# Gender, citizenship and health-related quality of life: An overall perspective from Malaysia

Makmor Tumin[1], Ahmad Farid Osman[2], Nurhidayah Abdullah[3], Sook Lu Yong[4]

**Objectives:** Health-related quality of life (HRQoL) is an essential dimension of overall human quality of life, in which disparities have been hypothesised between women and men, as well as between citizens and non-citizens of a country in past literatures. This study is to evaluate and compare the HRQoL of citizens and non-citizens living in greater Kuala Lumpur and Johor Bahru, as well as comparing HRQoL between genders.

**Materials and Methods:** The SF-8 questionnaire was used to collect information from 1,708 respondents (1,032 Malaysian citizens and 676 non-citizens), via face-to-face interview between October and December 2015.

**Results:** Overall, respondents reported moderate HRQoL. Non-citizens reported better HRQoL than the Malaysian citizens, while men reported better HRQoL compared to women (for both citizens and non-citizens).

**Conclusions:** The HRQoL of both citizens and non-citizens' in Malaysia could be improved. Measures should be taken to remove the disparity in HRQoL between men and women, aiming to achieve equal health status for both genders.

**IeJSME 2017 11(2): 14-23**

*Keywords: accessibility; gender; health; Malaysia; quality of life*

## Introduction

The modern quality of life (QoL) concept, once confined to measures of morbidity and mortality, now includes vital dimensions of human life, such as physical and mental health, social ties, economic status, personal beliefs, and interaction with the surrounding environment. One crucial dimension of QoL is health-related quality of life (HRQoL), which refers to the self-rated health status of individuals, covering broad physical, psychological, and social functions.[1]

Malaysia is a multiracial country, with a population comprising citizens of many different ethnic groups, including Malays, Chinese, Indians, and others. A number of non-citizens also live in Malaysia, most of whom move to Malaysia to seek employment or educational opportunities. One factor which might attract migrants, is the Malaysian health policy and regulations, which offer better facilities compared to the home countries of certain non-citizens. Since independence, the Malaysian health policy and regulations have successfully made healthcare available to the vast majority of the population, including non-citizens, who are covered by insurance that assures them access to an extensive network of government and private health centres.

Several studies in various countries have explored HRQoL among non-citizens, with some comparing non-citizens' HRQoL with citizens living in the same respective areas. Most of these studies have found evidence that citizens have better HRQoL than non-citizens,[2-6] though some studies have found no differences in some aspects of HRQoL between citizens and non-citizens.[7,8] A study in Spain found that non-citizens have a lower HRQoL than the native Spanish population due to financial stress, absence of proper social support, and psychological distress.[5] By comparison with Swedish citizens, Iranian migrants were reported to have lower HRQoL.[6] In Germany, women's quality of sleep was reportedly worse among non-citizens compared to citizens.[9] On the other hand, a study surveying the HRQoL of 253 Iraqi migrants living in Malaysia found a moderate HRQoL, similar to the HRQoL of Malaysian citizens.[8] Similarly, a study in the United States found that the mental component of HRQoL for a group of Mexicans was similar to that for native population.[7]

Gender disparities in HRQoL have received much attention in past literature, with women mostly reported as having lower HRQoL than men.[10] A study in Brazil investigating the HRQoL of 2,052 respondents aged 60 years and older found gendered differences in QoL.[11] A recent study in Italy regarding 200 non-citizens' HRQoL concluded that different factors determine

[1]Department of Administrative Studies and Politics, Faculty of Economics and Administration, University of Malaya, 50603 Kuala Lumpur, MALAYSIA
[2]Centre for Poverty and Development Studies, Faculty of Economics and Administration, University of Malaya, 50603 Kuala Lumpur, Malaysia
[3]Department of Administrative Studies and Politics, University of Malaya, 50603 Kuala Lumpur, MALAYSIA
[4]Department of Economics, Faculty of Economics and Administration, University of Malaya, 50603 Kuala Lumpur, MALAYSIA

*Address for Correspondence:*

Associate Professor Dr Makmor Tumin, Department of Administrative Studies and Politics, Faculty of Economics and Administration, University of Malaya, 50603 Kuala Lumpur, Malaysia
Email: makmor@um.edu.my

HRQoL for men and women.[12] Lower HRQoL among women compared to men has been reported by several studies of the Malaysian,[13] Lebanese,[14] Iraqi,[8] Iranian,[15] and Turkish[16] populations.

