

Activities of daily living, instrumental activities for daily living and predictors of functional capacity of older men in Jamaica

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Abstract

Background: An extensive search of the literature found no studies that have examined functional capacity [Activities of Daily Living (ADL) and Instrumental Activities for Daily Living (I ADL)] of Jamaican older men as well as factors that determine their functional capacity. **Aims:** The current study examines 1) ADL, 2) (I) ADL, 3) self-reported health status, 4) functional capacity, and 5) factors that determine functional capacity of older men. **Methods and Method:** Stratified multistage probability sampling technique was used to draw a sample of 2,000 55+ year men. A132-item questionnaire was used to collect the data. Descriptive statistics provide background information on the sample, cross tabulations were used to examine non-metric variables and logistic regression provides a model of predictors of functional capacity. **Result:** Fifty-five percent of sample indicated good current health status. Four percent was mostly satisfied with life; 21.7% had moderate dependence; 77.1% had high dependence (i.e. independence); 1.2% had low dependence; 21.9% were ages 75 years and older; 35.6% were ages 65 to 74 years and 42.6% reported ages 55 to 64 years. Functional capacity can be determined by church attendance ($\beta=0.245$; 95% CI: 0.264, 1.291); social support ($\beta=0.129$; 95% CI: 0.129, 0.258), area of residence ($\beta=-0.060$; 95% CI: -0.427, -0.061) and lastly by age of respondents. **Conclusion:** Ageing in explains deterioration in their (I) ADL, suggesting the challenges of ageing men's independence. More rural men were rarely satisfied with life; but more of them had a greater functional capacity than urban men. Depression was found to negatively relate to functional capacity, and church attendees had a greater functional status than non-attendees.

Keywords: Functional capacity, ADL, (I) ADL, older men, public health, Jamaica

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Introduction

Like many developed nations and even some developing ones, Jamaica is able to boast of its notable achievement in progress made toward advancing the health status of its populace, during the twentieth century – which are expressed in the postponement of death, lowered fertility, high nutrition and sanitation and more importantly the increasing life expectancy. Life expectancy which is an indicator of health status revealed that the country's health status is reasonably good, as the life span for Jamaicans was similar to those in some First World societies – 71.26 for males and 77.07 years for females [1].

Interestingly, the biological science highlighted that the

ageing process comes with changes in physical functioning. According to 'The Merck Manual of Health and Aging' [2] "Older cells function less well. Also, in some organs, cells die and are not replaced, so the number of cells decreases", indicates not only the decline functionality of aged body but also the role of diseases in this regards. The oldest-old categorization is said to be the least physical functioning compared to the other classification in chronological ageing [3, 4]. The young-old, on the other hand, are more likely to be the most functioning as the organism is just beginning the transition into the aged arena [2, 3, 5].

A study conducted by Costa [6], using secondary data drawn from the records of the Union Army (UA) pension

programme that covered some 85% of all UA, showed that there was an association between chronic conditions and functional limitation – which include difficulty walking, bending, blindness in at least one eye and deafness. Those functional activities are classified as ADL (activities of daily living) or (I) ADL (Instrumental Activities for Daily Living). The ADLs denote what an individual normally do in his/her daily living. These include activities such as feeding oneself; bathing, dressing, grooming, work, homemaking and leisure. The (I) ADL are those activities whose accomplishment is necessary for continued independent residence in the community. The independent activities of daily living are more sensitive to subtle functional deficiencies than ADL's and differentiate among task performance including the amount of help needed to accomplish each task. Within the context of ageing and the reality of having chronic diseases, ones ADL and (I) ADL will be hampered somewhat.

Some illnesses, such as Huntington's Disease, hypertension, heart diseases, diabetes mellitus, cancer, cataract, and stroke, result in a gradual loss of the ability to provide self-care and some result in an immediate dependence or lowered functional capacity and sometimes even mortality. Hence, if ageing were associated with no ailments, it still comes with reduced functional capacity. According to Eldemire [7] "The majority of Jamaican older persons are physically and mentally well and living in family units", suggesting that illnesses are eroding some of functional capacity of elderly Jamaica which is synonymous to ageing. Despite Eldemire's findings, a study on the elderly published in the Caribbean Food and Nutrition Institute's magazine (i.e. *Cajanus*) found that 70% of individuals who were patients within different typologies of health services were senior citizens [8], suggesting that elderly Jamaicans were not only spending more time utilizing health care services than other age cohorts but that they were experiencing lowered functional capacity.

