms of contributing to the enhancement of human development levels within the countries of Arab region and thus, the reduction of many negative factors that directly affect the international community, including illegal immigration, armed conflicts, wars, regional instability, the exacerbation of epidemics and deadly viruses, gender disparity and gender gap, unemployment and other issues that affect the levels of comprehensive development internationally.

The Problem of Study

Undoubtedly, the crisis of COVID-19 pandemic is hitting hard on all of human development's constitutive elements: income levels with the largest de-growth in economic development level and gross national income (GNI) per capita for 2020, health levels with causing a death over 300,000, as well as the disruption in various education levels and the quality of learning outcomes and achievements desired with effective out-of-school rates that means accounting for the inability to access the internet and in the primary education expected to high dropout rates from schools (UNDP, 2020). Overall, the experience of COVID-19 pandemic in light of continued lockdowns shows a negative impact on the long-term opportunities of countries, a wide gap in the development in some fields, and further increase future inequality in societies (Hanushek & Woessmann, 2020), like developing countries. Besides, the international statistics pointed out that the COVID-19 negatively affecting 220 countries and territories over the world according to official websites of ministries of health or other government institutions and the social media accounts of some government authorities accredited (WHO, 2020).

The COVID-19 pandemic has sunk the global economy into the deepest recession in eight decades. In the emerging and developing countries, GDP is expected to contract 4.4 % in 2020 where there was a severe impact of the pandemic on health and education, and the need of closing inequity between regions over the world (World Bank, 2020). This in turn, it has negative direct impacts on both of three main domains like health, economy and education within the Arab countries but taking into account the differences and capabilities available to each country separately. These three domains are considered basic elements in order to access the desired levels of human development within the Arab region as a whole until it could be compared to the high levels that are internationally desirable. As the planners have indicated in one of the governments that the interventions adopted by decision and policy makers of the governments in a timely manner to respond to COVID-19 may be effective to mitigate the hardships caused by this pandemic on declining the levels of development, in particular the loss to livelihood due to the frequent lockdowns (Subramanian, 2021).

Thus, this will require the need to pay attention to discovering the potential relationships of the prevalence of COVID-19 cases about its affecting the levels of human development rates within the Arab region negatively or not in order to ensure an effective response will be adopted by decision-makers and planners to this crisis whether during and after the end of COVID-19

pandemic in a safe manner that limits the negative impacts expected on human development levels for the next years based on the rapid recovery plans to maintain these development levels in light of the providing the information emerging from in-depth statistical analysis and techniques used for a set of relevant variables that will be have data available by the use of current study to achieve its direct objectives, as planned. Hence, the study will cover the answer for the following questions:

1. What are the features of the background characteristics of the Arab region targeted by the current study compared to the global level in 2020?
2. What is the correlation between the prevalence of COVID-19 cases and a set of variables related to the human development levels, economic and demographic situation in general according to the data available of 2020?
3. Are there any significant differences statistically between the Arab region and the rest of the world according to each variable were targeted by the current study that reflects the human development levels or the spread of COVID-19 pandemic cases for the year 2020?
4. Are there significance sources of variation statistically between the six continents as major areas of population concentration in the world according to target variables relevant to levels of human development or that relevant to the spread of COVID-19 pandemic cases in 2020?
5. Is there an impact of the prevalence of COVID-19 pandemic cases among the population on the ability to predict the values of the HDI's of the level of the Arab region or at non-Arab region level or at the world level in 2020?

Justification

The importance of this study, as follows:

1. Lacking of studies that have focused on examining the relation of COVID-19 Pandemic and the human development levels in light of the acceleration of the severity of this crisis so far and its consequences for the deterioration of economy and development. Accordingly, this crisis could have a sharp escalation through the mutation of new versions virus of the COVID-19 in different countries over the world. As there are no any distinctive features to how stop this crisis clearly and the urgent need to vaccinate the world's population so that their choices regarding the economy, health and education are not affected as key areas to maintain the level of development be acceptable internationally.
2. Need to support the future or emergency plans of the policy-makers within the Arab Region to face the prevalence of COVID-19 pandemic cases until be not affecting the opportunities of human development levels of this region negatively, in particular for supporting the emerging economics of Arab countries in this region after the 2020 as well.
3. There are no-adequate precautionary measures in light of the acceleration of the spread of COVID-19 rates due to the bad daily behaviors of the population in Arab societies resulting from practicing their customs and traditions in a manner could not be contributed in preserving safety and health of population through social distancing, the deterioration of economy, lack the educational quality. This will lead to the weakness of the foundations of human development in the Arab region and the lack of basic options for its inhabitants and to search for them again instead of gaining more opportunities for progress and prosperity.

The Objectives of Study

The main objective: Examine the extent of the impact of the spread of the COVID-19 pandemic on the levels of the HDI of the Arab region compared to other countries at the global level in 2020.

Sub-objectives

1. Analyzing the correlational relationship between the spread of cases of the COVID-19 pandemic and the HDI's values of 2020 based on the official statistics issued by international organizations (WHO, UN).
2. Determine the significant differences of a set of variables relevance the human development and the prevalence of COVID-19 pandemic according to the kind of region whether the Arab region countries level or outside the Arab region level in 2020, and the same applies to examining the significant differences of some demographic and economic variables for both of two groups as well.
3. Examining the expected impact of the prevalence of COVID-19 pandemic cases per 100,000 of the population on the prediction of the values of the HDI's, whether at the level of Arab region level or outside it, or the global level as a whole.
4. Providing some recommendations about initiatives becoming Future-Proof and reducing unknown or potential risks of COVID-19 affecting the human development levels within the Arab region, and the happiness and well-being of life for the population of this region.

LITERATURE REVIEW

It was pointed to three principles to shape the effective response to the COVID-19 pandemic by each country or certain region suffering this crisis in order to enhanced capabilities of human development optimally. First, look at the effective response through an equity perspective between all countries, communities and groups within each region that have already lagged in enhanced its capabilities to face this pandemic effectively, and leaving them further behind will have passive long-term impacts on human development that does not in favor of each region. Second, it should be focused on people's enhanced capabilities by reconciliation apparent tradeoffs between public health and economic activity to ensure build resilience for unknown new shocks in the future and not just too recurrent shocks. Finally, following a coherent multidimensional approach to limit the bad impact of COVID-19 pandemic on multiple interconnected dimensions of human development such as (health, economic and several social aspects, decisions of resources allocation, and others), as a systemic approach supporting government actions to priorities for the recovery from this crisis (UNDP, 2020).

There was a one of studies analyzed the relationship between COVID-19 and the population living conditions, as well as it aimed to identify social determinants related to this epidemic, mortality, and the state of fatality rate accompanied with COVID-19 in Brazil, in 2020, and it observed that 56.2% of municipalities with confirmed cases of COVID-19 had very low human development (De Souza et al., 2020). In addition, one study has indicated the outbreak of COVID-19 poses a serious threat to the general population worldwide and different countries have started multi-responses to face the outbreak of this epidemic, and one of the main obstacles that the knowledge about this disease is still limited with unresolved issues such as tracing the index case, the development of vaccine and antiviral drugs, the mutation rate of this virus, and the side-effect of induced by COVID-19. As, it has referred that the vast majority of countries have mandated their governments to adopt precautionary measures to manage the epidemic based on sustain a decent living for the population and reviving the economy in light of the consequences of COVID-19.