Few studies have investigated the HRQoL of non-citizens in Malaysia. To fill this gap in knowledge, this study aims to assess and compare the HRQoL of citizens and non-citizens living in Malaysia. Moreover, due to the importance of gender-based assessment of HRQoL reported in the previous literature, this study will also compare HRQoL between men and women for both citizens and non-citizens. The existence of disparity in HRQoL means that improvement for a better HRQoL through intervention or policy measures for any targeted sub groups of population is something possible and achievable.

## Materials and Methods

Data was collected for this study through a survey, with respondents asked to answer a set of questions through face-to-face interviews by enumerators. Of a total of 1,708 respondents, 1,032 were Malaysian citizens, while the remaining 676 were non-citizens residing in Malaysia. The majority of the non-citizen respondents were Indonesian and Bangladeshi while the rest were individuals from 18 different countries. The survey was conducted between October and December 2015 in the Greater Kuala Lumpur area (i.e., Kuala Lumpur and its suburbs) and Johor Bahru, where prospective participants were approached randomly at workplaces and in housing areas using convenience sampling. A questionnaire was prepared in two languages, i.e., in English and Malay but most of the respondents chose to answer the questions in Malay.

As shown in Table I, 61.4% of the Malaysian respondents were female, while most non-citizens respondents were male (65.4%). Distribution by age was quite similar for both citizens and non-citizens, as summarised in Table II. About 75% of Malaysian respondents were younger than 40, while 83.3% of the non-citizens were younger than 40.

**Table I:** Respondents' gender by citizenship

| Citizenship | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Citizen | 398 | (38.6) | 634 | (61.4) | 1032 | (100) |
| Non-citizen | 442 | (65.4) | 234 | (34.6) | 676 | (100) |
| **TOTAL** | 840 | (49.2) | 868 | (50.8) | 1708 | (100) |

**Table II:** Respondents' age by citizenship

| Citizenship | < 30 | | 30 – 39 | | 40 – 49 | | ≥ 50 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % |
| Citizen | 422 | (40.9) | 351 | (34.0) | 161 | (15.6) | 98 | (9.5) | 1032 | (100) |
| Non-citizen | 274 | (40.5) | 289 | (42.8) | 78 | (11.5) | 35 | (5.2) | 676 | (100) |
| **TOTAL** | 696 | (40.7) | 640 | (37.5) | 239 | (14.0) | 133 | (7.8) | 1708 | (100) |

Table III presents information on respondents' employment sectors by gender. Less than 3% of the male respondents were not working. Almost 15% of the female respondents were those that are not working or are housewives. More than 10% of the female respondents worked in the public sector, which is higher compared to men (4.4%). Similarly, Table IV presents information on the respondents' employment sectors by citizenship. The data indicates that more than 60% of both citizen and non-citizen respondents were working in the private sector. A small percentage of non-citizen respondents were not working, as compared to about 13% citizen respondents.

**Table III:** Respondents' employment sector by gender

| Employment sector | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Unemployed / housewife | 24 | (2.9) | 128 | (14.7) | 152 | (8.9) |
| Self employed | 144 | (17.1) | 130 | (15.0) | 274 | (16.0) |
| Government sector | 37 | (4.4) | 93 | (10.7) | 130 | (7.6) |
| Private sector | 596 | (71.0) | 473 | (54.5) | 1069 | (62.6) |
| Retired | 5 | (0.6) | 7 | (0.8) | 12 | (0.7) |
| Part time workers | 12 | (1.4) | 17 | (2.0) | 29 | (1.7) |
| Others | 22 | (2.6) | 20 | (2.3) | 42 | (2.5) |
| **TOTAL** | 840 | (100) | 868 | (100) | 1708 | (100) |

**Table IV:** Respondents' employment sector by citizenship

| Employment sector | Citizen | | Non-citizen | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Unemployed / housewife | 133 | (12.9) | 19 | (2.8) | 152 | (8.9) |
| Self employed | 102 | (9.9) | 172 | (25.4) | 274 | (16.0) |
| Government sector | 125 | (12.1) | 5 | (0.7) | 130 | (7.6) |
| Private sector | 640 | (62.0) | 429 | (63.5) | 1069 | (62.6) |
| Retired | 11 | (1.1) | 1 | (0.1) | 12 | (0.7) |
| Part time workers | 13 | (1.3) | 16 | (2.4) | 29 | (1.7) |
| Others | 8 | (0.8) | 34 | (5.0) | 42 | (2.5) |
| **TOTAL** | 1032 | (100) | 676 | (100) | 1708 | (100) |