The aforementioned health literature has shown that diseases positively influence functionality, and Kim et al.'s work [9] provided more information on functional capacity (i.e. (I)ADL). They found that MCI (i.e. mild cognitive impairment) patients performed significantly worse on four out of a total 15 items (i.e. telephone, transportation, finances and household appliances) of elderly 60+ year old. Another descriptive study conducted by Natividad and Zimmer [10] when further than Kim et al. in 2000, they found that 11.5% were having difficulties walking in the house; 8.0% difficulty bathing; 6.3% dressing themselves; and 4.6% eating. On the issue of (I)ADL for Natividad and Zimmer's work, for 2000, 18.5% had difficulty with using transportation; 17.6% shopping; 13.8% preparing meals; 13.8% light housework; and 9.4% manage their money. In the same aforementioned study, using logistic regression, they went further and found that age was the significant factor that determine ADL (OR=1.08, $P < 0.05$); while age (OR = 1.07, $P < 0.05$) and area of residence (i.e. rural – OR=0.66, $P < 0.05$) were determinants of (I) ADL. Furthermore, they found that marital status, education, and gender were not

statistical significant determinants of ADL or (I) ADL.

This study is timely as it aimed to examine ADL, (I) ADL and sought to investigate those determinants of functional capacity of older men in Jamaica. Using data for 2007 on 2,000 Jamaican men 55+ years, the current study evaluated activities of daily living (ADL), instrumental activities ((I)ADL), self-reported health status and using logistic regression, determined those factors that explain functional capacity of older men. The current study therefore will not only provide information upon which public health policies can be fashioned; but it also will aid an understanding of older men and how they perceived health and determined their ADL, (I) ADL and those factors that influence their functional abilities and not assume that what obtains in other locality equally applies to Jamaican men 55+ years.

Materials and Methods

The study used primary cross-sectional survey data on men 55 years and older from the parish of St. Catherine in 2007; it also generalizable to the island. The survey was submitted and approved by the University of the West Indies Medical Faculty's Ethics Committee. Stratified multistage probability sampling technique was used to draw the sample (2,000 respondents). A132-item questionnaire was used to collect the data. The instrument was sub-divided into general demographic profile of the sample; past and current health status; health-seeking behavior; retirement status; social and functional status. The overall response rate for the survey was 99% (n=1,983). Data was stored, retrieved and analyzed, using SPSS for Windows (16.0) (SPSS Inc; Chicago, IL, USA).

The Statistical Institute of Jamaica (STATIN) maintains a list of enumeration districts (ED) or census tracts. The parish of St. Catherine is divided into a number of constituencies made up of a number of enumeration districts (ED). The one hundred and sixty-two enumeration districts in the parish of St. Catherine provided the sampling frame. The enumeration districts were listed and numbered sequentially and selection of clusters was arrived by the use of a sampling interval. Forty enumeration districts (clusters) were subsequently selected with the probability of selection being proportional to population size (Table 1).

Table 1 Proportion of Survey (Sample) vs. Proportion of Population

| Age Group (Yrs). | Survey | | 2001 Census (St.Catherine) | | 2001 Census (Jamaica) | |
|------------------|--------|-------|----------------------------|------|-----------------------|------|
| | n | % | n | % | N | % |
| 55-59 | 469 | 23.45 | 6577 | 26.7 | 38645 | 23.9 |
| 60-64 | 413 | 20.6 | 5179 | 21.1 | 31828 | 19.7 |
| 65-69 | 374 | 18.7 | 4391 | 17.8 | 28901 | 17.9 |
| 70-74 | 345 | 17.2 | 3594 | 14.6 | 24856 | 15.4 |
| 75-79 | 189 | 9.45 | 2402 | 9.78 | 17711 | 11.0 |
| 80+ | 210 | 10.5 | 2399 | 9.77 | 19552 | 12.1 |

The sample population does not only speak to the parish of St. Catherine, it is generalizable to the island of Jamaica. The sampling frame was men fifty-five years and older in the parish of St. Catherine. The parish of St. Catherine was chosen as previous data and surveys [11-13] suggested that it has the mix of demographic characteristics (urban, rural and age-composition) which typify Jamaica.

For the current study descriptive status employed to provide background information on the sample; and chi-square was used to examine non-metric variables. Level of significance was p -value < 0.05 and the only exclusion criterion was if more than 20% of the cases of a variable were missing.

