

A Study of Covid-19 Relative Fatalities by Religion and a Possible Quranic Allusion

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ABSTRACT

More than three years statistics of the Covid-19 pandemic shows great anomalies in relative fatalities of different countries. In particular, Christian and Jewish populations show, by a factor of 4 to 5, greater relative fatalities compared to the Muslim populations. Ironically, most Muslim populations are developing or underdeveloped, deprived of health services available to the mostly-developed Christian and Jewish populations. This article presents an analysis of the pandemic's relative fatalities for the Abrahamic religion populations. Factors that might be contributing to the fatalities such as, development status, median ages, and alcohol consumption rates will also be discussed in this study. A possible relevance to a Quranic content will be noted in the end.

Keywords: Covid-19, Abrahamic religions, relative fatalities, Quranic

1. INTRODUCTION

In a period of over three years, Covid-19 pandemic has swept all corners of the globe, leaving almost no place on earth spared of its fatal touch. Pandemic has almost entered into its endemic stage now and number of new cases and fatalities have sharply dropped (Fig.1).

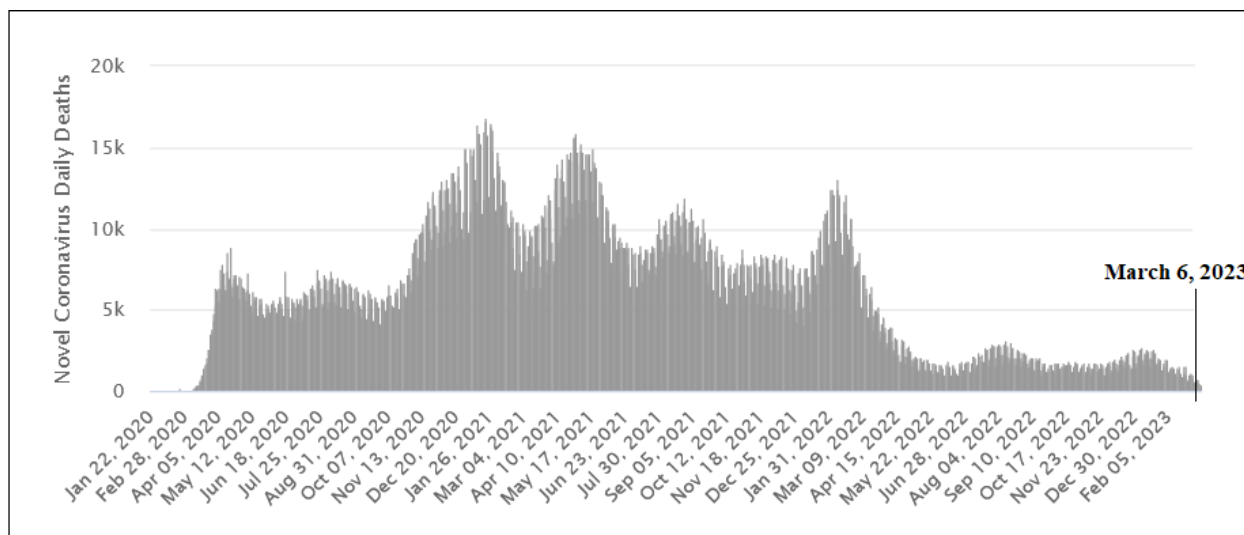


Fig.1 Covid-19 Daily Deaths, pinning March 6 2023 as data collection date for this article [1]

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Throughout these 3 years, relative fatalities of Covid-19 pandemic defined as, number of deaths per million population (D/1Mpop), have been showing great anomalies in different countries [2]. However, because of a possible scriptural relevance which will be noted in the end, this analysis concentrates only on the relative fatality discrepancies of the Abrahamic religion populations. Although, no clear statistics of the religions of those who have died by this pandemic exists, this article employs two methods to evaluate relative deaths, where both methods seem to yield close results.

Evaluations show that, in spite of having better medical care and health services, Christian and Jewish populations show by a factor of about 4 to 5, higher relative fatalities compared to mostly underdeveloped Muslim populations. In this article, using available covid-19 statistics [2] and the two mentioned methods, relative fatalities of the Abrahamic religion populations will be computed. Fatality rates, development status, alcohol consumption rates, and median ages of the countries will then be used for the discussion. In particular, possible relevance of the article’s observations to the contents of verse 31, in chapter 74 of the Quran will be discussed. Chapter 74 has recently been suspected for containing coded messages about the pandemics [3,4].

Covid-19 Relative Fatalities

Table.1 shows for each country: Total Deaths, Relative Fatalities or deaths per one million population (D/1Mpop), total population, and fraction of the population with the mentioned religion. Mathematical notations for the headings in Table.1 are also shown beneath them. To reduce the table size, and also because the religion compositions of many lesser populated countries were not available, *only those countries with over 5 million population have been included in Table.1*. Even so, these 124 tabulated countries comprise more than 97% of the world population.

If a fraction greater than 0.5 (50%) population of a country be of a particular religion, then that country has been considered as having a majority population in that religion. In Table.1, countries with majority Muslim population are colored red, with majority Christian population colored blue, and with majority Jewish population colored green. Countries colored in black have less than 50 percent population in either of the three Abrahamic religions.

Table.1 Relevant statistics of the countries used in the analysis.

| i | Country | Total Deaths * D_i | D/1Mpop * $10^6(D_i/P_i)$ | Population * P_i | Muslim Fraction M_i ** | Christian Fraction C_i ** | Jewish Fraction J_i ** |
|-----|-------------|----------------------------|---------------------------------|--------------------------|--------------------------------|-----------------------------------|--------------------------------|
| 1 | Afghanistan | 7,896 | 194 | 40754388 | 0.996 | 0 | 0 |
| 2 | Algeria | 6,881 | 152 | 45350148 | 0.991 | 0 | 0 |
| 3 | Angola | 1,933 | 55 | 35027343 | 0 | 0.75 | 0 |
| 4 | Argentina | 130,463 | 2,836 | 46010234 | 0 | 0.88 | 0.0038 |
| 5 | Australia | 19,459 | 746 | 26068792 | 0.026 | 0.521 | 0.0045 |
| 6 | Austria | 21,942 | 2,420 | 9066710 | 0.08 | 0.673 | 0.0011 |
| 7 | Azerbaijan | 10,129 | 983 | 10300205 | 0.969 | 0.031 | 0 |
| 8 | Bangladesh | 29,445 | 175 | 1.68E+08 | 0.904 | 0 | 0 |
| 9 | Belarus | 7,118 | 755 | 9432800 | 0 | 0.554 | 0 |