Respondent's quality of life was assessed using SF-8, a short-form of the SF-36 questionnaire comprising eight domains (questions) assessing respondent's: (a) general health; (b) physical function; (c) physical-role function; (d) bodily pain; (e) vitality; (f) social function; (g) mental health; and (h) emotional-role function. Questions were answered on a Likert scale, with points representing respondents' HRQoL level for each domain. Average scores for each HRQoL category were then converted to percentages, with higher percentages indicating higher HRQoL. HRQoL percentages were calculated separately for male and female, as well as for citizen and non-citizen respondents, in accordance with the study's aims.

Statistical analyses were performed using SPSS 21.0 (IBM SPSS Statistics for Windows, Version 21.0, Armonk, NY: IBM Corp.). Descriptive statistics of respondents' HRQoL were calculated, and the Mann-Whitney test was used to determine whether the scores of two groups of responses came from the same population (i.e., whether the two groups of scores have the same population medians).

All human studies were reviewed and approved by the Universiti Malaya Research Ethics Committee (Reference Number: UM.TNC2/RC/H&E/UMREC-76)

## Results

Figure I shows Malaysian respondents' HRQoL by gender. In general, women reported lower HRQoL compared to men for all domains, with differences ranging between two and five percent. The domain with the smallest HRQoL was bodily pain, while the emotional-role function domain had the highest percentage of HRQoL.

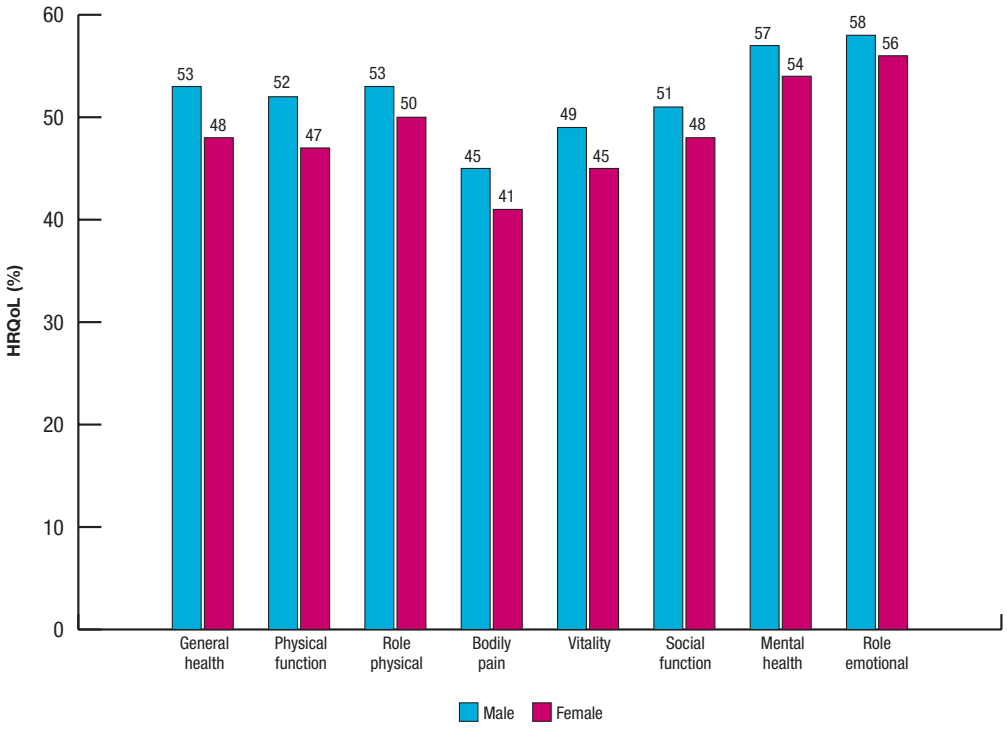


**Figure I:** Malaysian respondents' HRQoL by gender.

Table V and Figure II show Malaysian respondents' HRQoL by gender. As Figure II clearly shows, HRQoL for all domains was higher for male respondents compared to female respondents. In this radar chart, lines that are further from the centre of the chart represent better HRQoL. Table V shows that men reported HRQoL greater than 50% for six domains, all except bodily pain and vitality. Women, however, reported HRQoL greater than 50% in only three domains: (a) physical-role function; (b) mental health; and (c) emotional-role function. Mann-Whitney tests showed that these differences in HRQoL between men and women were statistically significant for all domains at 5% significance level (p-value < 0.05), except for emotional-role function, which was only significant at 10% significance level (p-value < 0.10).