Measure

Happiness. This is measured based on people's self-report on their happiness. It is a Likert scale question, which ranges from always to rarely happy. **Health Status.** This variable is measured using people's self-rate of their overall health status, which ranges from excellent to poor health status. The question was 'How would you rate your health today?' (1) Excellent; (2) Good; (3) Fair and (4) Poor. **Education.** What is [your] highest level of [education] attained? The options were (1) no formal education; (2) basic school; (3) primary school/all age; (4) secondary/high/technical school; (5) vocational (i.e. apprenticeship/trade); (6) diploma; (7) undergraduate degree; (8) post-graduate degree. **Physical Exercise.** 'Do you take time out for regular exercise?' (1) yes and (2) no. **Type of physical exercise.** 'What do you do in terms of exercise?' **Childhood illness.** 'Were you seriously ill as [a] child? (1) yes, (2) no. And, were you frequently ill as a child? (1) yes, (2) no. If the response to either question was yes, this was coded as poor childhood health status and if the response was no in both cases it was coded a good health status in childhood. **Age group** is a categorized into three sub-groups. These are (1) ages 55 to 64 years; (2) ages 65 to 74 years; and (3) ages 75 years and older (i.e. 75+ years).

Performance of Activities of Daily Living (ADL) is used to describe the functional status of a person. It is used to determine a baseline level of functioning and to monitor improvement in activities of daily living (ADL) overtime [14, 15]. Scoring the ADL findings (Katz) Independence on a given function received a score of 1 point while if dependent, 0 point was given. There were 6 items ("eating" refers to feeding oneself; "dressing" denotes getting clothes and getting dressed, including typing shoes; "transferring" means to get in and out of bed as well as in and out of a chair; "using toilet" refers to going to the toilet and cleaning afterwards; "bathing" denotes to sponge bath, shower, tub bath, or washing body with a wet towel; "continence" denotes to control of urination and bowel movement). The reliability of the items was high, as Cronbach alpha was 0.696. Total scores thus could range from 0 to 6 with lower scores indicating low independence (i.e. high dependence) and larger scores indicating higher independence. If there was a score of 0 to 2 (i.e. none to 2 of the six ADL activities was chosen), the older person was classified as low independence; if 3 to 4 of the activities were selected, the

older man was classified as moderately independent and if 5 to 6 items were selected the older was classified as highly independent.

Instrumental Activities of Daily Living ((I) ADL). The Instrumental Activities of Daily Living tool [16] was the basis for assessing participants' difficulty with (I) ADL. (I)ADL are those activities whose accomplishment is necessary for continued independent residence in the community. The independent activities of daily living are more sensitive to subtle functional deficiencies than ADL's and differentiate among task performance including the amount of help needed to accomplish each task. Hence, (I) ADL for older men in this study used the 8-item choices as is used for women. These are preparing meals; shopping; management medication; money management; transportation; telephone and laundry. Scoring the (I) ADL. (I)ADL scores reflect the number of areas of impairment i.e. the number of skills/domains in which subjects are dependent. The data were coded as 1 if fully independent to 4 if lowly independent. Scores range from 0 to 8, with higher scores indicating higher dependence and lower scores greater independence (i.e. low dependence). If none to 3 activities were selected, the older person was classified as high dependence; if 4 to 6 activities were selected the elder was classified as moderately dependent and if 7 to 8 items were selected the elder was classified as highly dependent. The Cronbach alpha for the 8 item scales was 0.648.

Model

In order to examine the effect of many variables on a single dependent variable, the researcher used multivariate analysis to test a single hypothesis (physical functioning is determined by current health status, happiness, area of residence – see Equation [1]. Natividad and Zimmer [10] had used logistic regression to examine factors that determined ADL, (I) ADL and self-reported of older Filipinos. Using the literature [10], the current study investigated the correlates of functional status of older Jamaicans within the context of the available data. The proposed model that this research seeks to evaluate is displayed (Eqn1):

$$F_i = \alpha_0 + \alpha_1 H_i + \alpha_2 HAPP_i + \alpha_3 LS_i + \alpha_4 CH_i + \alpha_5 AR_i + \alpha_6 A_i + \alpha_7 SS_i + \alpha_8 CA_i + \alpha_9 ED_i + \alpha_{10} HH_i + \alpha_{11} MS_i + \alpha_{12} P_i + \alpha_{13} HA_i + \alpha_{14} TM_i + \alpha_{15} D_i + \varepsilon_i \quad [1]$$

Where F_i (physical functionality) is a function of some current health status, H_i , happiness, $HAPP_i$, life satisfaction, LS_i , children, C_i , area of residence, AR_i , age group of respondent, A_i , social support, SS_i , church attendance, CA_i , educational level, ED_i , head of household, HH_i , marital status, MS_i ; number of person in household, P_i ; health status in childhood, HA_i ; employment status, EM_i ; depression, D_i ; taking medication, TM_i ; health advise, HA_i .