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|----|---------------|---------|-------|----------|--------|-------|--------|
| 10 | Belgium | 33,775 | 2,895 | 11668278 | 0.076 | 0.65 | 0.0025 |
| 11 | Benin | 163 | 13 | 12784726 | 0.277 | 0.428 | 0 |
| 12 | Bolivia | 22,365 | 1,865 | 11992656 | 0 | 0.89 | 0 |
| 13 | Brazil | 699,276 | 3,247 | 2.15E+08 | 0 | 0.9 | 0.0004 |
| 14 | Bulgaria | 38,219 | 5,584 | 6844597 | 0.134 | 0.85 | 0 |
| 15 | Burkina Faso | 396 | 18 | 22102838 | 0.615 | 0.22 | 0 |
| 16 | Burundi | 38 | 3 | 12624840 | 0.03 | 0.91 | 0 |
| 17 | Cambodia | 3,056 | 178 | 17168639 | 0.011 | 0.005 | 0 |
| 18 | Cameroon | 1,965 | 70 | 27911548 | 0.3 | 0.65 | 0 |
| 19 | Canada | 51,447 | 1,340 | 38388419 | 0.032 | 0.673 | 0.0102 |
| 20 | CAR | 113 | 23 | 5016678 | 0.15 | 0.8 | 0 |
| 21 | Chad | 194 | 11 | 17413580 | 0.58 | 0.35 | 0 |
| 22 | Chile | 64,247 | 3,337 | 19250195 | 0 | 0.68 | 0.0008 |
| 23 | China | 5,272 | 4 | 1.45E+09 | 0.0173 | 0.03 | 0 |
| 24 | Colombia | 142,629 | 2,769 | 51512762 | 0 | 0.92 | 0 |
| 25 | Congo | 386 | 67 | 5797805 | 0.021 | 0.907 | 0 |
| 26 | Costa Rica | 9,230 | 1,781 | 5182354 | 0 | 0.83 | 0 |
| 27 | Cuba | 8,530 | 754 | 11305652 | 0 | 0.592 | 0 |
| 28 | Czechia | 42,482 | 3,957 | 10736784 | 0 | 0.11 | 0 |
| 29 | Denmark | 8,284 | 1,420 | 5834950 | 0.054 | 0.79 | 0 |
| 30 | Dominican Rep | 4,384 | 397 | 11056370 | 0 | 0.83 | 0 |
| 31 | DPRK | 74 | 3 | 25990679 | 0 | 0 | 0 |
| 32 | DRC | 1,464 | 15 | 95240792 | 0.1 | 0.92 | 0 |
| 33 | Ecuador | 36,014 | 1,988 | 18113361 | 0 | 0.94 | 0 |
| 34 | Egypt | 24,613 | 232 | 1.06E+08 | 0.903 | 0.096 | 0 |
| 35 | El Salvador | 4,230 | 646 | 6550389 | 0 | 0.819 | 0 |
| 36 | Ethiopia | 7,572 | 63 | 1.21E+08 | 0.339 | 0.64 | 0 |
| 37 | Finland | 8,936 | 1,609 | 5554960 | 0.027 | 0.719 | 0 |
| 38 | France | 165,073 | 2,517 | 65584518 | 0.088 | 0.63 | 0.0069 |
| 39 | Germany | 168,583 | 2,010 | 83883596 | 0.057 | 0.561 | 0.0014 |
| 40 | Ghana | 1,462 | 45 | 32395450 | 0.18 | 0.712 | 0 |
| 41 | Greece | 36,185 | 3,507 | 10316637 | 0 | 0.98 | 0 |
| 42 | Guatemala | 20,178 | 1,086 | 18584039 | 0 | 0.87 | 0 |
| 43 | Guinea | 467 | 34 | 13865691 | 0.846 | 0.089 | 0 |
| 44 | Haiti | 860 | 74 | 11680283 | 0 | 0.96 | 0 |
| 45 | Honduras | 11,111 | 1,087 | 10221247 | 0 | 0.88 | 0 |
| 46 | Hong Kong | 13,466 | 1,771 | 7604299 | 0.041 | 0.118 | 0 |
| 47 | Hungary | 48,751 | 5,075 | 9606259 | 0 | 0.65 | 0.0047 |
| 48 | India | 530,775 | 377 | 1.41E+09 | 0.142 | 0.023 | 0 |
| 49 | Indonesia | 160,932 | 577 | 2.79E+08 | 0.872 | 0.1 | 0 |
| 50 | Iran | 144,902 | 1,684 | 86022837 | 0.994 | 0 | 0 |
| 51 | Iraq | 25,375 | 602 | 42164965 | 0.957 | 0.03 | 0 |
| 52 | Ireland | 8,691 | 1,731 | 5020199 | 0.014 | 0.838 | 0 |

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|----|------------------|---------|-------|----------|-------|-------|--------|
| 53 | Israel | 12,307 | 1,320 | 9326000 | 0.18 | 0.035 | 0.7667 |
| 54 | Italy | 188,322 | 3,125 | 60262770 | 0.048 | 0.83 | 0.0005 |
| 55 | Ivory Coast | 834 | 30 | 27742298 | 0.429 | 0.328 | 0 |
| 56 | Japan | 72,805 | 580 | 1.26E+08 | 0 | 0.023 | 0 |
| 57 | Jordan | 14,122 | 1,371 | 10300869 | 0.972 | 0.022 | 0 |
| 58 | Kazakhstan | 13,846 | 721 | 19205043 | 0.702 | 0.262 | 0 |
| 59 | Kenya | 5,688 | 101 | 56215221 | 0.112 | 0.85 | 0 |
| 60 | Kyrgyzstan | 2,991 | 445 | 6728271 | 0.8 | 0.145 | 0 |
| 61 | Laos | 758 | 101 | 7481023 | 0 | 0.022 | 0 |
| 62 | Lebanon | 10,840 | 1,622 | 6684849 | 0.577 | 0.39 | 0 |
| 63 | Liberia | 295 | 56 | 5305117 | 0.122 | 0.861 | 0 |
| 64 | Libya | 6,437 | 914 | 7040745 | 0.97 | 0.027 | 0 |
| 65 | Madagascar | 1,423 | 49 | 29178077 | 0.1 | 0.41 | 0 |
| 66 | Malawi | 2,686 | 133 | 20180839 | 0.2 | 0.799 | 0 |
| 67 | Malaysia | 36,966 | 1,114 | 33181072 | 0.613 | 0.092 | 0 |
| 68 | Mali | 743 | 35 | 21473764 | 0.95 | 0.024 | 0 |
| 69 | Mexico | 333,100 | 2,532 | 1.32E+08 | 0 | 0.924 | 0.0003 |
| 70 | Morocco | 16,296 | 431 | 37772756 | 0.989 | 0.01 | 0 |
| 71 | Mozambique | 2,242 | 68 | 33089461 | 0.179 | 0.561 | 0 |
| 72 | Myanmar | 19,490 | 353 | 55227143 | 0 | 0.062 | 0 |
| 73 | Nepal | 12,020 | 398 | 30225582 | 0.044 | 0.014 | 0 |
| 74 | Netherlands | 22,992 | 1,336 | 17211447 | 0.051 | 0.39 | 0.0017 |
| 75 | Nicaragua | 225 | 33 | 6779100 | 0 | 0.846 | 0 |
| 76 | Niger | 312 | 12 | 26083660 | 0.983 | 0.009 | 0 |
| 77 | Nigeria | 3,155 | 15 | 2.17E+08 | 0.51 | 0.47 | 0 |
| 78 | Norway | 5,213 | 946 | 5511370 | 0.057 | 0.767 | 0 |
| 79 | Oman | 4,628 | 869 | 5323993 | 0.859 | 0.065 | 0 |
| 80 | Pakistan | 30,643 | 134 | 2.29E+08 | 0.965 | 0.016 | 0 |
| 81 | Palestine | 5,404 | 1,011 | 5345541 | 0.975 | 0 | 0 |
| 82 | Papua New Guinea | 670 | 72 | 9292169 | 0 | 0.97 | 0 |
| 83 | Paraguay | 19,878 | 2,721 | 7305843 | 0 | 0.96 | 0 |
| 84 | Peru | 219,493 | 6,516 | 33684208 | 0 | 0.87 | 0 |
| 85 | Philippines | 66,160 | 588 | 1.13E+08 | 0.08 | 0.85 | 0 |
| 86 | Poland | 118,952 | 3,152 | 37739785 | 0 | 0.943 | 0 |
| 87 | Portugal | 26,180 | 2,582 | 10140570 | 0 | 0.843 | 0 |
| 88 | Romania | 67,736 | 3,559 | 19031335 | 0 | 0.98 | 0 |
| 89 | Russia | 396,336 | 2,718 | 1.46E+08 | 0.135 | 0.65 | 0.001 |
| 90 | Rwanda | 1,468 | 108 | 13600464 | 0.048 | 0.936 | 0 |
| 91 | South Korea | 34,034 | 663 | 51329899 | 0 | 0.292 | 0 |
| 92 | Saudi Arabia | 9,617 | 268 | 35844909 | 0.971 | 0 | 0 |
| 93 | Senegal | 1,971 | 112 | 17653671 | 0.89 | 0.055 | 0 |
| 94 | Serbia | 17,864 | 2,064 | 8653016 | 0.031 | 0.91 | 0 |
| 95 | Sierra Leone | 126 | 15 | 8306436 | 0.786 | 0.15 | 0 |