Meanwhile, Table VI and Figure III show non-citizens' HRQoL by gender. As with Malaysian citizens, the HRQoL of male respondents was always higher than for women in all eight domains. Statistically, among non-citizens, women had significantly lower HRQoL scores than men for all domains, except for general health and vitality. Unlike Malaysian citizens, non-citizens reported HRQoL greater than 50% for all domains regardless of gender, suggesting that non-citizens have better HRQoL as compared to Malaysian citizens.

**Table V:** Malaysian respondents' HRQoL by gender (%)

| Domain | Male | Female | p-value from Mann-Whitney test | All citizen respondents |
|---|---|---|---|---|
| General health | 52.50 | 47.50 | **0.000** | 49.50 |
| Physical function | 51.60 | 47.40 | **0.000** | 49.00 |
| Physical-role function | 52.80 | 50.20 | **0.012** | 51.20 |
| Bodily pain | 44.60 | 40.60 | **0.001** | 42.20 |
| Vitality | 48.60 | 44.60 | **0.000** | 46.20 |
| Social function | 51.20 | 47.80 | **0.000** | 49.00 |
| Mental health | 56.60 | 54.20 | **0.014** | 55.20 |
| Emotional-role function | 58.20 | 56.40 | 0.096 | 57.20 |

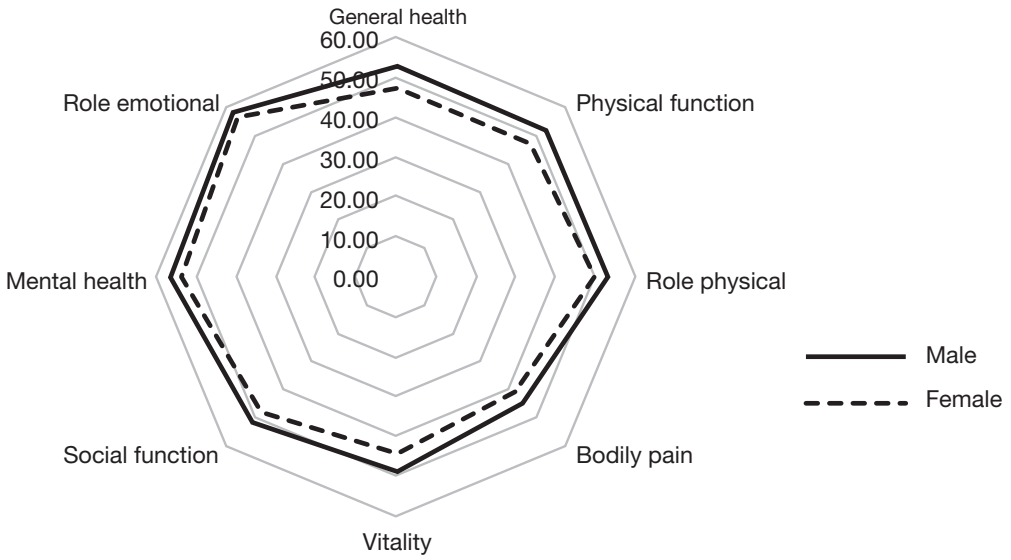


**Figure II:** Malaysian respondents' HRQoL by gender (%).

**Table VI:** Non-citizens' HRQoL by gender (%)

| Domain | Male | Female | p-value from Mann-Whitney test | All non-citizen respondents |
|---|---|---|---|---|
| General health | 64.50 | 63.33 | 0.249 | 64.00 |
| Physical function | 55.80 | 52.80 | **0.035** | 54.80 |
| Physical-role function | 58.20 | 54.60 | **0.006** | 56.80 |
| Bodily pain | 58.40 | 53.60 | **0.000** | 56.80 |
| Vitality | 62.40 | 60.20 | 0.089 | 61.60 |
| Social function | 58.40 | 52.80 | **0.000** | 56.60 |
| Mental health | 61.60 | 55.80 | **0.000** | 59.60 |
| Emotional-role function | 60.80 | 54.20 | **0.000** | 58.60 |