All the variables were identified from the literature. Using the principle of parsimony, only those explanatory variables that are statistically significant ($P < 0.05$) were used in the final model to determine F_1 of older men in Jamaica. This final model identified the correlates of F_1 of older men in Jamaica, (Eqn2).

$$F_i = \alpha_0 + \alpha_1 AR_i + \alpha_2 A_i + \alpha_3 SS_i + \alpha_4 CA_i + \alpha_5 P_i \varepsilon_i \quad [2]$$

Furthermore, the variables used in this study are based on (1) literature review which shows that these are likely to correlate with the particular dependent variable, and 2) the correlation matrix was examined in order to ascertain if autocorrelation (or multicollinearity) existed between independent variables. Based on Bryman and Cramer [17], correlation can be low (weak) - from 0 to 0.39; moderate - 0.4-0.69, and strong - 0.7-1.0. This was used to exclude (or allow) a variable in the model. Any of the independent variables which had moderate to high correlation was excluded from the model. The correlation between life satisfaction and happiness was 0.633; happiness and social networking (correlation coefficient = 0.12, $P = 0.003$); happiness and marital status (correlation coefficient = 0.107, $P = 0.026$); marital status and income category (correlation coefficient = 0.193, $P < 0.001$); social networking and marital status ($r=0.205$, $P < 0.001$); social networking and age group (correlation coefficient = 0.188, $P < 0.001$); social networking and occupation (correlation coefficient = 0.320, $P < 0.001$); social networking educational category (correlation coefficient = 0.420, $P < 0.001$); ADL and age cohort (correlation coefficient = -0.813, $P = 0.032$); income and occupation (correlation coefficient = 0.7775, $P < 0.001$); and, income and education (correlation coefficient = 0.356, $P < 0.001$); employment and education category (correlation coefficient = 0.283, $P < 0.001$), and depression and life satisfaction (correlation coefficient = 0.160, $P < 0.001$). However, there was no correlation between happiness and present occupation ($P = 0.761$); happiness and income ($P = 0.233$); happiness and employment status ($P = 0.516$); health status and depression ($p=0.876$) as well as life satisfaction and employment status ($P = 0.261$). Hence, life satisfaction and happiness; occupation and income category will not be simultaneously used as explanatory variables.

Results

Demographic Characteristics of Sample

Most of the sample was lowly dependent (77.1%); 55.4% reported a moderate health status and 63.6% indicated satisfied with life sometimes (Table 2).

When functional capacity was disaggregated into ADL and (I) ADL, the following disparities were observed in the findings. Of the sample, 1.5% had low ADL scores; 1.3% moderate and 97.2% had high ADL scores. However, with regards to (I) ADL, 1.9% had low, 18.6% moderate and 79.6% high scores. Of the sample, 43.1% reported that they were suffering from depression compared to 56.9% who stated no to the question of being depressed in the survey period. On examining depression and age cohort, no significant statistical association was between both variables ($P = 0.102$).

One half of the sample indicated that they spent Ja.\$100 (US \$1.45) monthly for medical expenditure; 34% of the respondents bought their prescribed medication; 17.1%

reported that they have been hospitalized since their sixth birthday and 65.8% reported that they took no medication. Of those who mentioned that they were ill during childhood (17.5%, $n=350$), 34.9% said that the illness was measles or chicken pox, 26.3% mentioned asthma, 10.0% pneumonic fever, 8.9% polio, 6.6% accident, 4.6% jaundice, 1.7% hernia, and 5.1% indicated gastroenteritis. Twenty four percent of elderly men indicated that they were rarely happy, 40.5% said sometimes, 31.0% mentioned often and only 4.5% reported always. Furthermore, 17.7% of the sample reported that they were seriously ill as children.

Table 2 Demographic Characteristics of Sample

| Variable | Frequency | Percent |
|---------------------------------|-----------|---------|
| <i>Functional Status</i> | | |
| High dependence | 24 | 1.2 |
| Moderate dependence | 434 | 21.7 |
| Low dependence (independence) | 1542 | 77.1 |
| <i>Marital Status</i> | | |
| Single | 686 | 34.3 |
| Married | 894 | 44.7 |
| Separated | 112 | 5.6 |
| Common law | 136 | 6.8 |
| Widowed | 172 | 8.6 |
| <i>Age group</i> | | |
| 55- 64 years | 851 | 42.6 |
| 65 – 74 years | 712 | 35.6 |
| 75 years and older | 437 | 21.9 |
| <i>Employment Status</i> | | |
| Employed | 511 | 25.6 |
| Unemployed | 412 | 20.6 |
| Retired | 1077 | 53.9 |
| <i>Education</i> | | |
| No Formal Education | 200 | 10.0 |
| Primary and basic | 1661 | 83.0 |
| Secondary | 102 | 5.1 |
| Tertiary | 37 | 1.9 |
| <i>Self-rated Health Status</i> | | |
| Excellent | 357 | 19.0 |
| Good | 1038 | 55.4 |
| Fair | 480 | 25.6 |
| <i>Social Networking</i> | | |
| Yes | 817 | 59.1 |
| No | 1183 | 40.9 |
| <i>Life Satisfaction</i> | | |
| Rarely satisfied | 658 | 32.9 |
| Sometimes | 1,272 | 63.6 |
| Most | 70 | 3.5 |
| <i>Childhood Health status</i> | | |
| Good | 1650 | 82.5 |
| Poor | 350 | 17.5 |
| <i>Area of residence</i> | | |
| Urban | 981 | 49.0 |
| Rural | 1019 | 51.0 |