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|-----|--------------|-----------|-------|----------|-------|-------|--------|
| 96 | Singapore | 1,722 | 290 | 5943546 | 0.147 | 0.18 | 0 |
| 97 | Slovakia | 21,031 | 3,852 | 5460193 | 0 | 0.8 | 0 |
| 98 | Somalia | 1,361 | 81 | 16841795 | 0.998 | 0 | 0 |
| 99 | South Africa | 102,595 | 1,689 | 60756135 | 0.019 | 0.798 | 0.0009 |
| 100 | South Sudan | 138 | 12 | 11618511 | 0.2 | 0.605 | 0 |
| 101 | Spain | 119,479 | 2,557 | 46719142 | 0.026 | 0.71 | 0.0003 |
| 102 | Sri Lanka | 16,830 | 780 | 21575842 | 0.097 | 0.075 | 0 |
| 103 | Sudan | 5,013 | 109 | 45992020 | 0.97 | 0.015 | 0 |
| 104 | Sweden | 23,703 | 2,320 | 10218971 | 0.081 | 0.65 | 0.0014 |
| 105 | Switzerland | 14,452 | 1,647 | 8773637 | 0.052 | 0.73 | 0 |
| 106 | Syria | 3,164 | 163 | 19364809 | 0.87 | 0.1 | 0 |
| 107 | Taiwan | 18,248 | 764 | 23888595 | 0 | 0 | 0 |
| 108 | Tajikistan | 125 | 13 | 9957464 | 0.967 | 0.014 | 0 |
| 109 | Tanzania | 846 | 13 | 63298550 | 0.352 | 0.614 | 0 |
| 110 | Thailand | 33,918 | 484 | 70078203 | 0.043 | 0.012 | 0 |
| 111 | Togo | 290 | 33 | 8680837 | 0.2 | 0.29 | 0 |
| 112 | Tunisia | 29,331 | 2,435 | 12046656 | 0.998 | 0 | 0 |
| 113 | Turkey | 101,492 | 1,186 | 85561976 | 0.992 | 0 | 0.0002 |
| 114 | UAE | 2,349 | 233 | 10081785 | 0.76 | 0.09 | 0 |
| 115 | Uganda | 3,630 | 75 | 48432863 | 0.137 | 0.844 | 0 |
| 116 | UK | 206,952 | 3,021 | 68497907 | 0.063 | 0.593 | 0.0043 |
| 117 | Ukraine | 111,235 | 2,575 | 43192122 | 0.017 | 0.819 | 0.0011 |
| 118 | USA | 1,147,125 | 3,426 | 3.35E+08 | 0.011 | 0.71 | 0.0177 |
| 119 | Uzbekistan | 1,637 | 48 | 34382084 | 0.965 | 0.026 | 0 |
| 120 | Venezuela | 5,854 | 200 | 29266991 | 0 | 0.88 | 0 |
| 121 | Vietnam | 43,186 | 436 | 98953541 | 0 | 0.082 | 0 |
| 122 | Yemen | 2,159 | 69 | 31154867 | 0.991 | 0 | 0 |
| 123 | Zambia | 4,057 | 208 | 19470234 | 0.01 | 0.955 | 0 |
| 124 | Zimbabwe | 5,668 | 370 | 15331428 | 0 | 0.87 | 0 |

* D_i and P_i , extracted from [2] (data as of March 6th, 2023).

** M_i , C_i , and J_i , extracted from [5-7].

Fig.2, shows plot of the sorted values of $D/IMpop$ from Table.1 for 66 majority Christian, 36 majority Muslim, and one majority Jewish countries. As can be seen from Fig.2, majority Muslim countries show lower relative fatalities and are mostly concentrated on the right side of the graph, while majority Christian and Jewish countries show much higher relative fatalities and are concentrated on the left side of the graph.