What's more, it has revealed that if-what the economy witnessing a number of up and down swings due any emergency circumstances or crises it should rely on a strong role of the governments in guiding opportunities of human development (El-Toni, 2004). As well, the ongoing COVID-19 outbreak affects developing economies through various sectors including

sharp declines in the local demands, depress tourism and business, travel, trade and production volumes, supply disruptions, education, and health effects, so the magnitude of this development impact will depend on how the trends of this pandemic evolves, in which still extremely uncertain (Abiad et al., 2020; Bala et al., 2020). Also, one study has assayed the changing dynamics of COVID-19 cases and deaths of the 50 worst-affected countries throughout 2020 (Conceição et al., 2020).

Moreover, the COVID-19 has specific impacts on deepening existing gender inequalities, and becomes more important to address the development levels within affected countries for managing this crisis effectively (Inter-American Commission of Women, 2020). Further, a study pursued to identify the various response in Arab Countries to Covid-19, and highlight the challenges faced during the pandemic, and pointed to both gaps and good practices that may be utilized to direct the development efforts in Arab counties to provide a sustainable response to the COVID-19 pandemic (Hasan, 2021). By the way, a one of studies has examined the impact of COVID-19 social restriction on the development levels of children, adolescents and humans and it has discovered that may compromise the Sustainable Development Goals, (Araújo et al., 2020). Also, it was revealed that the COVID-19 pandemic has shone a stark light on workplace inequities and injustices, and aside from disrupting daily routines and troubling differences in the treatment and status of productive and reproductive labor the need to focus on aspects of human development should be well-embraced in a post-pandemic world (McGuire et al., 2020; De Souza et al., 2020).

Remarkably, one of the studies has indicated to a positive and significant correlation between the incidence of COVID-19 and the high level of HDI in the world, which amounted for 0.47 (Khazaei et al., 2020), so this finding indicates to an illogical relationship that is assumed to be the opposite not positive. On the other hand, any increase in the level of human development should leads to the high health level of the population to limit the consequences of COVID-19 and not vice versa. Thus, the current study has necessitated re-examining this relationship based on the perspective of each region separately, in which have similar characteristic and common customs of the population affected by the rapid spread of COVID-19 cases, especially the Arab region.

Further study pointed to significant high-correlation between total COVID-19 Cases and Deaths per million populations, which amounted for 0.926, in which it has focused on studying this statistical relationship for 45 countries with a population of over 30 M., in which represents 86% of the world's population, as these two variables will decrease over-time (Valev, 2020). Another study has emphasized the relation between COVID-19 incidence and mortality with development indexes in different regions of the world (Torkian et al., 2020).

Furthermore, another study has highlighted the importance of the just transition to sustainable development during and in the aftermath of COVID-19 that requires a new balance that shifts based on due examining care to the potential implications on the overall development (Millard, 2020). Whereas, the COVID-19 pandemic has demonstrated the urgency to step up strategic and smart investments in human development within the European Union (EU)'s global agenda to avoid dire setbacks in human development globally (Veron & Sergejeff, 2021; Zhongming et al., 2021). Besides, all countries have been challenged by the Covid-19, but they have not all fared the same where it has manifested in distinctive patterns illustrated by daily confirmed cases as reported to the WHO (CCSA, 2020). Subsequently, this may be exposed it to different levels of human development based on the prevalence of infected cases of this pandemic in each country separately according to the viewpoint of the current study.

The world has seen dramatic changes as a consequence of the COVID-19 that have directly impacted the issue of Human development basically (Maynard & Chaudhary, 2020). This needs the importance of understanding the implications for this change by in-depth statistical studies like what the current study pursues to achieve it. Although many studies have pointed to the problem of the spread of COVID-19 pandemic, a low attention was given to indicate for examining the relationship between the rapid prevalence of COVID-19 cases and its influence on the values of HDI using in-depth analysis statistically, in particular within the Arab Region which consider one of the areas in the world needs boosting the overall development to face many challenges at the global level recently, and to supporting the international efforts optimally. As the current study concluded that the most important crisis of COVID-19 perhaps comes from the two key points, especially in the Arab region, as follows:

1. Unfortunately, there are not many studies of determination the relation between COVID-19 and human development levels resulting from the effects of this pandemic within the Arab region, partly because data availability on this crisis is relatively recent and limited for all countries over the worldwide. Consequently, this study came to compensate for this deficiency in studies to more accurately examine the relationship between each of them. As well, it comes to support the elements of development enablers in the Arab region in light of the circumstances associated with this pandemic and its unknown impacts on the human development at minimum at the short and long-term.
2. Based on the findings of previous studies that were addressed by the researcher, the most of these studies have recommended that the development aspects of populations should be taken in the account during facing the COVID-19 within each region or location suffering from this pandemic, in particular the recovery-plans and policies regarding the health and human development fields. As a result, it will try examining the gap of human development levels of the countries that were associated with the COVID-19 pandemic within Arab Region by the data available for the year 2020 in the international reports.

METHODOLOGY

The current study is considered as descriptive and explanatory research simultaneously, and based on quantitative approach. It is a one of cross-sectional studies that depends on time snapshot design which measurements of variables being studied are taken at certain time during the period that was affected by the prevalence of COVID-19 pandemic cases for the year 2020. As, the statistics of the official data for this period were considered to be available and published internationally in a consistent and adequate shape to examine the significant relationships between a set of target variables by the current study, in which could be reflecting whether the development situation or spreading of the COVID-19 pandemic cases in conjunction at the same year target to examine these relationships by this study in order to achieve its planned objectives.

Consequently, the methodology of this study was presented by the following main points:

Data Sources

This study based on gathering and consolidating the data of a set of different variables relevant according to the perspective of this study from the various international reports issued officially by the United Nations (UNDESA) based on the data of the 2019 from Department of Economic and Social Affairs, UNESCO Institute for Statistics (2020), the United Nations Statistics Division (2020), the World Bank (2020) based on the data of the World Development Indicators database, the International Monetary Fund IMF (2020), the World Health Organization WHO, the International Labor Organization ILO (2020), UNESCO, and finally the

website of worldometers (www.Worldometers) according to last updated in conjunction with the preparation time of the current study.

The Key Variables

Statistics of the prevalence of coronavirus of WHO Coronavirus Disease (Covid-19) Dashboard according to data last updated in 15 Feb 2021 at 2:44 pm CET throughout the year of 2020. As well as the human development index (HDI) of the year 2020 that is always calculated by the UNDP and gives the newest information on universal growth of the development that has occurred annually in each country including national, regional, and universal estimations. The human development report released to cover all countries in the world and are classified into four categories based on human development values achieved through a certain year, including ranking based on the classification to one of four levels either very high, high, moderate, and low classes. The levels of HDI have a value are just located between zero and one to determine the level of development in each country separately. Therefore, the values of HDI supports to conduct comparisons between countries and regions targeted, in which these values determine the advance in human development levels that is happened clearly. The HDI marks the average of success in each country towards three key domains of measuring the human progress, including health, education, and living decent standards to determine the HDI's values.

The Scope of Study

The study has focused only on the 19 countries as MENA region which is consist of Algeria, Tunisia, Morocco, Mauritania, Bahrain, Egypt, Sudan, Iraq, Palestine, Jordan, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Syria, UAE and Yemen. These combined countries represent the Arab region targeted by the current study, with the exclusion both of Iran, Afghanistan and Pakistan from this scope to represents the Middle East and North Africa region (MENA) (Figure 1).



FIGURE 1
THE SCOPE OF MENA COUNTRIES

Location

The Arab region is also called the Middle East and North Africa which is a region spanning the vast majority of Western Asia and the North of Africa.