The findings revealed that no statistical correlation existed between ADL and age cohort of the sample ($p=0.205$).

However, a relationship was found between (I) ADL and age group of the sample (χ^2 (DF = 4) = 16.011; $p=0.003$) (Table 3). On further examination, it was revealed that as an older male increases in age from 55-64 years to 65-74 years and 75+ years, his high independence falls and while his moderate dependence increases. Of those who were 55-64 years, 83.0% of them high independence compared to 78.9% of those 65-74 years and 73.9% for those 75+ years (Table 3).

Table 3 ADL and (I) ADL by Age group

| Variable | Age group | | | P value |
|---------------|---------------|---------------|---------------|----------------------------|
| | 55-64 | 65-74 | 75+ | |
| ADL | | | | 0.205 |
| Low | 12 (1.4) | 12 (1.7) | 6 (1.4) | |
| Moderate | 7 (0.8) | 15 (2.1) | 4 (0.9) | |
| High | 832 (97.8) | 685 (96.2) | 427 (97.7) | |
| Total | 851 | 712 | 437 | |
| (I)ADL | | | | P value |
| Low | 13 (1.5) | 16 (2.2) | 8 (1.8) | 0.003 |
| Moderate | 132 (15.5) | 134 (18.8) | 106 (24.3) | χ^2 (df = 4) = 16.011 |
| High | 706 (83.0) | 562 (78.9) | 323 (73.9) | |
| Total | 851 | 712 | 437 | |

Of the sample, 41.8% of older men were health literate or have been advised on medical relates conditions, causes, prognosis and precautions compared to 58.3% who were not aware or have been advice by a health care practitioners (include a pharmacists, community aide; nurse, or medical technologists).

The study revealed that no statistical correlation was found between functional capacity of older men in Jamaica and health advice (or health literacy) – $P=0.845$. However, a weak statistical relationship existed between educational level and health literacy (χ^2 (DF = 1) = 110.165, $P < 0.001$, correlation coefficient = 0.235) (Table 4).

Table 5 revealed that ADL for men 55+ years was very high for each activity, with 88.5% for continence being the lowest level of independence. For (I)ADL, 56.7% of sample was still able to perform heavy duty housework, 62.7% were still performing their laundry, 98.1% managed their money and 77.8% were still shopping, and 70.2% prepared their own meals.

No statistical correlation was found between health status and age cohort of respondents ($p=0.051$), and between life satisfaction and age cohort ($P=0.430$) as well as health status and area of residence ($P=0.190$).

A significant statistical difference between life satisfaction of urban and rural older men in Jamaica – χ^2 (DF = 3) =

13.910, $P = 0.003$. However that the correlation was a weak one (correlation coefficient = 0.083). On further examination, 35.9% of older rural men revealed that they were rarely satisfied with life compared to 29.8% of urban older men. Concurrently, 37.4% of urban older men reported that they were sometimes satisfied with life compared to 30.2% of rural men. Twenty-nine percent of urban men indicated that were satisfied with life most times compared to 30.5% of rural men.

A cross tabulation between life satisfaction and happiness revealed a significant statistical correlation - χ^2 (df = 9) = 1334.448, $P < 0.001$. The association was a relatively strong one (correlation coefficient = 0.663) – Table 6. Seventy-three percent of those older men who were rarely happy were rarely satisfied with life compared to 17.8% who indicated being always happy that were rarely satisfied with life. Forty-seven percentages of those who were always satisfied with life were always happy. Further investigation revealed that 2.1% of those who were always satisfied with life were rarely happy.