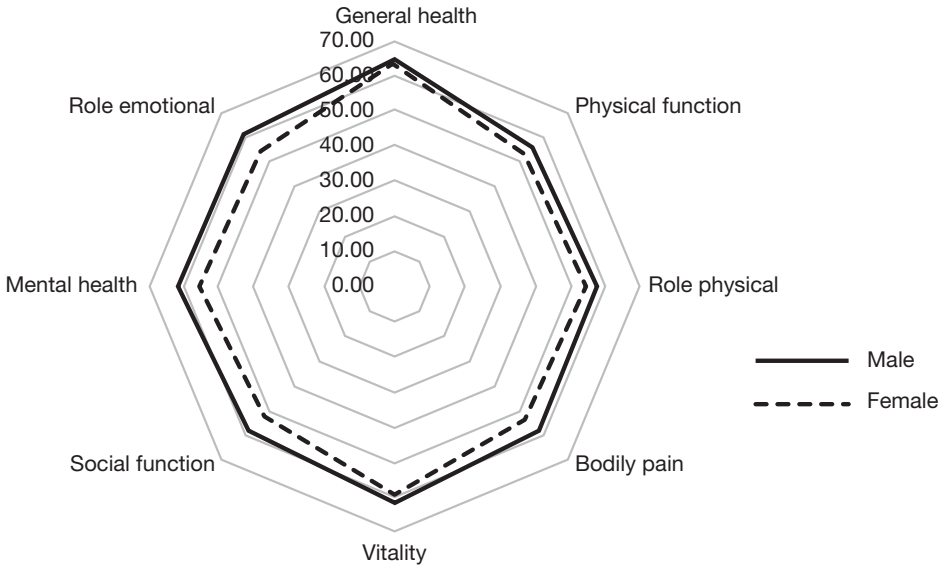


**Figure III:** Non-citizens' HRQoL by gender (%).

Likewise, Figure IV shows that non-citizens have higher HRQoL than do Malaysian citizens in all eight domains, and in three domains, namely general health, bodily pain, and vitality, non-citizens reported much higher HRQoL than citizens. Mann-Whitney tests, the p-values for which are listed in Table VII, suggested that the differences in HRQoL between citizens and non-citizens were strongly significant for all eight domains.

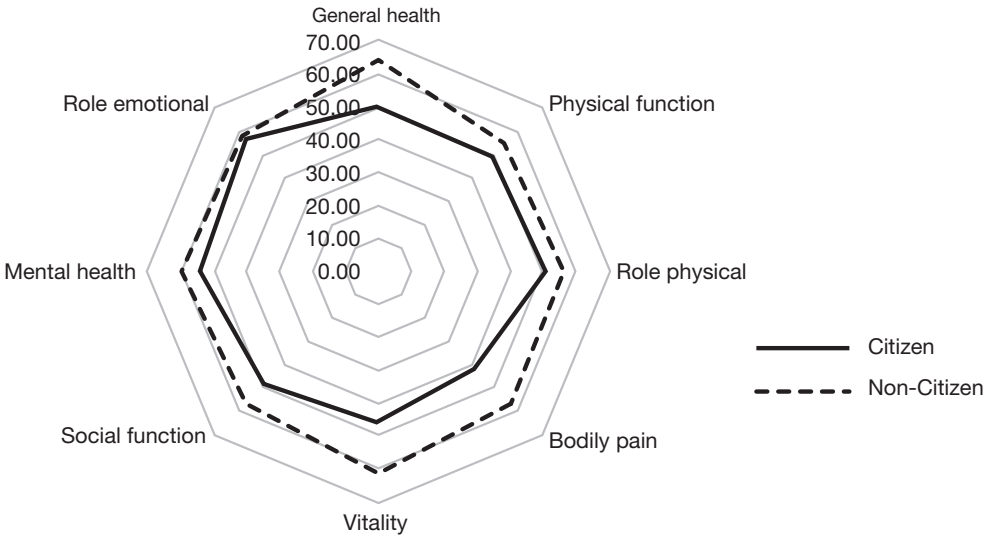


**Figure IV:** All respondents' HRQoL by citizenship (%).

**Table VII:** Comparing citizens and non-citizens' HRQoL scores.

| Domain | Citizens | Non-citizens | p-value from Mann-Whitney test | All respondents |
|---|---|---|---|---|
| General health | 49.50 | 64.00 | **0.000** | 55.17 |
| Physical function | 49.00 | 54.80 | **0.000** | 51.20 |
| Physical-role function | 51.20 | 56.80 | **0.000** | 53.40 |
| Bodily pain | 42.20 | 56.80 | **0.000** | 48.00 |
| Vitality | 46.20 | 61.60 | **0.000** | 52.20 |
| Social function | 49.00 | 56.60 | **0.000** | 52.00 |
| Mental health | 55.20 | 59.60 | **0.000** | 57.00 |
| Emotional-role function | 57.20 | 58.60 | **0.048** | 57.60 |