Demography

The total population of the Arab region is amounted for 418,628,043 for the year 2020, so this region constitutes 6% of the total population of the world whose amounts to approximately 7 billion approximately, while the population density represents only 11% within the Arab region, and according to the data sources that were relied upon to develop a database of the target variables to achieve the current study's objectives, and this region has been considered to cover about 19 Arab countries according to the scope of this study as specified above. Besides, the area of Arab region accounts for 10% of the world's area approximately along with dominating 60% of the world's oil reserves, and 45% of the world's natural gas reserves. Therefore, the Arab Region is considered an important source of economic resources in the world, as well as the most investment opportunities of this region are focused on the energy industries.

Statistical Analysis

The data gathered about the target variables were analyzed by some advanced statistical techniques including the multi-correlation analysis to evaluate the correlation between the variables under the study at the level of significance was set at less than 0.05, t-test for independent samples, and for examining the source of variance between target groups, and simple regression method for examining the potential impact of the prevalence COVID-19 Cases per 100,000 population on predicting the level of HDI's of countries based on the data of 2020. Finally, the data were analyzed using SPSS version 18 software.

RESULTS & DISCUSSION

The background characteristics has shown that the countries located within the Arab region is 19 countries and represents the MENA region, with the exception three countries of Iran, Pakistan and Afghanistan from the scope of the target region by the current study. As the following Table 1 shows that the number of countries within the Arab region clearly represents 10% of the total world countries that were targeted by this study. The number of countries located in the continent of Europe is also considered the highest percentage, reaching 27.5% of the total world countries, as targeted by the population of current study as well. Besides, it has followed by the number of countries located in the continent of Africa, which amounted to approximately 5% of the total countries in the world. While the lowest percentage of the number of countries located in South-East Asia, which reached 5% of the total countries in the world.

The results of Table 1 has also shown that the classifications of COVID-19 transmission according to the data of the World Health Organization also showed that about 69% of the outbreaks of COVID-19 cases were transmitted in countries, regions and regions that suffer from community transmission, reaching about 131 countries due to the lack of sufficient preventive and precautionary measures in order to ensure social distancing in suitable health manner be safety to all population. And the 20% of the outbreaks of COVID-19 cases were due to countries, regions and territories that are suffering from clusters of cases in time and geographical location as a result of joint exposure to this epidemic, in which their number have reached 38 countries of the target total. Whereas the 4% of the cases of the outbreaks of this virus in the countries, regions and regions that have witnessed the presence of an infection of one or more cases, whether they were imported or discovered locally within these countries or regions, which has

only amounted for 8 countries of the target total countries of the current study. Moreover, no cases of the outbreak of this epidemic were recorded only in 10 countries in the world, which have amounted for 5% of the total countries targeted for the study.

Background Characteristics	N 189	% 100
Targeted Area		
Global Level (Non-Arab Region)	170	89.9
Arab Region (MENA)	19	10.1
Region/Continent		
Eastern Mediterranean	21	11.1
Europe	52	27.5
Africa	47	24.9
Americas	35	18.5
Western Pacific	24	12.7
South-East Asia	10	5.3
Transmission Classification of COVID-19		
Community transmission	131	69.3
Clusters of cases	38	20.1
Sporadic cases	8	4.2
No cases	10	5.3
Pending	2	1.1

Source: Prepared by the researcher based on the international statistics reports of 2020 issued officially by UNDESA, WHO, ILO, IMF, the World Bank, UNESCO, and the website of worldometers (www.Worldometers) according to last updated in conjunction with the preparation time of the current study.

The Figure 2 has also shown the distribution of human development index values in the countries of the Arab region for the year 2020, as it ranged from 0.470 in the state of Yemen which was the lowest value of HDI within the Arab region, to 0.890 in the United Arab Emirates which was the highest value of HDI within the Arab region? In general, the Figure 2 shows the map of the Arab region, as the countries shaded in color dark reflects the highest levels of human development levels within the Arab region, and vice versa.

This Figure 2 also showed the prevalence of COVID-19 cases in the Arab region for the same year 2020, it was pointed to approximately 6 thousand cases as the lowest value for the spreading this pandemic, which was represented by the State of Yemen for cases resulting from this epidemic. It may be due to the conditions of the war that Yemen is currently witnessing, and this may have hindered the existence of an accurate medical record of cases of this epidemic. As there was about one million cases as an upper limit for the value of the spread of COVID-19 cases, represented in the State of Iraq within the Arab region, and was followed by an increase in the number of cases of infection with COVID-19 in Jordan, Lebanon, Morocco and the UAE, respectively, where it reached about 500 thousand cases in each of them.

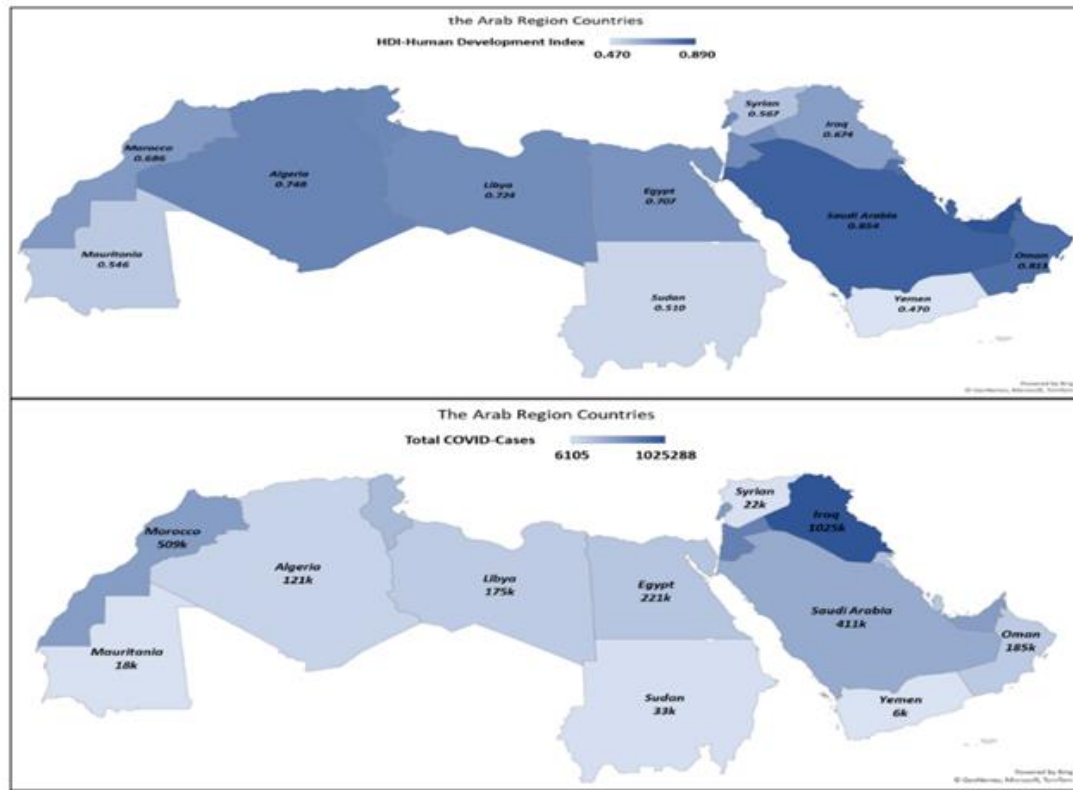


FIGURE 2
THE ARAB REGION ACCORDING TO HDI'S VALUES AND COVID-19 CASES IN 2020

Snapshot of the Demographic Analysis of the Arab Region

The Figure 3 has shown that Egypt has the highest population % within the Arab region, reaching approximately 24% of the total population of the region, the total population in Egypt amounted for 102 M approximately which equivalent to a quarter of the population of the Arab region, followed by both of Algeria and Sudan, respectively, with the same percentage which amounted for 10.5%. On the other hand, the Figure 4 shows the poor distribution of population density within the Arab region according to the area of each country in this region compared to the total population that who inhabitants and lives in each country. It reveals that Algeria, Saudi Arabia, Sudan, and Libya, respectively, have the largest area and the lowest population density, while on the other hand, we find the highest population density and the least area are founded in Bahrain, Palestine, Lebanon, and Qatar.

