RUNNING HEAD: EPIDEMIOLOGY

Epidemiology

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|  |  |  |
| --- | --- | --- |
| **Age** | **Rate (Australia)** | **Rate (Indonesia)** |
| 0-14 | 1.8989 | 4 |
| 15-39 | 7.7378 | 12 |
| 40-44 | 30.8801 | 38 |
| 45-49 | 64.600 | 66 |
| 50-54 | 115.1709 | 120 |
| 55-59 | 188 | 185 |
| 60-64 | 313 | 262 |
| 65-69 | 458 | 436 |
| 70-74 | 656 | 645 |
| 75+ | 1515 | 1097 |

In the above table, we have calculated death rates per 100000 in Australia and Indonesia. We see that rate in Australia is lower than Indonesia in younger age groups whereas in the older age groups, rate is higher in Australia as compared to Indonesia. There is an increase in mortality rates as people get older with the highest rates in people over 75 years of age. There is a considerable difference between populations of two countries. Indonesia has a much larger population but it has lower mortality rates in almost all the age groups.

|  |  |  |  |
| --- | --- | --- | --- |
| **Country** | **Total Deaths** | **Total Population** | **Total Rate** |
| Australia | 43403 | 23218618 | 187 |
| Indonesia | 215217 | 244681612 | 88 |

There is a much higher death rate in Australia as compared to Indonesia on the aggregate. This is shown in the table above in the last column showing that rate in Australia is 187 per 100000 and that in Indonesia is 88 per 100000.

**Graph**

Above graph shows a comparison of Death rates in Australia and Indonesia showing that Australian population is much more vulnerable to the disease discussed, especially people over 75 years of age. As far as rates are concerned, highest increase in rate is seen between the last two age groups. For first five to six age groups, there is hardly any difference between the two countries as shown by coinciding lines. In the age group 60-64, there is a slight gap between rates of two countries. In case of Australia, there is a sharp rise in mortality rate in the last two age groups. Although Indonesia has also shown a rise in mortality rates, the hike in its mortality rate is less evident.

Australian population has shown an increase in numbers for first two classes of population. The number of deaths have decreased for the third population group but there has been an increase in rate of deaths because there is a lower population in this age group. From third to fourth age groups, there is a huge increase in number of deceased persons.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Ages** | **Rates Indonesia** | **Rates Australia** | **Population rate Ind**  | **Population rate Aus.**  |
| 0-14 | 3.965533086 | 1.89 | 10.36626039 | 4.9406301 |
| 15-39 | 11.77970976 | 7.74 | 46.37212322 | 30.4693614 |
| 40-44 | 37.8675285 | 30.88 | 24.94599175 | 20.3428176 |
| 45-49 | 65.86232207 | 64.6 | 39.76701145 | 39.004834 |
| 50-54 | 120.5091507 | 115.17 | 64.69051717 | 61.8244077 |
| 55-59 | 185.0906939 | 188 | 84.1866512 | 85.50992 |
| 60-64 | 261.9944127 | 313 | 97.42786223 | 116.39531 |
| 65-69 | 436.4063601 | 458 | 129.132642 | 135.5222 |
| 70-74 | 645.3478327 | 656 | 142.4934 | 144.92352 |
| 75+ | 1096.642532 | 1515 | 336.0112718 | 464.196 |

Above table shows proportion of Australia and Indonesia from World deceased population from cancer using rate of deaths per 100000 as a base. We have divided the rate by 100000 and multiplied it by the population given in world.

There is a sharp increase in individual country rates of death per 100000 people in the age group pf 40-44 years of age. However, there is a slight decrease in the rate of same age group when population standardized rates are calculated which may mean that there are even more people in other countries of the world who suffer from disease in this age group. The highest world standardized rates are experienced by people aged 75+ years for both countries.

**Part 2**

1. 3614/465280\*100000 = 777

1791/156415\*100000 = 1145

Rate ratio = 777/1145

 = 0.68 which means that people who sat > 8 hours per day had 68% more rate of mortality as compared to those who sit less than 8 hours per day

1. 368 which means that thee are 368 more cases of mortality per 100000 in people sitting more than eight hours than those who sit less than eight hours a day.
2. (1791/5405)

= 0.331 which means that 33.1 percent of chance is attributable to sitting more than 8 hours per day.

1. 5405/621695\*100000

869 which means that there are 869 people per 100000 who die of sitting more than eight hours a day

1. 5405/465280\*100000

1162

|  |  |  |  |
| --- | --- | --- | --- |
|  | <8 | >8 |  |
|  | 3614 | 1791 | 5405 |
|  | 465280 | 156415 | 621659 |

1. 1791/5405

0.331

g) 156415/621659

 0.25 which means that population attributable factor is only 25% in case of people sitting more than eight hours per day.