

A Comparative Analysis of Misery Index and Its Impact on Health Indicators Across The Globe

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Abstract

Aim: This study aims to analyze the impact/relationship of the health indicators and the human development index over the globe's misery index.

Materials and Method: In this paper, a comparative data analysis of the misery index, health indicators like mortality rate, disability rate, Quality of life index, and human development index, along with the ranking based on the human development index, were done by tabulating the data collected from the electronic sources.

Results: There was a strong correlation between the misery index, human development index, and health indicators.

Conclusion: This paper clearly shows that the misery index of a country was highly influenced by the health indicators, such as the mortality rate, disability rate, and Quality of life. Further, the human development index also had a comparative impact on the misery index of a country. Hence, this study depicted a descriptive statistical relationship among the misery index, the health indicators (mortality rate, disability rate, Quality of life) and the Human Development Index (HDI).

Keywords: Misery index, health indicators, mortality rate, Quality of life, Human Development Index (HDI).

Introduction

The misery index is an economic indicator, created by economist Arthur Okun. The index determines the performance of an average citizen economically in the macroeconomic states of a country. The misery index is calculated by adding up the inflation rate and unemployment rate of a nation.

The economic growth of a nation depends on the employment, price stability, and economic development of the citizen. These parameters are challenging to be calculated due to reasons like variables in the same units,

etc. Hence, researchers have tried to use one figure that would help to represent the macroeconomic condition [1].

Okun's Misery Index (economic discomfort index, 1970) was the first single variable index summarizing various macroeconomic indicators to deliver the economic state of the country [2]. Okun's index is the most widely accepted and commonly used index attributable to its simplicity and competence to measure absolute values. This index is derived by adding up the unemployment rate and the inflation rates by catering equal weight to both the grades. An increase in the poor economic performance, unemployment, or rise in inflation rates will sequentially induce an increase in misery index. The misery index modified by Robert Baro (1999), Hanke (2009), but still Okun's index is widely

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used by the politicians to know whether the condition is getting worse or better [1,2].

Health is most important than anything in the world. The health of a population plays an influential role in the development of the country. Hence, specific indicators, such as the health indicators [3, 4], can measure the nation's health status.

The main aim of health indicators is to keep the nation's health score for the betterment [3]. There are ten leading health indicators to assess health status. Of those ten health indicators, the mortality rate, disability rate, and the Quality of life were the traditionally used indicators as death is a well-recorded event.

The mortality rate is a measure of the number of deaths in a particular population, per unit of time. The mortality rate expressed as the number of deaths per 1000 individuals per year. Quality of life is the general well-being of individuals in a society outlining the negative and positive features of life. Quality of life includes various contexts such as education, politics, religious belief, environment and many more country indicators.

Disability rate is a cumulative index of all types of disabilities, such as the visual disability, physical and mental disability seen per 1000 people of a country/community [3, 4]. The Human development index (HDI) is another similar index used commonly for the measurement of development. This index sums up

the measure of life expectancy, education, and living standard, sequentially giving a clear quantifying idea for an individual [5].

This paper analyze the misery index all over the globe in the year 2019 and its relation with health indicators such as the mortality rate, disability rate, Quality of life and the human development index.

Materials and Method

In this paper, Misery index and its relationship with health indicators were evaluated. The Misery index for the year 2019 was retrieved from the electronic database [6]. Based on the misery index, the most ten miserable countries, the moderate ten countries, and the least ten miserable countries were only considered for ease and generalization of the analysis.

Simultaneously, the data regarding the health indicators among top ten, middle ten and least ten miserable countries for the year 2019 were also collected [7]. The health indicators such as disability rate, mortality rate and the Quality of life of an individual in a country were obtained from the electronic database [8].

Then the data regarding the Human Development Index (HDI) of these countries were also obtained from the online sources given by the United Nations development program for the year 2019 [9]. The collected data were analyzed and tabulated accordingly in the Microsoft excel using descriptive analysis.

Results

TABLE: 1 RANKING OF MOST MISERABLE COUNTRIES AND ITS RELATION WITH HEALTH INDICATORS

S.NO	COUNTRY	MISERY INDEX (SCORE)	MORTALITY RATE	DISABILITYRATE	QUALITY OF LIFE (SCORE)
1.	VENEZUELA	1746439.1	5.3	5.4	157.91
2.	ARGENTINA	105.6	7.5	12.9	121.02
3.	IRAN	75.7	5.3	13	75.22
4.	BRAZIL	53.6	6.7	1.9	103.87

Cont... TABLE: 1 RANKING OF MOST MISERABLE COUNTRIES AND ITS RELATION WITH HEALTH INDICATORS

5.	TURKEY	53.3	6	12	126.46
6.	NIGERIA	43	9.6	2.3	55.65
7.	SOUTH AFRICA	42	9.3	7.7	135.75
8.	BOSNIA AND HERZEGOVINA	38.2	10.1	15.6	122.56
9.	EGYPT	36.8	4.5	11	85.42
10.	UKRAINE	34.3	14.3	15	103.32

Table 1 depicts the most miserable countries of the world and the health indicators like the mortality rate, disability rate, and the Quality of life. Further, the table shows that higher the misery index of the country will sequentially have a higher mortality rate along with the disability rate but lower Quality of life and HDI.