This findings may be due to the poor elements of comprehensive development adopted and ease of happiness and wellbeing of the population in certain countries or regions compared to others, as well as the poor utilization of the available resources in an optimal manner within the Arab region according to an Arab unified vision which has a joint venture that adopts freedom of movement for living and housing among the countries within the Arab region, while paying attention to fully supporting the elements of Arab development in the larger areas that suffer from poor population density clearly, in addition, it could be as a good roadmap to

becoming future-proof in this region. Therefore, it clearly needs to be the focus of the attention of planners and development policies within the Arab region in the coming years.

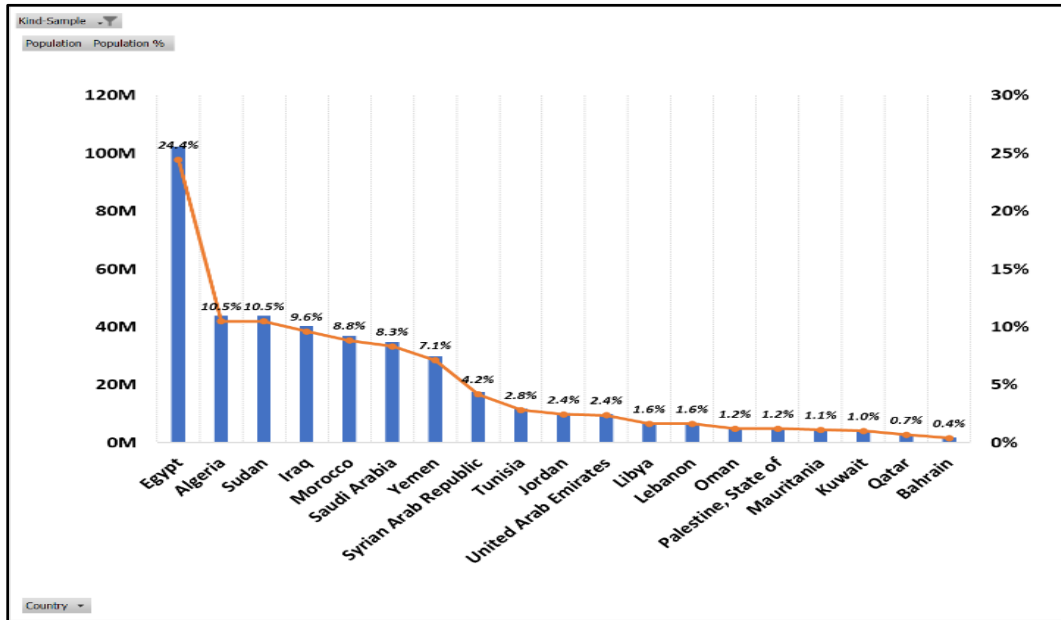


FIGURE 3
THE RELATIVE DISTRIBUTION OF THE POPULATION IN THE COUNTRIES OF THE ARAB REGION (MENA) IN 2020

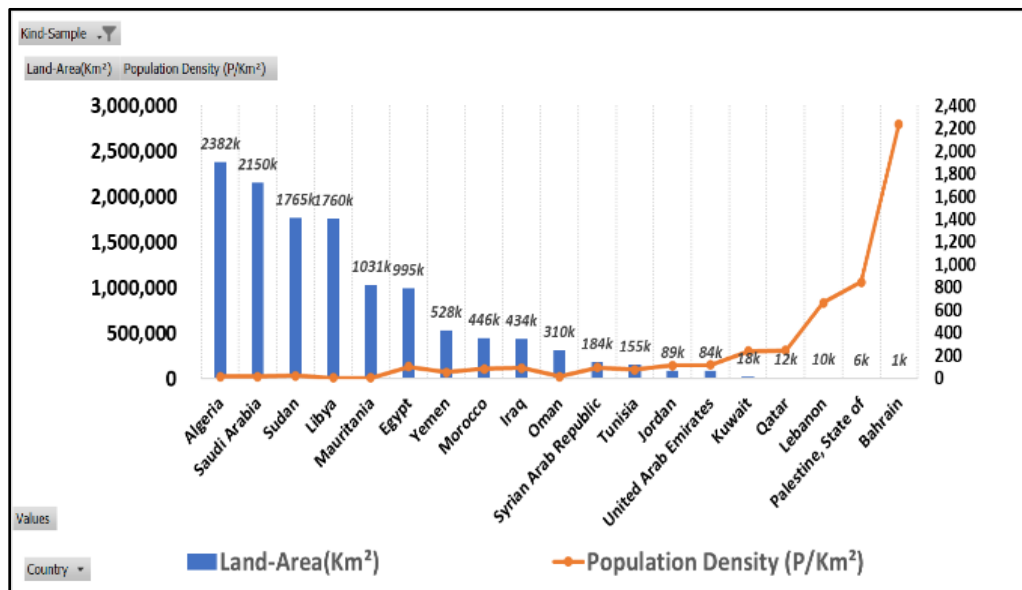


FIGURE 4
THE POPULATION DENSITY ACCORDING TO THE AREA OF THE COUNTRIES OF THE ARAB REGION (MENA) IN 2020

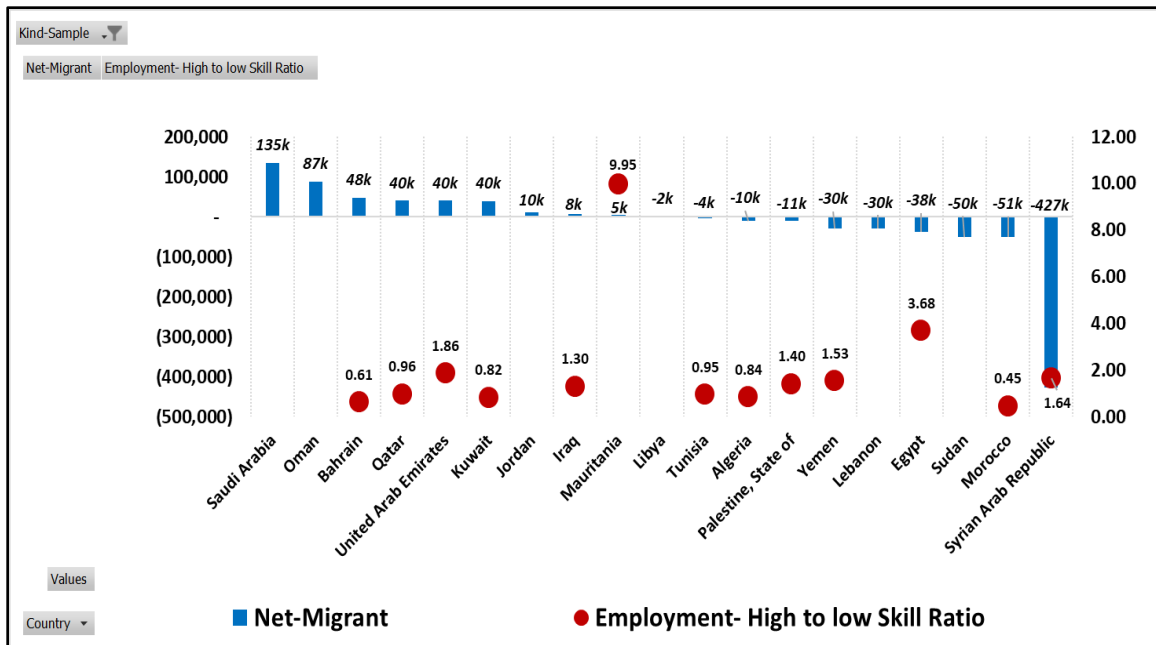


FIGURE 5
NET MIGRATION AND THE HIGHEST-TO-LOW-SKILLED EMPLOYMENT RATION WITHIN THE ARAB REGION IN 2020

For more, the Figure 5 showed that the number of immigrants to the Arab Gulf countries within the Arab region is higher than in other Arab countries, where the number of immigrants is clearly higher than in Syria, where net migration is 427,000, and may be a direct result of the effects of the wars and the destruction and poor development conditions that have significantly affected the choices of the population within this region, followed by Morocco, Sudan and Sudan. Egypt, respectively, has net migration of 51, 50, and 38 thousand respectively, which is reflecting the need of these countries to enhance overall development opportunities over the years to prevent the potential negative effects of illegal migration both within the Arab region and at the level of the international community by ensuring that international organizations come together to provide the expertise and support needed for those countries in particular, as well as the importance of seeking by those countries to improve living conditions. The Figure 5 also showed that the high to low ratio with regard to the skilled employment in Mauritania is higher at about 10%, compared to the rest of the Arab region countries, followed by Egypt at about 4%, and in contrast it was the lowest percentage of this ratio in Morocco, Bahrain and Kuwait respectively in terms of the percentage achieved of this ratio.

In general, there are low percentages of this ration at the level of the Arab countries, which requires institutions of labour and vocational and technical training centers in the Arab region taking into account the rehabilitation of abilities and skills of qualified Arab workers in a higher skill levels in accordance with the industry standards of the skills desired internationally in line with the requirements of employing new techniques, advanced technology resulting from the fourth industrial revolution, artificial intelligence and the speed leap of pace towards the transformation of the digital economy, in which requires more advanced skills in the labor markets, both Arab region and global level.

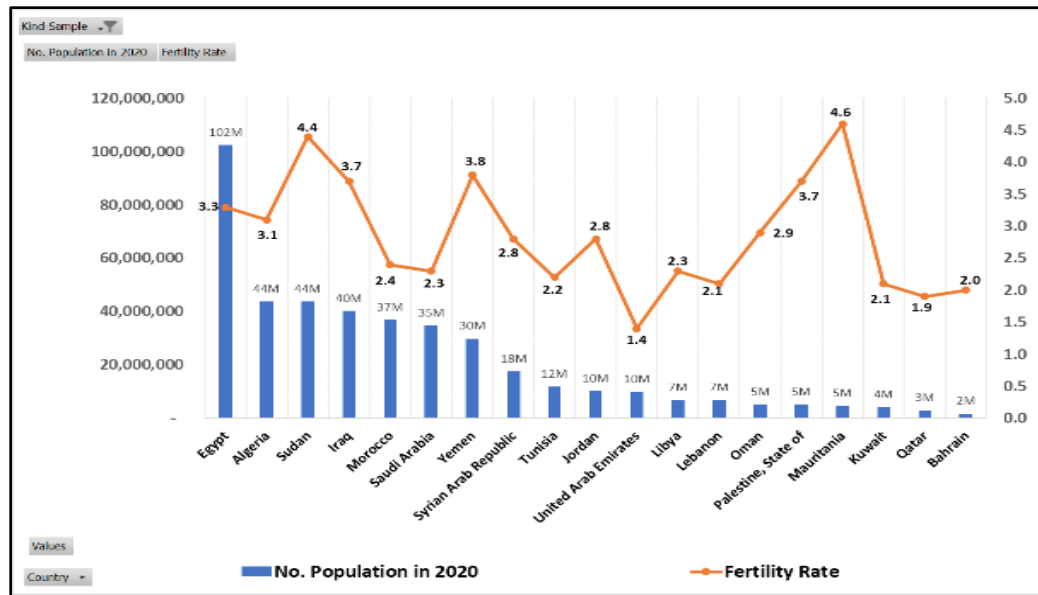


FIGURE 6
THE FERTILITY RATE ACCORDING TO THE POPULATION IN THE COUNTRIES OF THE ARAB REGION IN 2020

The Figure 6 also showed that Egypt has the highest population over the other Arab countries, followed by Algeria, Sudan and Iraq respectively. The highest fertility rate was in Mauritania and Sudan respectively, with approximately 5 births per woman of childbearing age, while the lowest fertility rates were in the UAE and Qatar, with 1.4 and 1.9 births per woman of reproductive age, respectively. This result reflects that there are clearly low fertility rates regarding the Arab Gulf countries, which may be due to the problems of spinsterhood as a result of the lack of marriage chances among women of reproductive age within this region according to