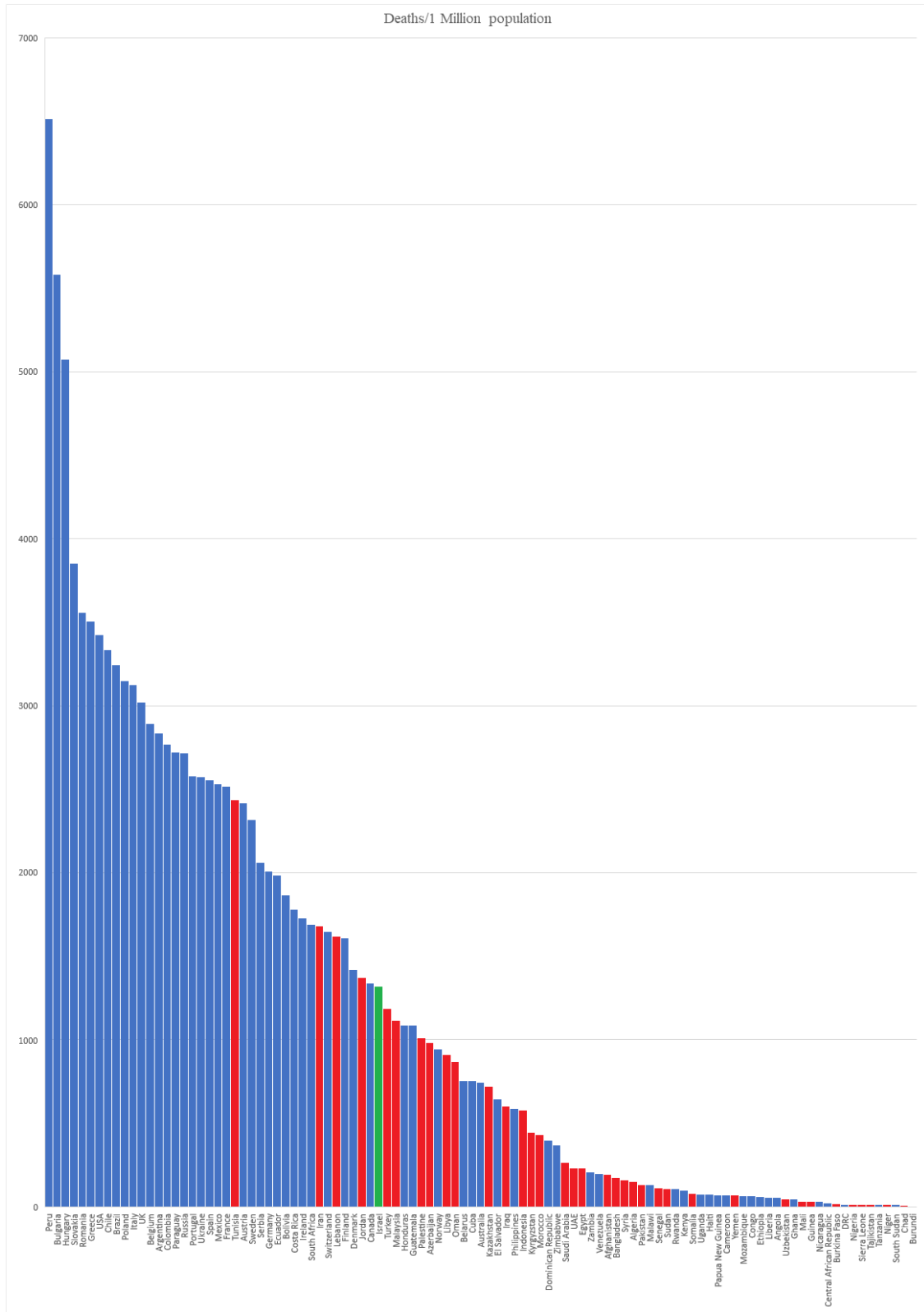


Fig.2 Relative Fatalities (D/1Mpop) for 66 majority Christian, 36 majority Muslim, and 1 majority Jewish, (total of 103) countries.

Two methods have been used to compute overall relative deaths per one million population for each of the Muslim, Christian and Jewish populations.

Method 1: Using only Countries with Majority Populations

Deaths per one million population, denoted by “**D/1Mpop**” for majority Muslim or majority Christian countries can be computed simply by dividing sum of their total deaths by sum of their total populations:

$$(D/1Mpop) = 10^6 \frac{\sum_i D_i}{\sum_i P_i} \tag{1}$$

For majority Muslim countries, summation is performed only for *i* numbers with **M_i** values greater than 0.5 (36 countries colored red in Table.1).

For majority Christian countries, summation is performed only for *i* numbers with **C_i** values greater than 0.5 (66 countries colored blue in Table.1).

For majority “Christian plus Jewish” countries, *i* = 53 data will be added to the above summation (using 67 countries).

For the only majority Jewish country (colored green in Table.1), with no summations needed, *i* = 53 value of the 4th column will be used (D/1Mpop=1320).

Method 2: Using all countries

The available Covid-19 fatality statistics give total deaths but give no detail information about the number of deaths per religion groups in a country. For instance, it is not clear how many of the total number of deaths in the US are Christians, Muslims, or Jews. However, it is possible to estimate, the number of fatalities of a given religion group, only by knowing population fraction of that group in the corresponding country.

People living in a country, regardless of their religion, more or less, are all exposed to similar conditions. Therefore, it is reasonable to assume that, *fatality fraction of any religion group in a given country should be the same as their population fraction in that country*. For example, if 70% of the total population of a country are Christians, then it can be expected that also 70% of total Covid-19 deaths in that country be Christians, etc. Fortunately, fraction of the population that are of a particular religion in a given country can be obtained [5,6,7]. In the last three right columns of Table.1, these fractions are shown. It should be mentioned that **M_i** and **C_i** (fraction values) that are less than 0.01 have been set to zero in the Table.1, noting that this will have minimal effect in computation results. Values of **J_i** that are so small that are not even mentioned in the quoted reference are also set to zero in Table.1.

In method 2, sum of the total deaths of a particular religion population in *all countries*, will be divided by sum of the total population of that religion population in *all countries* to obtain an overall **(D/1Mpop)**. Using the following relations, death per one million population for Muslim, Christian, and Jewish populations can be computed from Table.1, where in summations, *i* runs from 1 to 124 (taking into account all countries of the world with over 5 million population):

$$(\mathbf{D}/1\mathbf{Mpop})_{\text{world Muslim populations}} = 10^6 \frac{\sum_i \mathbf{M}_i \mathbf{D}_i}{\sum_i \mathbf{M}_i \mathbf{P}_i} \quad (2)$$

$$(\mathbf{D}/1\mathbf{Mpop})_{\text{world Christian populations}} = 10^6 \frac{\sum_i \mathbf{C}_i \mathbf{D}_i}{\sum_i \mathbf{C}_i \mathbf{P}_i} \quad (3)$$

$$(\mathbf{D}/1\mathbf{Mpop})_{\text{world Jewish population}} = 10^6 \frac{\sum_i \mathbf{J}_i \mathbf{D}_i}{\sum_i \mathbf{J}_i \mathbf{P}_i} \quad (4)$$

$$(\mathbf{D}/1\mathbf{Mpop})_{\text{world Christian+ Jewish populations}} = 10^6 \frac{\sum_i (\mathbf{C}_i + \mathbf{J}_i) \mathbf{D}_i}{\sum_i (\mathbf{C}_i + \mathbf{J}_i) \mathbf{P}_i} \quad (5)$$

D/1Mpop values for the mentioned religion populations have been computed through methods 1 and 2 and are shown in Table.2. The ratios of D/1Mpop value for one religion group, and its value for the Muslim group, are also shown in Table.2.

Table.2 Values of (D/1Mpop) and their relative ratios as computed by Methods 1 and 2

| Religion group | Deaths/1Mpop Computed by Eq (1) Method 1 | Deaths/1Mpop Computed by Eqs (2-5) Method 2 | Ratio of Relative Fatalities (compared to that of Muslims) Method1 | Ratio of Relative Fatalities (compared to that of Muslims) Method 2 |
|----------------------|--|---|--|---|
| Muslims | 401 | 449 | 1 | 1 |
| Christians | 1977 | 1744 | 4.92 | 3.88 |
| Jews | 1320 | 2283 | 3.29 | 5.08 |
| Christians plus Jews | 1975 | 1747 | 4.92 | 3.89 |

It is observed from Table.2, that *relative fatality of the combined Christian and Jewish populations, as computed by methods 1 and 2, is between 3.9 to 4.9 times that of the Muslim populations*. It should be noted that worldometer statistics of March 6th 2023, which is the date of data collection used for computations in this article, shows D/1Mpop for the whole world to be **873.2** in that date.

In other words, D/1Mpop computed for the Muslim populations is about half the world's value, while that of the Christian and Jewish populations is about twice that value.

This is a rather unexpected result, particularly, when it be noted that most Muslim populations are lesser developed and are deprived of the medical care and health services that Christian and Jewish populations in general benefit from. The Human Development Index (HDI), can be a good measure of the level of healthcare in a country, since health care is one of the factors considered in computing this index. But there are also other important factors that should be considered in fatality analysis, for instance, median ages of the countries. This is important because most of the covid-19 fatalities have been reported for the elderly [8]. Alcohol has also been considered as harmful to the immune system, and for Covid-19 this can mean higher number of cases and mortalities in countries with higher rate of alcohol consumption [9,10]. Vaccinations too, have had major effects in reducing fatalities [11,12], but quality and quantity of different vaccine types and their boosters can be different from one country to another. However, it is reasonable to assume that, countries with higher HDI should have more adequate vaccinations too.