Multivariate Analysis

Based on Table 7, the model (Eqn. [2]) is a good fit for the data $F [19, 1855] = 6.492$, $P < 0.00$. Continuing, 36.2% of the variance can be explained by age of respondents; social support; church attendance; area of residence; the number of people in the household and depression. Using beta weights, church attendance was the most significant predictor of functional capacity ($\beta=0.245$; 95% CI: 0.264, 1.291) followed by social support ($\beta=0.129$; 95% CI: 0.129, 0.258), area of residence ($\beta=-0.060$; 95% CI: -0.427, -0.061) and lastly by age of respondents. Furthermore, urban older men in Jamaica had a low functional capacity than rural men; and that the older men becomes their functional capacity falls - elderly (ages 64 to 74 years, $\beta=-0.051$; 95%CI: - 0.427, -0.009); elderly (ages 75 years and older, $\beta=-0.054$, 95%CI=-0.523, -0.013).

Discussion

Functional capacity of older men in Jamaica was very high as 77 out of every 100 men 55+ years had a high independence; 22 out of every 100 a moderate independence, and 1 out of every 100 had a low independence. This is in somewhat lower Eldemire's earlier work [7] that showed that 93.5% percentage of elderly Jamaicans were actively involved in daily management of the household; 88.5% were physically functional, and 85.9% were mentally competent. Comparatively though, the functional capacity of elder men with that of elder Jamaicans showed that physically functionality of the men 55+ years had fallen by 11.5% in 12 years. On average, the physical functional capacity of older men has been declining by 1% each year since 1995. Using self-reported depression as in indicator of mental functioning, the current research revealed that 4 out of every 10 older men were suffering from depression, suggesting that there is also a decline in mental competency of older men based on Eldemire's earlier work on elders in Jamaica. Furthermore, older men were

predominantly satisfied with life some; having attained at most primary level education and had good health status. Thirty-four out of every 100 older men in Jamaica was

rarely satisfied with life, with there being more unsatisfied older rural men than urban older men.

Table 4 Health literacy by High level of education attained

| Variable | Highest Educational Level | | | | | | | Total |
|---------------|---------------------------|--------------|------------------|------------------------|----------------------------------|----------------------|-----------|-------------|
| | No Formal Edu. | Basic School | Primary /All Age | Sec./High /Tech/Compre | Trade/Apprenticeship /Vocational | Certificate /Diploma | Bachelor | |
| | N (%) | N (%) | N (%) | N (%) | N (%) | N (%) | N (%) | N (%) |
| Health advise | | | | | | | | |
| No | 111 (55.5) | 752 (68.1) | 249(44.7) | 31(39.2) | 8 (34.8) | 9 (39.1) | 5 (35.7) | 1165 (58.3) |
| Yes | 89 (44.5) | 352 (31.9) | 308(55.3) | 48(60.8) | 15 (65.2) | 14 (60.9) | 9 (64.3) | 835 (41.8) |
| Total | 200 | 1104 | 557 | 79 | 23 | 23 | 14 | 2000 |

χ^2 (DF = 1) = 110.165, $p < 0.001$, correlation coefficient = 0.235

Table 5 Disaggregating ADL and (I) ADL of sample

| Activity | ADL | | (I)ADL | | |
|---------------------|------------------|------------------|------------------|------------------|-------------------|
| | Low independence | High Independent | High independent | Low independence | Never do activity |
| Bathe | 2.5 | 97.6 | | | |
| Toilet | 1.7 | 98.3 | | | |
| Dressing | 2.2 | 97.9 | | | |
| Contenance | 11.6 | 88.5 | | | |
| Transferring | 2.9 | 97.1 | | | |
| Feeding | 2.3 | 97.8 | | | |
| Preparing meals | | | 70.2 | 23.4 | 6.5 |
| Shopping | | | 77.8 | 22.3 | - |
| Managing medication | | | 64.8 | 35.3 | - |
| Money management | | | 90.8 | 9.2 | - |
| Transport | | | 98.1 | 1.9 | - |
| Telephone | | | 98.3 | 1.7 | - |
| Laundry | | | 62.7 | 26.3 | 11.1 |
| House work (heavy) | | | 56.7 | 29.6 | 13.8 |

Table 6 Life satisfaction by happiness

| Life satisfaction | Happiness | | | |
|-------------------|--------------|-----------------|------------------|--------------|
| | Rarely N (%) | Sometimes N (%) | Most times N (%) | Always N (%) |
| Rarely | 348 (72.5) | 172 (21.2) | 122 (19.7) | 16 (17.8) |
| Sometimes | 82 (17.1) | 460 (57.7) | 116 (18.7) | 10 (11.1) |
| Most times | 40 (8.3) | 160 (19.8) | 376 (60.6) | 22 (24.4) |
| Always | 10 (2.1) | 12 (19.8) | 6 (1.0) | 42 (46.7) |
| Total | 480 | 810 | 620 | 90 |

On disaggregating the current study’s findings, using ADL, it was revealed that most of men 55+ years were able to bathe, feed, use toilet, and dress themselves with minimal assistance. However, using (I)ADL, which measures activities that people can continue accomplish

independently in their residence in the community, it was found that 79.6% needed minimal assistance (high independence) compared to 18.6% moderate and 1.9% low independence.