adhering to strict customs and traditions, as well the high costs of marriage. Surely, this requires planners within that region the work to study the root causes affecting on this issue and try to remedy it to maintain stable population growth dependable that contribute to supporting growth and progress opportunities within those Arab societies. Surely, this requires planners within that region the work to study the root causes affecting on this issue, and then pay initiatives to how remedy it to maintain stable population growth dependable that contribute to supporting the progress opportunities of those Arab societies.

Likewise, the Arab countries that are currently severing the highest fertility rates will also require the planners be aware to study the best alternatives or options to how develop the human development opportunities, particularly those that have the demographic gift resulting from the increase in human forces of production and working age, so they have to cooperate in order to support the health, educational and economic components of the potential population increase resulting from this increase based on the long-term joint planning within the Arab region.

Features of the Rapid Change to the Prevalence of COVID-19 Cases

The following Table 2 has shown the rapid prevalence of COVID-19 pandemic cases globally, specifically for the period from April to May 2020 as a specific time point for

collecting, examining and analyzing the data targeted by the current study, particularly as the prevalence of this epidemic worsened dramatically during that period specifically across different countries and regions over the worldwide, in which the relative change in the number of COVID-19 pandemic cases increasing by 10% per month between April and May. The monthly change in the number of deaths resulting from the epidemic was 8%, and the monthly change in recovery of this pandemic increased by approximately 12%, higher than the monthly change % in deaths, which can be considered a somewhat positive indicator globally.

Data last update	24 April 2021, 12:44pm CET	14 May, 2021, 16:35 GMT	Change Rate (%)
Coronavirus Cases	146,873,882	162,240,132	10%
Deaths Cases	3,107,167	3,364,365	8%
Recovered Cases	124,529,936	140,095,383	12%

Source: Worldometers, 2021.

However, the results of Table 2 indicated that the rate of rapid change in the prevalence of COVID-19 cases has reached only between two consecutive months of 10%, which in itself is a risk indicator that confirms the concerns of many countries and regions over the worldwide that suffer from a lack of fair human development components and with its all key elements or dimensions, whether in education, health or the economy clearly. This gives them repeated warning signals as triggers to directly call for international solidarity and cooperation in order to address this crisis in an integrated manner, and this must be clearly demonstrated to the areas that have combined by borders and common characteristics, particularly in the Arab region, for the purpose of halting the rapid spread of these COVID-19 cases and reducing their potential negative effects of this pandemic.

The Prevalence of COVID-19 Cases and the Arab Region's Demographia

The following Table 3 showed that the Arab region's population of 19 countries accounted for 5% of the world's total population of the target areas in terms of the population of the study amounted for 189 countries, and this region occupied just 10% of the total area of the world, while the population density by area of the Arab region was 11% of the total population density globally, where the net change % in population growth was 10%. In contrast, the COVID-19 cases within the Arab region accounted for 4% of the total globally, while the proportion of deaths from this epidemic within the Arab region was 3%, while the proportion of recovery from the epidemic was 4%, the prevalence of COVID-19 cases per million of population was 13%, and the rate of tests cases of this epidemic per million population was 12% in the Arab region compared to the global level, and this to each variable's percentage separately.