Table.3 shows for the 103 majority Muslim, majority Christian and majority Jewish countries: D/1Mpop (from Table.1), HDI [13], litter alcohol consumption per capita per year [14], and median ages [15]. In addition, Figs.3-5, show plots of the mentioned items in Table.3, each in descending order of their values.

Table.3 Relative Fatalities, HDI, alcohol consumption rate, and median ages of the 103 countries

| | Country | D/1Mpop | HDI | Alcohol Consumption (Lit/capita/yr) | Median Age |
|----|---------------------|---------|-------|-------------------------------------|------------|
| 1 | Afghanistan | 194 | 0.478 | 0.013 | 19.5 |
| 2 | Algeria | 152 | 0.745 | 0.63 | 28.9 |
| 3 | Angola | 55 | 0.586 | 7.83 | 15.9 |
| 4 | Argentina | 2,836 | 0.842 | 9.45 | 32.4 |
| 5 | Australia | 746 | 0.951 | 10.36 | 37.5 |
| 6 | Austria | 2,420 | 0.916 | 11.93 | 44.5 |
| 7 | Azerbaijan | 983 | 0.745 | 0.98 | 32.6 |
| 8 | Bangladesh | 175 | 0.661 | 0 | 27.9 |
| 9 | Belarus | 755 | 0.808 | 10.96 | 40.9 |
| 10 | Belgium | 2,895 | 0.937 | 10.8 | 41.6 |
| 11 | Bolivia | 1,865 | 0.692 | 3.91 | 25.3 |
| 12 | Brazil | 3,247 | 0.754 | 7.32 | 33.2 |
| 13 | Bulgaria | 5,584 | 0.795 | 12.46 | 43.7 |
| 14 | Burkina Faso | 18 | 0.449 | 11.05 | 17.9 |
| 15 | Burundi | 3 | 0.426 | 7.45 | 17.7 |
| 16 | Cameroon | 70 | 0.576 | 5.52 | 18.5 |
| 17 | Canada | 1,340 | 0.936 | 8.81 | 41.8 |
| 18 | Central African Rep | 23 | 0.404 | 1.71 | 20 |
| 19 | Chad | 11 | 0.394 | 1.26 | 16.1 |
| 20 | Chile | 3,337 | 0.855 | 8.95 | 35.5 |
| 21 | Colombia | 2,769 | 0.752 | 5.45 | 31.2 |
| 22 | Congo | 67 | 0.571 | | 19.5 |

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|----|---------------|-------|-------|-------|------|
| 24 | Costa Rica | 1,781 | 0.809 | 4.07 | 32.6 |
| 25 | Cuba | 754 | 0.764 | 6.26 | 42.1 |
| 26 | Denmark | 1,420 | 0.948 | 10.13 | 42 |
| 27 | Dominican Rep | 397 | 0.767 | 6.68 | 27.9 |
| 23 | DRC | 15 | 0.479 | 1.1 | 16.7 |
| 28 | Ecuador | 1,988 | 0.74 | 3.27 | 28.8 |
| 29 | Egypt | 232 | 0.731 | 0.14 | 24.1 |
| 30 | El Salvador | 646 | 0.675 | 4.09 | 27.7 |
| 31 | Ethiopia | 63 | 0.498 | 2.2 | 19.8 |
| 32 | Finland | 1,609 | 0.94 | 10.65 | 42.8 |
| 33 | France | 2,517 | 0.903 | 12.23 | 41.7 |
| 34 | Germany | 2,010 | 0.942 | 12.79 | 47.8 |
| 35 | Ghana | 45 | 0.632 | 2.78 | 21.4 |
| 36 | Greece | 3,507 | 0.887 | 10.5 | 45.3 |
| 37 | Guatemala | 1,086 | 0.627 | 1.63 | 23.2 |
| 38 | Guinea | 34 | 0.465 | 1.09 | 19.1 |
| 39 | Haiti | 74 | 0.535 | 3.02 | 24.1 |
| 40 | Honduras | 1,087 | 0.621 | 3.93 | 24.4 |
| 41 | Hungary | 5,075 | 0.846 | 11.07 | 43.6 |
| 42 | Indonesia | 577 | 0.705 | 0.22 | 31.1 |
| 43 | Iran | 1,684 | 0.774 | 1.01 | 31.7 |
| 44 | Iraq | 602 | 0.686 | 0.37 | 21.2 |
| 45 | Ireland | 1,731 | 0.945 | 12.75 | 37.8 |
| 46 | Israel | 1,320 | 0.919 | 4.38 | 30.4 |
| 47 | Italy | 3,125 | 0.895 | 8.01 | 46.5 |
| 48 | Jordan | 1,371 | 0.72 | 0.52 | 23.5 |
| 49 | Kazakhstan | 721 | 0.811 | 5 | 31.6 |
| 50 | Kenya | 101 | 0.575 | 2.15 | 20 |
| 51 | Kyrgyzstan | 445 | 0.692 | 4.85 | 27.3 |
| 52 | Lebanon | 1,622 | 0.706 | 1.53 | 33.7 |
| 53 | Liberia | 56 | 0.481 | 5.37 | 18 |
| 54 | Libya | 914 | 0.718 | 0.027 | 25.8 |
| 55 | Malawi | 133 | 0.512 | 4.08 | 16.8 |
| 56 | Malaysia | 1,114 | 0.803 | 0.93 | 29.2 |
| 57 | Mali | 35 | 0.428 | 1.31 | 16.1 |
| 58 | Mexico | 2,532 | 0.758 | 5.05 | 29.3 |
| 59 | Morocco | 431 | 0.683 | 0.49 | 29.1 |
| 60 | Mozambique | 68 | 0.446 | 2.69 | 17 |
| 61 | Nicaragua | 33 | 0.667 | 5.07 | 27.3 |
| 62 | Niger | 12 | 0.4 | 0.52 | 14.8 |
| 63 | Nigeria | 15 | 0.535 | 6.19 | 18.6 |
| 64 | Norway | 946 | 0.961 | 7.14 | 39.5 |
| 65 | Oman | 869 | 0.816 | 0.92 | 26.2 |