TABLE 2: RANKING OF MODERATE MISERABLE COUNTRIES AND ITS RELATION WITH HEALTH INDICATORS

S.NO	RANKING OF MODERATE MISERABLE COUNTRIES	MISERY INDEX (SCORE)	MORTALITY RATE	DISABILITYRATE	QUALITY OF LIFE (SCORE)
1	INDIA	13.2	7.3	2.1	115.41
2	BANGLADESH	12.6	5.4	10	69.3
3	ALBANIA	12.2	6.9	6.2	99.01
4	ECUADOR	12.2	5.1	2	128.06
5	EL SALVADOR	12	5.8	10	83.01
6	PHILIPPINES	11.8	6.1	1.5	88.23
7	CYPRUS	11.7	6.8	2	152.72
8	CROATIA	10.9	12.4	3	164.69
9	BOLIVIA	10.8	6.3	10	134.54
10	CANADA	10.8	8.8	13.7	169.42

Table 2 depicts the relationship of health indicators of moderate miserable countries and the health indicators. The mortality rate, disability rate and Quality of life of the moderate miserable countries remain at a moderate level.

TABLE 3: RANKING OF LEAST MISERABLE COUNTRIES AND ITS RELATION WITH HEALTH INDICATORS

S.no	Ranking Of Least Miserable Countries	Misery Index (Score)	Mortality Rate	Disabilityrate	Quality of Life (Score)
1	MALAYSIA	5.1	5.2	1.3	120.39
2	CZECH REPUBLIC	5	10.5	10.3	160.37
3	NETHERLAND	4.7	9	15	186.41
4	TAIWAN	4.4	7.6	14.7	146.59
5	SWITZERLAND	4.2	8.4	14.5	196.08
6	CHINA	4.2	8	15	99.87
7	AUSTRALIA	3.9	7.3	17.5	189.73
8	JAPAN	3.3	9.9	5.9	176.46
9	HUNGARY	2.6	12.8	6.1	133.06
10	THAILAND	1.7	8.1	2.2	104.54

Table 3 depicts the least miserable countries and its relation with health indicators. The mortality rate and the disability rate were considerably low while the quality of life index remains high.

Discussion

In this study, the misery index and its association with health indicators were evaluated. Table 1 shows about the most miserable countries and its relation with the mortality rate, disability rate, and Quality of life of the corresponding countries. Ukraine had the second highest

mortality rate globally, with the highest disability rate sequentially being in the most miseries countries. On the contrary, Ukraine had an average quality of life index due to the best political and administrative structure [10].

Venezuela stands the top most miserable country in the world in the year 2019. This country had an average

mortality and disability rate along with a good quality of life index on analysis. The main reason of this country to be among the top miseries countries was due to the fall in oil production, which made up to 95% of the country export, leading to fall of the inflation rate [11]. Further, this country had high female empowerment along with specific educational transitions that aided the improvement of the country economic and social status [12]. Additionally, table 1 shows that the countries with high misery index scores also had a high mortality and disability rate, whereas a comparatively low quality of life index.

In table 2, the countries had an average mortality rate, disability rate, and good Quality of life index without much variation. Further, these countries remain with the same misery index or mild variation for the past two years. This was attributed to the country's political administration, workforce, and the environment. Except Bangladesh, Philippines, and El Salvador had a less quality of life index due to the insufficient remittances which affects the economic status of these countries [13]. Further, table 2 shows India with an average misery index and an average mortality rate, disability rate, and good Quality of life value. The urbanization in India from traditional rural economies to a modern industrial country had been a problematic transformation as there were many barriers and obstacles leads the country to be miserable [14].

In table 3, all the countries had a high quality of life index, indicating that they can provide a sophisticated, comfortable, and safe environment for the people. Further, the other indicators like mortality rate and disability rate also appear to be below average, except Australia having a high disability rate due to indigenous Australians [15]. Furthermore, studies conducted showed that countries like Australia, Switzerland, and Japan had a gradual increase in economic development as well as their expenditure and scheme implements to improve health sectors in the country [16].

On analyzing fig 2, 4 and 6, it can be noted that countries with high and average

Misery index score have a low Human development index score and those countries with low misery index score had high Human development index score. Hence it can be concluded that the countries with lowest misery index have a good human development index.

On the overall analysis, the countries with high misery index scores had comparatively higher mortality and disability rate and simultaneously had a low quality of life and human development index. Similarly, the country with low misery index scores had a higher quality of life index and the human development index, along with a low mortality and disability rate.

Hence, the misery index is directly proportional to the mortality rate and disability rate of the country, i.e., higher the misery index, the higher will be the mortality and disability rate and vice versa. The misery index is inversely proportional to the Quality of life index and human development index, i.e., higher the misery index, lower the Quality of life and human development index, and vice versa.

Limitations:

This study only included available data till the year 2020. Only countries based on most, moderate and least miserable countries were considered, and the respective data about these countries was specifically collected for the year 2019. Further inclusion of all other countries will give more relevant results and a better understanding of this perspective.

Conclusion

The overall analysis of this study caters to a very strong point that the misery index of a country has a direct or indirect influence on the health indicators and the Human Development Index (HDI). Thus, a country with a high or low misery index scores will surely have a reflection on health indicators and HDI Hence, the health indicators, the HDI, and the misery index of a country influence each other either directly or indirectly. This paper helps to identify the appropriate drawback of a particular nation which on rectification aids in the betterment of the same.

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