According to the rates of net-migration within the Arab region, which showed in the data of Table 3 that reflected that this region tends to be considered to be an unbalanced and repellent area to its population, so that we find the number of emigrants from that region in general greater than the number of immigrants to it, and therefore requires the work to investigate the root causes of this issue carefully. As, it has to look for better opportunities for this region in order to

supporting it to be more attractive and not repellent areas through the full-cooperation of the Arab region countries in integrated coordination for all critical fields of the region's development. This support should be directed especially for the countries that are still suffering from this indicator clearly to maintain a balanced volume of population and development levels within the Arab region as a single cohesive unit, and unbalanced migration rates will undoubtedly put pressure on resources and basic needs of some regions without others, as will affect the global situation indirectly, in which may expose it to exacerbate the same risks as a result of increasing the illegal immigration rates to some developed countries like Europe countries.

Descriptive Statistics	Arab Region (MENA)		Global Level (Non-Arab region)		Total	
	N* =19	%	N* =170	%	N* =189	%
Demographic Statistics						
Population No.	418,628,043	5%	7,218,753,414	95%	7,637,381,457	100%
Land Area (Km ²)	12,358,068	10%	114,212,633	90%	126,570,701	100%
Density (P/Km ²)	5,064	11%	41,638	89%	46,702	100%
Net Change	7,729,010	10%	70,382,581	90%	78,111,591	100%
COVID-19 Statistics						
Total COVID-Cases	5,676,091	4%	141,008,772	96%	146,684,863	100%
Total Deaths	90,666	3%	3,013,457	97%	3,104,123	100%
Total Recovered	5,114,981	4%	119,610,326	96%	124,725,307	100%
Tests / 1M Pop	10,798,157	13%	75,075,170	87%	85,873,327	100%
Total Cases / 1M Pop	627,822	12%	4,732,708	88%	5,360,530	100%
Other Factors Statistics						
Migrants (Net)	(240,664)	N/A**	316,359	N/A**	75,695	N/A**
Fertility Rate (Average)	2.8	N/A**	2.7	N/A**	2.7	N/A**
Unemployment Rate (Aver.)	9.9	N/A**	6.7	N/A**	7.0	N/A**
Unemployment-Youth-Rate (Aver.)	23.7	N/A**	15.0	N/A**	16.0	N/A**

Note: * N=denotes to the number of countries within the target area.

** N/A denotes to Not-Applicable due the approach of measurement is different from the calculation of % above.

Source: Prepared by the researcher based on the international statistics reports of 2020 issued officially by UNDESA, WHO, ILO, IMF, the World Bank, UNESCO, and the website of worldometers (www.Worldometers) according to last updated in conjunction with the preparation time of the current study.

In addition to the unemployment rates in general in the Arab region represents approximately 10% compared to the global level 7%, while the rates of Arab youth unemployment represents approximately 24% that are greater than the average of global unemployment rate which amounted to 6%, but fertility rates both within and outside the Arab region are somewhat similar and no notable differences, thus the determinants of unemployment and unbalanced migration at the same time simultaneously pose significant big challenges in front of the planners and policy-makers together in the Arab region in 2020, especially in conjunction with the repercussions of the crisis of Corona pandemic affecting the economic, education and health systems of the Arab countries dramatically, thus it needs joint and urgent reform plans in line with the rapid prevalence of the COVID-19 epidemic at the global level.

In addition, to identify the most important demographic and economic variables through the comparison between the regions and continents of the world in 2020 coinciding with the beginning of the spread of the COVID-19 pandemic in the worldwide, the data of Table 4 showed that the continent of South East-Asia is the highest population at 26%, but it is considered less in terms of the land area and population density, compared to the rest of the world. It was followed by the Western Pacific continent in terms of population ratio of 25%, but this continent has the highest population density at 41% compared to the rest of the world, while Africa is the highest population increase among the rest continents of the world, in which amounted for 33%. On the other hand, the lowest population increase is focused in the continent of Europe where it reached 3% compared to the rest of the world's continents.

This reflects the imbalance in the distribution of populations on continents and regions over the world in proportion to the land area, total population and annual population increase according to available data for 2020, as well as the worsening of the corona crisis and its successively mutated strains in a way that threatens humanity, and its effects on mortality, infected and recovery cases, particularly this global crisis calls for concerted efforts internationally to ensure a sustainable and balanced population environment that is safe, easy to move without restrictions or boundaries and enjoying live. Indeed, it needs an optimizing the distribution of the world's population is heading for a better-future, so that it will bring higher quality of life by impartiality, equality and equity to the humanity in the worldwide by focusing on the most affected regions optimally.

Descriptive Statistics	Eastern Medi- terranean	Europe	Africa	America s	Western Pacific	South East-Asia	Total
Demographic Statistics							
Population No.	9%	12%	14%	13%	25%	26%	7,637,381,457
Land Area (Km ²)	9%	21%	17%	30%	17%	5%	126,570,701
Density (P/Km ²)	12%	16%	12%	10%	41%	10%	46,702
Net Change	17%	3%	33%	10%	12%	25%	78,111,591
COVID-19 Statistics							
Total COVID-Cases	6%	34%	2%	42%	2%	14%	146,684,863
Total Deaths	6%	34%	3%	48%	1%	8%	3,104,123
Total Recovered	6%	36%	2%	41%	2%	13%	124,725,307
Tests/ 1M pop	13%	63%	3%	11%	7%	3%	85,873,327
Total Cases/ 1M Pop	12%	62%	5%	18%	1%	2%	5,360,530
Other Factors Statistics							
Migrants (Net)	(586,063)	1,588,357	(310,686)	773,265	(194,195)	(1,194,983)	75,695
Fert. Rate (Average)	2.8	1.8	4.3	2.1	2.5	2.2	3
Unemployment (Ave.)	9.7	7.3	7.6	7.6	3.6	3.5	7
Unemployment Youth	22.9	16.6	14.3	17.6	9.4	12.4	16

Source: Prepared by the researcher based on the international statistics reports of 2020 issued officially by UNDESA, WHO, ILO, IMF, the World Bank, UNESCO, and the website of worldometers (www.Worldometers) according to last updated in conjunction with the preparation time of the current study.

The results of Table 4 has revealed that the continent of America is one of the continents which attract the most numbers of immigrants according to the year 2020 based on the comparison of the indicator of net migration between all continents over the world, only the Eastern Mediterranean region is the highest concentration of unemployment rates over the world which amounted for 10%, while the youth unemployment of this region has reached almost 23%. As well as, the continent of Africa has the highest fertility rate compared to the rest continents of the world where reached 4 births per woman, as the fertility rate for the rest of the world's continents was 2 births per woman. This indicates to the high population growth and high unemployment rates which were focused in both of Africa and the Eastern Mediterranean, in which the most of the Arab region countries were located in these continents in terms of the highest total population and land area, thus it calls for the importance of developing development programmes in order to take advantage of population increase rates and along with the high unemployment rates to reducing the potential negative effects on the economy and overall development within the Arab region, which has currently deteriorated in the light of the crisis of coronavirus.

Concerning to the COVID-19 pandemic, both of America and Europe had the highest prevalence rates of cases, which is respectively amounted for 42%, 34%, and they has achieved the highest recovery and deaths rates of this pandemic. In contrast, both of Africa and the Western Pacific had the lowest prevalence rates of cases for the epidemic with same percentage which amounted for 2% approximately. The continent of Europe also had the highest rate of COVID-19 testing cases and the prevalence of infections cases per million inhabitants. These results reflect how to setup the prioritization of the global attention by the international organizations in the population, development and health sectors in accordance with the adoption of unified global policies and procedures.