| | | | | | |
|-----|------------------|-------|-------|-------|------|
| 66 | Pakistan | 134 | 0.544 | 0.31 | 22 |
| 67 | Palestine | 1,011 | 0.715 | | 21.9 |
| 68 | Papua New Guinea | 72 | 0.558 | 2.12 | 24 |
| 69 | Paraguay | 2,721 | 0.717 | 7.01 | 29.7 |
| 70 | Peru | 6,516 | 0.762 | 6.78 | 29.1 |
| 71 | Philippines | 588 | 0.699 | 7.02 | 24.1 |
| 72 | Poland | 3,152 | 0.876 | 11.89 | 41.9 |
| 73 | Portugal | 2,582 | 0.866 | 12.09 | 44.6 |
| 74 | Romania | 3,559 | 0.821 | 12.34 | 42.5 |
| 75 | Russia | 2,718 | 0.822 | 10.5 | 40.3 |
| 76 | Rwanda | 108 | 0.534 | 7.96 | 19.7 |
| 77 | Saudi Arabia | 268 | 0.875 | 0 | 30.8 |
| 78 | Senegal | 112 | 0.511 | 0.73 | 19.4 |
| 79 | Serbia | 2,064 | 0.802 | 8.85 | 43.4 |
| 80 | Sierra Leone | 15 | 0.477 | 5.31 | 19.1 |
| 81 | Slovakia | 3,852 | 0.848 | 11.06 | 41.8 |
| 82 | Somalia | 81 | 0.361 | 0 | 18.5 |
| 83 | South Africa | 1,689 | 0.713 | 9.45 | 28 |
| 84 | South Sudan | 12 | 0.385 | | 18.6 |
| 85 | Spain | 2,557 | 0.905 | 12.67 | 43.9 |
| 86 | Sudan | 109 | 0.508 | | 18.3 |
| 87 | Sweden | 2,320 | 0.947 | 9.04 | 41.1 |
| 88 | Switzerland | 1,647 | 0.962 | 11.23 | 42.7 |
| 89 | Syria | 163 | 0.577 | 0.19 | 23.5 |
| 90 | Tajikistan | 13 | 0.685 | 0.88 | 25.3 |
| 91 | Tanzania | 13 | 0.549 | 12.04 | 18.2 |
| 92 | Tunisia | 2,435 | 0.731 | 2.04 | 32.2 |
| 93 | Turkey | 1,186 | 0.838 | 1.77 | 29.2 |
| 96 | UAE | 233 | 0.911 | 3.85 | 38.4 |
| 94 | Uganda | 75 | 0.525 | 12.48 | 15.7 |
| 97 | UK | 3,021 | 0.929 | 11.45 | 40.6 |
| 95 | Ukraine | 2,575 | 0.773 | 8.34 | 41.2 |
| 98 | USA | 3,426 | 0.921 | 9.97 | 38.5 |
| 99 | Uzbekistan | 48 | 0.727 | 2.61 | 30.1 |
| 100 | Venezuela | 200 | 0.691 | 3.56 | 30 |
| 101 | Yemen | 69 | 0.455 | 0.034 | 19.8 |
| 102 | Zambia | 208 | 0.565 | 4.46 | 16.9 |
| 103 | Zimbabwe | 370 | 0.593 | 4.52 | 20.5 |

In Figs.3-5, like in Fig.2, the blue colored countries are majority Christian, red colored ones are majority Muslim, and the green colored one is majority Jewish (a total of **103** countries).

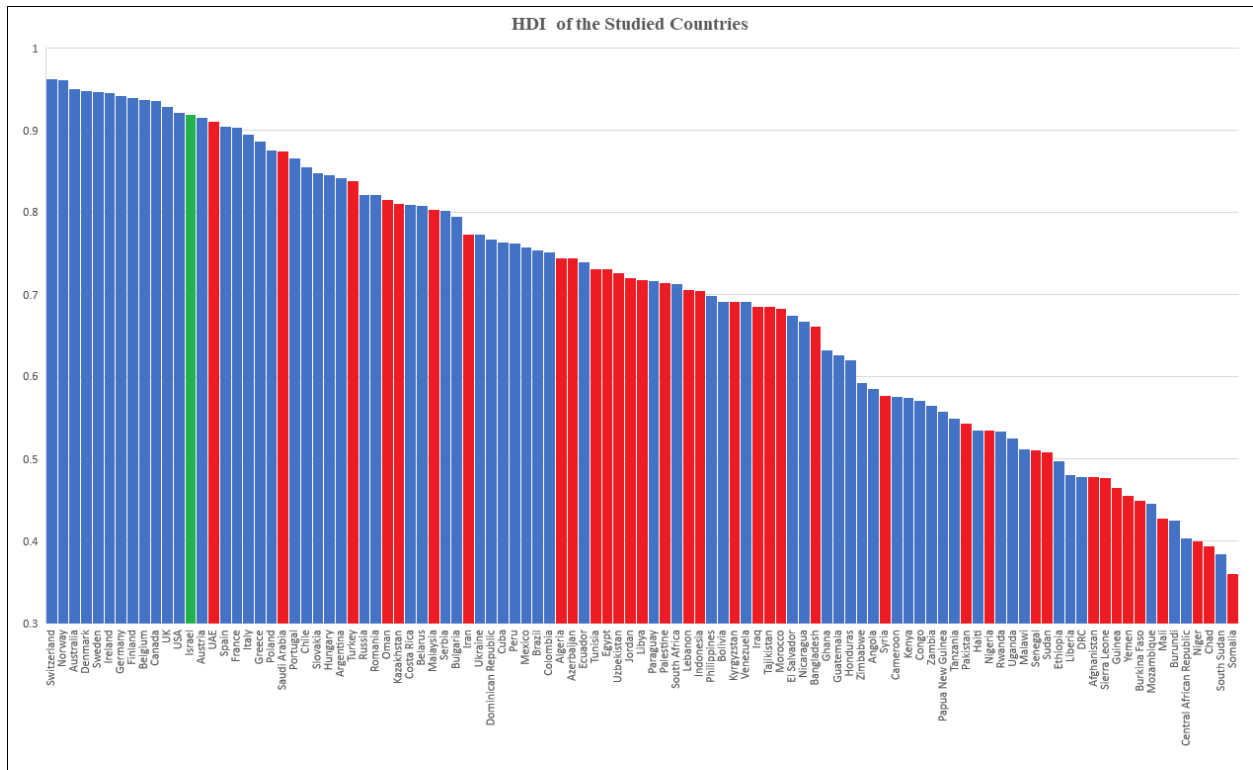


Fig.3 Human Development Index (HDI) for the 103 countries (Table.3)

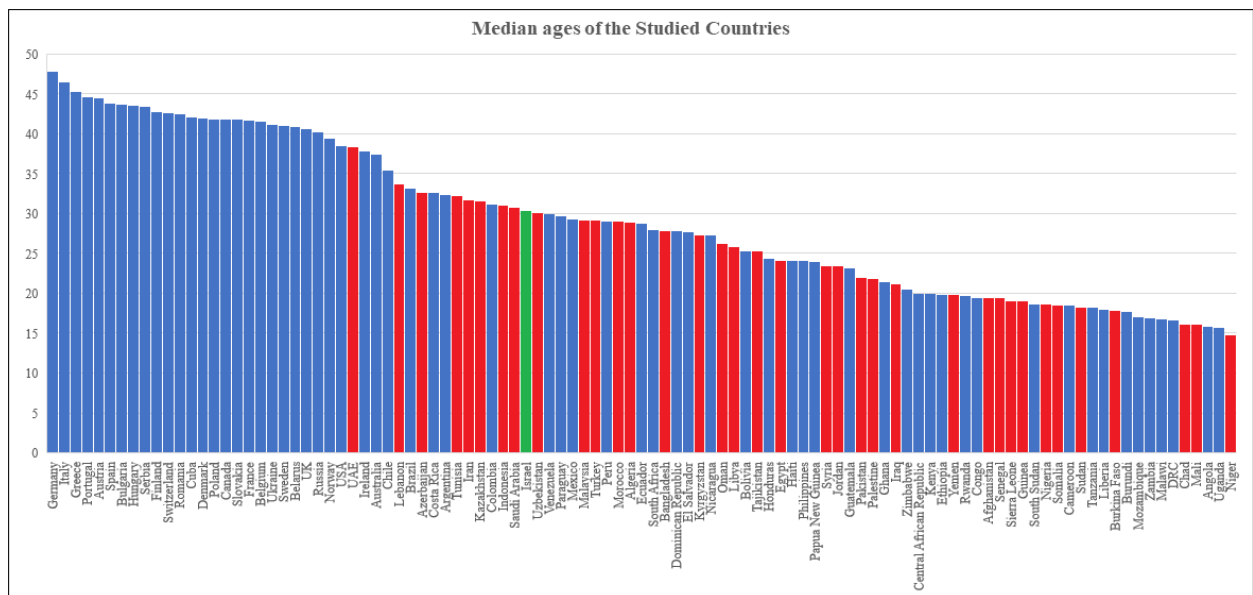


Fig.4 Midian ages of the 103 countries (Table.3)