There are some similarities and differences between older Filipinos [32], and older men in Jamaica. With respect to transportation 18.5% of Filipinos had low independence compared to 1.9% of Jamaicans older men; 17.6% were having low independence with shopping compared to 22.3% of older men in Jamaica; 6.3% of Filipinos needed assistance dressing themselves compared to 2.2% of elderly Jamaican; 11.5% of Filipinos had difficulties walking in the house compared to 2.3% in this study; and 8.0% of Filipinos had difficulties bathing themselves compared to 2.5% in this research. On the matter of

self-reported health status, for the current study no older Jamaican men reported poor or very good health status, while 17.5% and 5.1% of Filipinos reported poor and very good health status respectively. Nineteen percentage of older men in sample indicated excellent health compared to 1.0% of older Filipinos. With regards to good health status, 55.4% percent of current sample and this was 31.5% of Filipinos; and for fair health status, 25.6% of the current study and 45.0% of Filipinos.

Table 7 Multiple Regression of Functional Status by Some Explanatory Variables, N=1,875

| Variable | Unstandardized Coefficients | | Standardized Coefficients | 95% Confidence Interval | |
|--------------------------------|-----------------------------|------------|---------------------------|-------------------------|----------|
| | Coefficient | Std. Error | Beta | Lower | Upper |
| Constant | 12.140 | .263 | - | 11.624 | 12.656 |
| Current Health Status | .074 | .117 | .016 | -.156 | .304 |
| Life Satisfaction | .032 | .112 | .007 | -.187 | .251 |
| Poor Childhood health status | .009 | .109 | .002 | -.205 | .222 |
| Urban | -.244 | .093 | -.060 | -.427 | -.061** |
| Elderly (65-74) | -.218 | .107 | -.051 | -.427 | -.009* |
| Elderly (75+) | -.268 | .130 | -.054 | -.523 | -.013* |
| Elderly (55-64 years) † | | | | | |
| Social Support | .533 | .140 | .129 | .258 | .807*** |
| Church Attendance | 1.028 | .134 | .245 | .764 | 1.291*** |
| Primary schooling | -.145 | .154 | -.027 | -.447 | .157 |
| Secondary or Tertiary | -.144 | .225 | -.019 | -.586 | .297 |
| No formal education† | | | | | |
| Household Head | .027 | .144 | .004 | -.255 | .310 |
| Married | -.021 | .106 | -.005 | -.229 | .187 |
| Separated, Divorced or Widowed | -.137 | .147 | -.024 | -.426 | .152 |
| Single† | | | | | |
| Number of people in household | -.051 | .023 | -.053 | -.096 | -.006* |
| Employed | -.109 | .107 | -.024 | -.318 | .101 |
| Dummy Health Advise | -.028 | .097 | -.007 | -.218 | .163 |
| Dummy Take Medication | -.087 | .098 | -.020 | -.280 | .107 |
| Dummy Depression | -.446 | .095 | -.108 | -.633 | -.259*** |

R = 0.602; R squared = 0.362; F [19, 1855] = 6.492, p< 0.001; †Reference group

Like Natividad and Zimmer [10], the current study found that as older Jamaican ages, their high independence in (I) ADL falls. However Natividad and Zimmer found a similar result for ADL, but this research found that there is not statistical difference between ageing for men 55+ years and ADL. Generally, there is a high degree of independence of older men in Jamaican and older Filipinos. Unlike the Filipinos study that did not examine life satisfaction, the current study found that only 4 out of every 100 men 55+ years were generally satisfied with life

most times; 64 out of every 100 reported sometimes and 33 out of 100 indicated that they were rarely satisfied with life. In this research, 18 out of every 100 men indicated that their health status has a child was poor. Ten percent in both elder men in Jamaica and older Filipinos (10.1%) had no formal education; 57.1% of latter group lived in urban zones compared to 49% in the current research.

Another similarity between both studies is the use of 55+ years to collect the data from, which is used to examine a

functional model. For the current work, the model can explain 36.2% of the variability in functional capacity of older men in Jamaica. Although Natividad and Zimmer's work [10] did not provide such information, age and area of residence were found to be common predictors of functional capacity in both studies; however, in Natividad and Zimmer, an older Filipinos was 0.34 times less likely to reported better (I)ADL than an urban elderly. In this study, this was not the case as it was revealed that urban older men 55+ years were less likely to reported better functional capacity than rural older men.