Examining the Relationship between COVID-19 and HDI of the Arab Region

The Pearson correlation coefficients was used to examine the relationship between the prevalence of COVID-19 cases and human development levels of the Arab region, and along with another set of targeted health, demographic and economic variables. The results of Table 5 showed a moderate correlation between both the HDI's values and the prevalence of COVID-19 cases per million inhabitants, which amounted to 0.628 and it, is statistically significant at a level less than 0.05. Thus, while the higher the HDI of in the Arab region, the lower value of the prevalence of the Covid-19 pandemic cases.

The data in the previous table through the target correlation matrix has shown that the variable of income index is the highest coefficient value of correlation directly with the HDI compared to the rest of variables, the value of this correlation coefficient amounted for 0.959, which is considered a very strong statistically significant relationship at a level less than 0.05. As, the variable of the percentage of deaths cases which caused by the COVID-19 pandemic had the highest direct correlation with the prevalence of COVID-19 cases per million of the population, the value of this correlation coefficient amounted for 0.825, which is also considered a very strong relationship with statistical significance at a level less than 0.05. These results also showed that the variable of gender inequality index has an inverse significant correlation with both the HDI and the prevalence of COVID-19 cases, in which the correlation coefficients of each variable amounted for 0.919 and 0.638, respectively, and it is considered a statistically significant relationship at a level less than 0.05.

Table 5
THE COEFFICIENTS OF CORRELATION MATRIX OF THE VARIABLES RELATED WITH BOTH OF THE HUMAN DEVELOPMENT LEVELS AND THE PREVALENCE OF COVID-19 CASES AT THE ARAB REGION IN 2020

Variables	COVID-19 - Total Cases	COVID-19 - Total Deaths	COVID-19 - Cases per 100000 population	COVID-19 - Deaths per 100000 population	COVID-19 - Total Recovered	COVID-19 - Total Tests	Unemployment rate	Unemployment- Youth rate	Skill-level employment High-skill to low-skill ratio	Income index	Gender Development Index	Gender Inequality Index
Human Development Index (HDI)	0.180*	0.197**	-0.628**	0.545**	0.186*	0.198**	-0.014	.130	0.303**	0.959**	0.610**	-0.919**
Gender Inequality Index	-0.108	-0.117	-0.638**	-0.527**	-0.111	-0.168*	0.081	-0.029	-0.311**	-0.875**	-0.606**	
Gender Development Index	0.064	0.100	0.392**	0.359**	0.066	0.048	-0.027	0.057	0.190*	0.568**		
Income index	0.181*	0.194**	0.625**	0.513**	0.186*	0.203**	-0.011	0.137	0.274**			
Skill-level employment High-skill to low-skill ratio	0.022	0.012	0.187*	0.120	0.021	.052	-0.062	-0.051				
Unemployment- Youth rate	0.034	0.037	0.167*	0.209**	0.040	-0.028	0.935**					
Unemployment rate	-0.013	-0.004	0.105	0.148*	-0.010	-0.081						
COVID-19 - Total Tests	0.891**	0.786**	0.161*	0.180*	0.885**							
COVID-19 - Total Recovered	0.998**	0.947**	0.237**	0.287**								
COVID-19 - Deaths per 100,000 population	0.276**	0.361**	.825**									
COVID-19 - Cases per 100,000 population	0.230**	0.235**										
COVID-19 Total Deaths	0.942**											

Note: ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Examining Relative Differences in Human Development Variables According to the Type of Region

The t-test for independent samples was used to examine the relative differences in the values of some targeted variables for measuring human development levels regarding various perspectives and angles according to region type, whether between the group of the countries within the Arab region or those countries outside this region which are considered representing the global level. So, the results of Table 6 showed that there are significant relative differences at

a statistical level less than 0.05, according to both of unemployment rates in general and youth unemployment rates, where the data in this table has showed that youth unemployment rates within the Arabic region amounted for 23.7% with a standard deviation of 12.9,000, and it is greater than youth unemployment rates in those countries outside the Arab region, where it amounted for 15% with a standard deviation of 10.7%. Those results point out significantly to the weak economic conditions in most Arab countries compared to the global level, and these high unemployment rates be concurrent to have long-term negative effects on hampering human development levels to achieve planned achievements and worsening them without reaching internationally desired levels, particularly the Sustainable Development Goals by 2030.

However, the results in the previous table have also showed statistically significant relative differences with regard to the variable of gender development index according to type of region, both in the Arab region countries and those countries outside this region. This relative difference was in favor of the group of countries which located outside the Arab region, where GDI amounted for 0.948 with a standard deviation of 0.064 compared to the value of this index at the Arab region countries group which amounted for 0.874 with a standard deviation of 0.111. This result highlights the importance of the work to keep pace with development trends to promote levels of gender development within the region Arabic countries compared to international trends, especially to support the opportunities for the development of Arab women.

Variables	Main Groups	N	Mean	Std. Deviation	T-test
Human Development Index (HDI)	Global Level (Non-Arab Region)	170	0.723	0.153	0.177
	Arab Region (MENA)	19	0.717	0.121	
HDI-Female	Global Level (Non-Arab Region)	148	0.709	0.166	1.294
	Arab Region (MENA)	19	0.657	0.150	
HDI-Male	Global Level (Non-Arab Region)	148	0.742	0.147	-0.076
	Arab Region (MENA)	19	0.745	0.109	
Life Expectancy (both sexes)	Global Level (Non-Arab Region)	165	73	7.447	-1.342
	Arab Region (MENA)	19	75	4.517	
Females Life Expectancy	Global Level (Non-Arab Region)	165	76	7.672	-0.836
	Arab Region (MENA)	19	77	4.472	
Males Life Expectancy	Global Level (Non-Arab Region)	165	71	7.331	-1.947
	Arab Region (MENA)	19	73	4.784	
Income index	Global Level (Non-Arab Region)	170	0.712	0.174	-0.665
	Arab Region (MENA)	19	0.740	0.163	
GDP per capita (2017 PPP\$)	Global Level (Non-Arab Region)	164	20,031.87	20,270.42	-1.063
	Arab Region (MENA)	17	25,669.35	25,691.24	
(GNI) per capita (constant 2017 PPP\$)	Global Level (Non-Arab Region)	170	19,864.16	20,708.08	-0.707

	Arab Region (MENA)	19	23,497.00	25,780.60	
Unemployment Rate	Global Level (Non-Arab Region)	159	6.7	5.1	2.404*
	Arab Region (MENA)	19	9.9	6.9	
Unemployment-Youth Rate	Global Level (Non-Arab Region)	159	15.0	10.7	3.296*
	Arab Region (MENA)	19	23.7	12.9	
Skill-level employment (High to low-skill ratio)	Global Level (Non-Arab Region)	143	3.046	4.462	0.832
	Arab Region (MENA)	13	1.999	2.525	
Gender Development Index	Global Level (Non-Arab Region)	148	0.948	0.064	4.316*
	Arab Region (MENA)	19	0.874	0.111	
Gender Inequality Index	Global Level (Non-Arab Region)	144	0.338	0.192	-1.130
	Arab Region (MENA)	18	0.392	0.180	

Note: (*) Significant at the level less than 0.05.

Source: SPSS outputs, version 18.