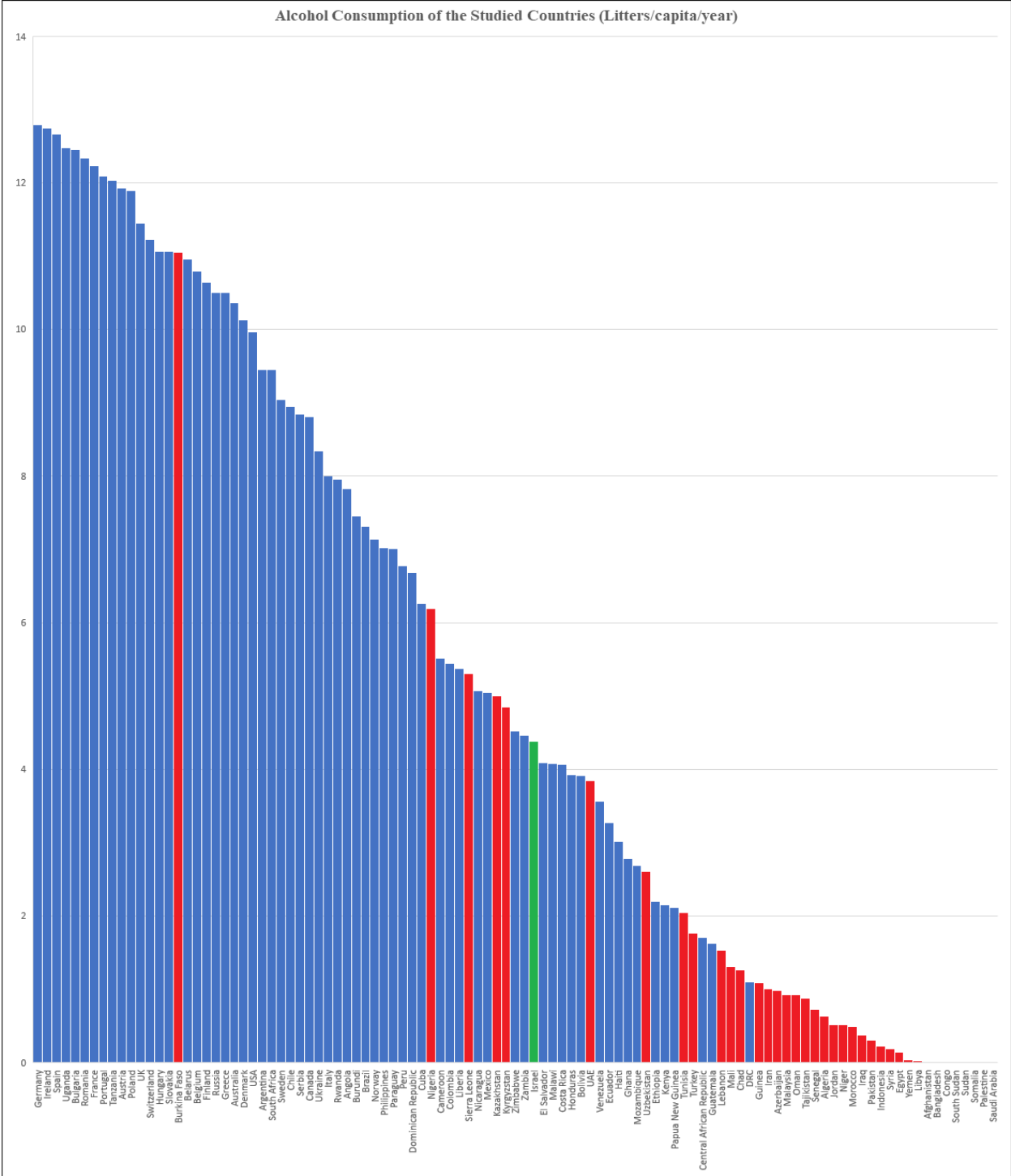


Fig.5 Alcohol consumption in liter per capita per year of the 103 countries (Table.3)

Discussion

a) Computational

Fig.3 shows sorted HDI values for 67 majority Christian and Jewish, and 36 majority Muslim countries. In general, Countries with HDI values greater than 0.8 are considered as very highly developed [13]. Fig.3 shows that there are 28 majority Christian and Jewish countries and only 6 majority Muslim countries with HDI values greater than 0.8.

Fig. 4 shows that majority Muslim countries clearly have younger populations such that 27 out of 36 countries (75%) have median ages bellow 30, whereas 33 out of 66 majority Christian countries (50%) have median ages bellow 30.

In terms of alcohol consumption, it can be seen from Fig.5 that majority Muslim countries consume by far less alcohol compared to majority Christian and Jewish countries.

To quantify the dependencies in Table.3, Pearson correlation may be used. Pearson correlation is a measure of linear correlation between two sets of data and its values of 0.5 to 1, represent strong to perfect correlation, respectively [16]. Pearson correlations for some data pairs in Table.3 have been computed and are presented in the following.

A very strong correlation (0.892) is observed between HDI and median age of the countries which can be expected since, better healthcare and living conditions in general should result in longer life span. On the other hand, a very high correlation (0.703) exists between the Covid-19 relative fatalities ($D/1Mpop$), and median ages of the countries. This may be because older people due to chronic diseases and underlying conditions have been more susceptible to become seriously ill and die by Covid-19 [8].

In general, alcohol has weakening effects on immune system for many diseases including the one caused by Covid-19 [9,10]. This is probably the reason for increased deaths in the countries with higher rate of alcohol consumption. The strong correlation (0.565) computed between, $D/1Mpop$ and alcohol consumption rates, can show this dependency.

It is difficult to determine exactly how much of the lower covid-19 relative fatalities in the Muslim populations is due to their younger age or is because of other factors. However, it is almost certain that a much lower alcohol consumption in most of the majority Muslim countries (Fig.5) should have a role in this outcome. *The lower consumption of alcohol in Muslim countries is due to observance of a Quranic forbiddance.*

It should be emphasized again, that this fatality analysis has been limited to the three monotheistic religion populations, because they alone have been mentioned in a possibly relevant Quranic content. In any case, similar analysis of the relative fatalities for other religion groups is outside the scope of this article.

b) Possible Quranic allusion

Chapter 74 of the Quran which is known as one of the first Quranic revelations [17], has recently been suspected of containing hints about the major pandemics of the 20th and 21st centuries [3,4].

The central theme of this chapter comprises a reply to a typical denier who accuses Quran of being written by a human and copied from older scriptures (74:24,25). Verses 26 to 30 promise and describe a punishment for deniers of the new scripture, a punishment that is “labeled” by a number 19. The next verse (74:31), speaks of the number of hell guardians as a trial for the deniers, and as something that will induce assurance and a common understanding in Christians, Jews, and the believers:

74:30 Over it Nineteen.