The current work when further than Natividad and Zimmer's study, by adding some more variables such as depression, number of people living in household; social support, and church attendance. These were found to be predictors of functional capacity. Depression was found to be inversely associated with functional capacity as well as number of people in household.

Like Natividad and Zimmer, this study found that marital status and education were not statistically significant determinants of functional capacity (i.e. ADL or (I)ADL). However, the significant statistical correlation between church attendance and functional capacity is embedded in the ability to walk or the use of limb functions [18-20]. Hence, the findings is not supporting any perspective that church attendees were healthier; but that they were highly probable to higher functional independence than non-attendees, and this also the case for those who attend other social institutions. The researcher needs to make the aforementioned distinction as the current research did not seek to investigate when those who attended church were healthier; but that whether they were more likely to be functionally independent than non-attendees or for that matter those who attend other social networks. Hence, the lowered functional capacity of those who aged explain not only reduced activities outside of the home; but speaks volume about those who are able to attend outside activities (including church functions) that they are of higher independence [21].

Depression can be used to measure cognitive functionality, and so the negative correlation between depression and functional capacity concurs with the findings in other study that reported the strong correlation between cognitive functions and functional capacity [22, 23]. The matter of depression affects 4 in every 10 older men in Jamaica, and with the inverse association between it and functional capacity, there is expected to be a decline in functional capacity of this cohort [18, 23]. Although depression and life satisfaction are weakly correlated in this sample, the reality is it is further depleting the quality of life lived by men 55+ years in Jamaica, and so offers some insight into the further decline in functional capacity of this cohort. While depression is permanent and to some extent it is fluid, rate of depression in the current older men in Jamaica is too high, and offers another explanation for the high mortality of men in the elderly compared to older women.

In a study conducted by Yi and Vaupel [24] of 8,805 elder ages 80-105 years in China, self-reported health status was found to be significantly correlated to functioning and morality of older people, which was also found in earlier studies [25,26]. In spite of those findings, the current study did not concur with those results as it was revealed herein that childhood health status or current health status was not significantly associated with functional capacity. This research also concurs with Yi and Vaupel's work that there was no statistical difference between urban-rural residents in current health status. Although no statistical correlated was found between the two aforementioned variables, only a minimal number of elder men in Jamaica had high dependence on others (2 out of every 100) and none indicated poor health status.

Chevannes's work [27] begins the explanation of the cultural health care-seeking behavior of males therein a broader context of culturalization of boys. Chevannes provided the explanation for this behavior by men, that it is embedded with social learning theory. In which the young imitate the roles of society members through role modeling of what constitute acceptable and good roles which is supported by reinforcement. The gender role of sexes is not limited to Jamaica or the Caribbean but a study carried out by Ali and de Muynck [28] of street children in Pakistan found a similar gender stereotype in that nation. It was a descriptive cross-sectional study carried out during September and October 2000, of 40 school-aged street children (8-14 years). The sample was substantially males (80%), with a mean age of 9 years (± 2 years). The methods of data collection were (i) semi-structured interviews, and (ii) a few focus group discussions. Ali and de Muynck [28] found that the sampled population would seek medical care based on severity of illnesses and financial situation. Another finding was that they referred to use home remedy. The reason being that mild ailment is not severe enough to barr them from physical functioning, which mean that they are okay; and so some morbidity are not for-hospital, which was so the case in Nairobi slums [29]. Therefore, like the cases in Pakistan and Nairobi, the Jamaican men are equally not reporting illness and seeking health-care substantially because of their socialization. This is tied to the macho culture with which they are grown as pointed out by Chevannes that they should suppress response to pain and similarly displayed in Ali and Muynck and Taff and Chepngeno works.

Conclusions

The current study revealed that a miniscule percentage of older men in Jamaica were satisfied with life most-to-always; many of them were lowly dependent; few indicated fair health status and no significant statistical correlation was found between ADL and age cohort although one existed between (I) ADL and age groups. The findings revealed that as men age (i.e. from 55 years); there is deterioration between ageing and (I) ADL, suggesting the challenges of ageing and some aspects of functional capacity. Concurrently, six factors explain functional capacity of older men in Jamaica (area of

residence; age; social support; church attendance; number of people in household and depression). More rural men were rarely satisfied with life; but more of them had a greater functional capacity than urban men. Depression was found to negatively relate to functional capacity, and church attendees had a greater functional status than non-attendees.

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