Examination of the Relative Differences in the Prevalence of Covid-19 Cases According To the Type of Region (Arab/Non-Arab)

The t-test of independent samples was used to examine the relative differences in the values of prevalence of COVID-19 pandemic cases according to the variable of region's type, in which has focused to examine these differences between two groups, the first group represent the countries located within the Arab region, while the second group represent the countries located outside the Arab region. The results of Table 7 showed that there were significant relative differences statistically at a level of less than 0.05, according to each of the following variables: the total cases of Covid-19, deaths caused by Covid-19, and recovery cases of this pandemic, in favor of the group of countries that are located outside the Arab region. This significant difference may statistically be due to the size of total population of the Arab region is less than those living outside this region, as a fact, but it should take into the account examining the relative differences have been studied broadly for further investigation of the potential impact of those variables with regard to this epidemic on the Arab region compared to the global level (Torraca & Mostowy, 2016).

Variables	Main Groups	N	Mean	Std. Deviation	T-test
COVID-19-Total Cases	Global Level (Non-Arab Region)	166	849,450	3,152,541	2.185*
	Arab Region (MENA)	19	298,742	262,850	
COVID-19-Total Deaths	Global Level (Non-Arab Region)	165	18,263	61,595	2.750*

	Arab Region (MENA)	19	4,772	4,529	
COVID-19-Cases per 100,000 population	Global Level (Non-Arab Region)	169	2,815	3,489	-0.647
	Arab Region (MENA)	19	3,356	3,139	
COVID-19-Deaths per 100,000 population	Global Level (Non-Arab Region)	169	53	70	2.145*
	Arab Region (MENA)	19	34	30	
COVID-19-Total Recovered	Global Level (Non-Arab Region)	165	724,911	2,547,813	2.213*
	Arab Region (MENA)	19	269,210	240,815	
COVID-19-Total Cases/1M pop	Global Level (Non-Arab Region)	165	28,683	34,869	-0.522
	Arab Region (MENA)	19	33,043	30,906	
COVID-19-Deaths/1M pop	Global Level (Non-Arab Region)	158	568	707	2.598*
	Arab Region (MENA)	19	338	298	
COVID-19-Total Tests	Global Level (Non-Arab Region)	158	12,748,400	45,900,000	0.696
	Arab Region (MENA)	19	5,382,735	9,949,341	
COVID-19-Tests/ 1M pop	Global Level (Non-Arab Region)	158	475,159	792,655	-0.467
	Arab Region (MENA)	19	568,324	1,040,853	

Note: (*) Significant at the level less than 0.05.

Source: SPSS outputs, version 18

The findings have also shown that there are no statistically significant differences in the values of the following variables: The prevalence of COVID-19 pandemic cases per 100,000 populations or per million population according to the type of region, whether at the level of the group of countries within the Arab region or the group of countries outside it. Therefore, it was relied on the variable of prevalence rate of coronavirus cases among the population to study its potential impact on predicting the value of the HDI's, whether at the Arab region level or outside this region, or at the global level that includes all countries included within the study's population, as the raw data was gathered from various main sources.

Examining the Potential Impact of the Prevalence of Covid-19 Pandemic Cases on Predicting the HDI's Values

The simple linear regression analysis was used to examine the potential impact of the variable of the spread of COVID-19 cases per 100,000 populations on the prediction of the value of the Human Development Index using the enter method, and along with relying on the data collected of the year 2020 about the variables targeted for analysis to model this predictive relationship statistically. Hence, it will lead to a proposed statistical model could predict with the future value of the HDI by the Arab planners and international policy-makers based on monitoring the value of the prevalence of COVID-19 pandemic cases of the year 2020, as a baseline. Thus, it is assumed that this model proposed could be a vital role in providing the help for development and health organizations and institutions over the world in order to follow-up this relationship periodically, and also to reduces the exposed risks resulting from the effects of this pandemic on the development situation of the Arab region countries, as a cohesive unit. The results of this analysis are illustrated in the following table:

Table 8					
THE COEFFICIENTS (A) OF REGRESSION MODEL EQUATION USING ENTER METHOD FOR EXAMINING THE IMPACT OF THE PREVALENCE COVID-19 CASES PER 100,000 POPULATION ON PREDICTING THE VALUES OF HDI'S OF COUNTRIES BASED ON THE DATA OF 2020 TO EACH TARGET REGION ACCORDING TO THE CURRENT STUDY					
Variables	B	S.E.	Beta	T	Sig.
The proposed statistical model including all countries (Arab region & Non-Arab region)					
The fit of proposed model $R^2=0.647$, $F=133.834^*$					
(Constant)	124.577	3.957	--	31.485	0.000*
COVID-19 Cases per 100,000 population	-0.010	0.001	-0.647	-11.569	0.000*
The proposed statistical model at Arab Region level (MENA)					
The fit of proposed model $R^2=0.622$, $F=10.744^*$					
(Constant)	129.827	12.326	--	10.533	0.000*
COVID-19 Cases per 100,000 population	-0.009	0.003	-0.622	-3.278	0.004*
The proposed statistical model at the Global level (Non- Arab Region)					
The fit of proposed model $R^2=0.652$, $F=123.233^*$					
(Constant)	123.949	4.183	--	29.633	0.000*
COVID-19 Cases per 100,000 population	-0.010	.001	-0.652	-11.101	0.000*

Note: (*) Significant at the level less than 0.05. a. Method: (Enter) & the dependent Variable: (HDI), The independent variable is the prevalence COVID-19 Cases per 100,000 populations.

Source: SPSS outputs version 18.

The data of Table 8 showed three proposed statistical models for predicting the values of the Human Development Index based on determining the actual value of the prevalence rate of COVID-19 pandemic cases per 100,000 populations, the first statistical model concerns the global level which is including all countries, the second statistical proposed model concerns the Arab region only, and the last statistical model concerns other regions outside the borders of the Arab region. The proposed relationship in all of those models was significant based on the F-test's value, which indicated the significance of the relationship between the both of two variables included in each proposed statistical model in separately, and the coefficient of determination) R^2 (of the model relevance to the Arab region countries has amounted for 0.622, and thus it will be able to explain the relationship between the both of two variables by 62% approximately. As a result, it has reflected the explanatory power of the independent variable represented in the prevalence rate of COVID-19 cases per thousand populations in predicting the value of the Human Development Index within the Arab region, where the value of the regression coefficient of this variable was significant statistically at the level less than 0.05.

Alongside, the value of the regression coefficient for the Arab model has reached (-0.009), in which reflects the existence of an inverse relationship for the prediction or a negative correlation between the both of two variables. This has indicated that each an increase in the value of the prevalence rate of COVID-19 pandemic cases per 100,000 population in the Arab region, is offset by a negative impact on the reducing of the values of Arab countries' HDIs at the same time, which accordingly leads to a diminishing in sustainable development opportunities, and henceforth, the weakness of the capabilities of this entire region to not-quick realization for its future aspirations rapidly at short-term level in alignment with the desired competitive effectiveness of this region globally. As the same result has realized at the global level in a comprehensive manner for all countries worldwide without exception, or at the level of countries located outside the Arab region.

These serious discussions of this findings should pay attention of those are concerned of the strategic planning in demography and health fields simultaneously to how the importance of limiting the prevalence of COVID-19 pandemic cases within the Arab region by fully adhering to the various precautionary whether preventive or corrective measures in order to ensure maintaining the stability of human development levels of this region at the acceptable levels, as well as, the work closely to return to the normal situation of economy and health of the Arab region at the internationally desired level, and this should be compared to the global level in the short-medium-long run.

CONCLUSION

This is the second part of a series of recommendations on how the Arab region can become more Future-proof through coming decades in conjunction with the era of rapid digital transformation. One of the most important of these future-trails is the need to formulate a joint strategic charter. The importance of developing smart and digital networks within the Arab region to provide information and measurements on a daily basis for monitoring the relationship between a mixture of developmental and vital health indicators. This is represented in focusing on key indicators that support human development levels and how rate of prevalence of viruses with all their mutated patterns.

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