74:31 And We have not appointed except angels to be wardens of the Fire and have made their number nothing but a means of trial for the deniers—so that those given the Scripture² may attain certitude, and those who have attained belief³ may increase in faith, and those given the Scripture and the believers may not doubt, and so that those in whose hearts is sickness and the deniers may say, “What did Allah desire by this parable?” Thus, Allah misguides whomever He wills and guides whomever He wills, and none knows the soldiers of your Lord except He, and this is nothing but a reminder to human beings.

Technically speaking, it is not clear that number of hell guardians mentioned in verse 31 is the same number 19 mentioned in verse 30, because they are stated in two separate verses with no apparent connection. However, many Muslim interpreters have stated that number of hell guardians in verse 31, is the same “19” which is mentioned in verse 30. According to these interpreters, the common understanding between the followers of the three religions which is referred to in verse 31, comes about because Christians and Jews also believe that number of hell guardians is nineteen, but this belief is not shared by all. Sayyid Ala Abul Maududi, the well-known Muslim scholar, expresses the following in his commentary #20 about the verse 74:31 [18]:

“20. Some commentators have explained it thus: As in the scriptures of the Jews and Christians, the same number of the angels has also been mentioned as keepers of Hell, they would be convinced of this thing’s being truly from Allah as soon as they heard it. But in our opinion this commentary is not correct for two reasons. First, we have not been able to see anywhere in the existing scriptures of the Jews and Christians in spite of search that the number of the angels appointed over Hell is 19. Second, there are many things in the Quran, which have also been mentioned in the scriptures of the Jews and Christians, yet they explain them away, saying that the Prophet Muhammad (peace be upon him) has plagiarized these from their books.”

As a possible contemporary interpretation of what 19 may be referring to in 74:30, a 19-based mathematical structure in the Quran was suggested by R. Khalifa [19]. Recently and as another possible interpretation, it has been suggested that 19 may also be referring to Covid-19 and the horrific pandemic caused by it [3,4]. From this perspective, besides acting as a “reminder to all human beings” (74:31), pandemic could also induce a common understanding shared between the

² Christians and Jews

³ Muslims

followers of the Abrahamic religions. It can be speculated that this common understanding may be attained by the pandemic-related prophecies of chapter 74 [3,4]. But is it possible that, verse 31 may also be hinting at the relative fatality discrepancies that are observed in favor of the Muslim populations? In fact, in this specific respect, two possible hints or keywords may also be noticed in verse 74:31: First, mention of “*their number*” that may be taken as a hint at “*populations*” and second, twice mentioning Christians and Jews through “*those given the Scripture*” and Muslims through “*believers*”, as a hint at those whose relative fatalities should be compared.

The question may now be, how can fatality discrepancies produce any assurance and common understanding between followers of the three religions? As stated before, the central theme of chapter 74 is to disprove the claim that Quran is written by a human and is copied from the previous scriptures. In this regard, it is possible that recognition of the comparative advantage granted to the Muslim populations in the pandemic, which is partly due to health-oriented Quranic commands, may help convince followers of the Abrahamic religions, including Muslims themselves, concerning authenticity of the Quran and its associated religion.

Conclusion

Relative fatalities of the Covid-19 pandemic for Abrahamic religion populations were computed by using two different methods which showed that Christian and Jewish populations have suffered 4 to 5 times greater relative fatalities compared to Muslim populations. The younger age of Muslim populations may be a dominant factor in this outcome, but a much lower rate of alcohol consumption in Muslim populations which is due to a Quranic forbiddance, should also be important here. However, in view of the lower level of health care and inadequate vaccinations in most Muslim countries (based on their low HDI values), the lower relative fatalities in Muslim populations seems even more baffling.

On the other hand, and from a pandemic-oriented perspective of chapter 74 in the Quran, there seems to be a possibility that verse 74:31 may be hinting at the discrepancies observed in relative fatalities of the Abrahamic religion populations. From this perspective, the verse may be hinting at a survival advantage granted to the Muslim populations (the believers), over the other two religion populations (those given the Scripture). The certainty and common understanding which is indicated in 74:31, may be attained by Christians, Jews, as well as Muslims, through a unanimous recognition of this granted advantage and through previously mentioned pandemic messages of chapter 74. These may be considered as signs of divinity and authenticity of the Quran, and as reminder to future humans (74:36).

References

- [1] <https://www.worldometers.info/coronavirus/worldwide-graphs/> Retrieved March 14, 2023
- [2] <https://www.worldometers.info/coronavirus/> Retrieved March 8, 2023

- [3] Khodadoost, B. (2021). Al-Muddaththir of the Quran Linked to the Covid-19 and Spanish Flu Pandemics: Circumstantial Evidence. *Journal of Quranic Sciences and Research*, 2(2), 17-34. Retrieved from <https://publisher.uthm.edu.my/ojs/index.php/jqsr/article/view/9514>
- [4] Agwan, A. R. (2020). Probable Mention of a Covid-19 like Pandemic in the Quran. <http://muslimmirror.com/eng/probable-mention-of-a-covid-19-like-pandemic-in-the-quran/>
- [5] <https://worldpopulationreview.com/country-rankings/muslim-population-by-country>
Retrieved March 14, 2023
- [6] <https://worldpopulationreview.com/country-rankings/most-christian-countries> Retrieved
March 14, 2023
- [7] <https://worldpopulationreview.com/country-rankings/jewish-population-by-country> Retrieved
March 14, 2023
- [8] Hassan Vally - Public Health, La Trobe Univeristy, (March 17, 2020)
<https://theconversation.com/why-are-older-people-more-at-risk-of-coronavirus-133770>
- [9] World Health Organization 2020
https://www.euro.who.int/__data/assets/pdf_file/0007/442690/FAQ-COVID-19-alcohol.pdf
- [10] World Health Organization 2020
https://www.euro.who.int/__data/assets/pdf_file/0010/437608/Alcohol-and-COVID-19-what-you-need-to-know.pdf
- [11] Two Years of U.S. COVID-19 Vaccines Have Prevented Millions of Hospitalizations and Deaths, Meagan C. Fitzpatrick, Seyed M. Moghadas, Abhishek Pandey, Alison P. Galvani (Dec13, 2022) <https://www.commonwealthfund.org/blog/2022/two-years-covid-vaccines-prevented-millions-deaths-hospitalizations>
- [12] Vaccinations may have prevented almost 20 million COVID-19 deaths worldwide, by Emily Head, Dr Sabine L. van Elsland (24 June 2022)
<https://www.imperial.ac.uk/news/237591/vaccinations-have-prevented-almost-20-million/>
- [13] United Nations Reports, <https://hdr.undp.org/data-center/human-development-index#/indicies/HDI> Retrieved March 10, 2023
- [14] <https://worldpopulationreview.com/country-rankings/alcohol-consumption-by-country>
Retrieved March 10, 2023
- [15] <https://worldpopulationreview.com/country-rankings/median-age> Retrived March 10, 2023

[16] Pearson's Correlation Coefficient, <https://www.statisticssolutions.com/free-resources/directory-of-statistical-analyses/pearsons-correlation-coefficient/> Retrieved March 10, 2023

[17] Revelation Order of the Qur'an <https://www.missionislam.com/quran/revelationorder.htm> Retrieved March April 21, 2023

[18] Sayyid Abul Ala Maududi - Tafhim al-Qur'an - The Meaning of the Qur'an, <http://www.english tafsir.com/Quran/74/index.html> Retrieved February 17, 2023

[19] Khalifa, R. (1981). Quran: The Final Scripture. Tucson, Arizona USA: Islamic Productions.