## Discussion

One obvious finding from the above analysis is that women have lower HRQoL compared to men in all eight domains, suggesting that men enjoy better HRQoL than their female counterparts. These findings match those of many studies around the world conducted on Malaysian[13], Lebanese[14], Iraqi[8], Iranian[15], and Turkish[16] populations. Women are subject to more health problems than men and thus have lower HRQoL.[10] Research indicates that this is attributed to several factors centring on the way women react to surrounding conditions, which are psychologically, behaviorally, and materially different from men.[17] In addition, women experience regular hormonal variations, pregnancy, and childbirth, all of which men do not experience and which can be associated with specific health problems.[18,19]

Enhancing women's HRQoL to at least the level of their male counterparts is imperative, part of a broader goal to achieve equal health status for both genders and universal health coverage for all people living in Malaysia. Women's HRQoL could perhaps be raised by improving the quantity and quality of accessible healthcare services targeting women. Empowering and educating women about their health-related rights, especially reproductive-related rights, are also essential to improving women's health status. Moreover, removing the social and financial barriers that might hinder women's access to adequate healthcare services are also vital in this regard.[20-22]

These efforts should be made for both citizens and non-citizens, since everyone has the right to access healthcare services, regardless of their nationality, race, or beliefs. Moreover, we recommend further studies focusing on the reasons underlying the disparities in HRQoL between men and women, for both citizens and non-citizens.

Interestingly, our results showed that non-citizens have better reported HRQoL than Malaysian citizens, contrary to the most of past literature. However, some prior work has found evidence that non-citizens may have similar HRQoL to that of the native population. For instance, a study of non-citizens living in Malaysia suggested that their HRQoL is similar to that of the broader Malaysian population.[8] Another study in the

United States showed that non-citizen Mexicans living in the colonies on the Texas-Mexico border have a similar quality of mental health to their native, local citizen counterparts.[7] Therefore, our results provide new evidence that non-citizens might have similar, or even better HRQoL compared to citizens. In the case of Malaysia, this could be related to the fact that immigrant workers and foreign students undergo a required health examination process before being allowed to enter Malaysia, meaning that non-citizens have generally better health than the population of Malaysian citizens. This statement however, is just a conjecture, and further study is needed to prove it.

## Conclusion

A number of policy implications can be derived from this study. First, HRQoL levels for the eight domains are rather moderate on the whole, and we believe they could be lifted higher through relevant measures that could be taken or implemented by the Ministry of Health Malaysia. In implementing these relevant measures, focus should be placed on improving HRQoL in the aspect of bodily pain and vitality. Second, the better reported HRQoL of non-citizens over citizens might suggest that health screening process that they have gone through before being allowed to work or study in Malaysia leads to better HRQoL among non-citizens. Thus, it might be a good policy to conduct periodic health screening of citizens, providing them with appropriate medical treatment when necessary. Moreover, measures should be taken to eliminate the disparity in HRQoL between genders for both citizens and non-citizens. Taking an example of inactive lifestyle, a new working policy that encourages more active lifestyle among female workers can be achieved through diversification of tasks and duties. Other measures including encouragement and incentive for involvement in physical activities could also be considered.

It is important to mention that the findings of this study come with limitations. Since the goal of the study is to assess the average HRQoL of four different groups, i.e., males, females, citizens and non-citizens, the results should not be used to say that gender or citizenship is a factor determining the level of HRQoL. There must be other factors associated with the outcomes of this study that require further investigation for a more conclusive explanation. It is also important to remind readers that HRQoL is a self-rated health status by the respondents. It might not be able to accurately measure the actual health status of the respondents.

## Acknowledgments

We would like to acknowledge the financial support provided by University of Malaya under the Equitable Society Research Cluster (ESRC) research grant (Grant Number: RP018D-14SBS).

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