Anxiety in Late Life: The Experience of Jamaican Urban Community Dwelling Older Adults

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ABSTRACT

Objective: This study evaluated Jamaican community dwelling older adults' levels of anxiety and the predictors of such anxiety.

Methods: For this cross-sectional study, participants aged 65 years and over were selected from urban lower-middle and working-class communities. Data collection tools were the geriatric anxiety scale (GAS) and a demographic questionnaire. Using the statistical package for the social sciences (SPSS), data were analysed using descriptive and inferential statistics. The GAS data was skewed, hence a log transformation was performed to obtain a normal distribution prior to analysis. Cronbach's alpha indicated a high level of internal consistency for the GAS in this group of participants.

Results: One hundred and fourteen persons participated in the study. Results overall showed a low level of anxiety (GAS mean score = 9.2 ± 8.3). Persons who were female ($p = 0.01$), had primary level education only ($p = 0.02$), unemployed ($p = 0.01$), were lonely ($p = 0.00$) and had poor relationships with their adult children ($p = 0.05$) had higher mean GAS scores, indicating higher levels of anxiety. Predictor variables for anxiety were identified as, loneliness, gender and education. Together, these variables predicted 23% of the variability in GAS scores ($R2 = 0.233$, $R = 0.48$, $p = 0.04$).

Conclusion: Anxiety levels are low in Jamaican older adults. Females with primary level education who are lonely are at greatest risk. Investigation of other factors such as religion is necessary, as the factors explored in this study, accounted for only 23% of the variance in GAS scores.

Keywords: Anxiety in late life, community dwelling older adults, older Jamaican adults

La Ansiedad en la Postrimería de la Vida: Experiencia de los Adultos Mayores Residentes en la Comunidad Urbana Jamaicana

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RESUMEN

Objetivo: El presente estudio evaluó los niveles de ansiedad y los predictores de dicha ansiedad en los adultos mayores residentes en la comunidad urbana jamaicana.

Métodos: Para este estudio transversal, se eligieron participantes de 65 años o más de comunidades urbanas de clase media baja y clase trabajadora. Los instrumentos de la recolección

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de datos fueron la Escala de Ansiedad Geriátrica (EAG) y un cuestionario demográfico. Utilizando el paquete estadístico para las ciencias sociales (SPSS), se analizó el conjunto de datos mediante estadísticas descriptivas e inferenciales. Los datos de EAG eran asimétricos. Por lo tanto, se realizó una transformación logarítmica con el propósito de obtener una distribución normal antes del análisis. El Alfa de Cronbach indicó un alto nivel de consistencia interna para EAG en este grupo de participantes.

Resultados: *Ciento catorce personas participaron en el estudio. Los resultados en general mostraron un bajo nivel de ansiedad (puntuación promedio de EAG = 9.2 ± 8.3). Las mujeres (p = 0.01), los que tenían sólo nivel de educación primaria (p = 0.02), los desempleados (p = 0.01), los que estaban solos (p = 0.00), y los que tenían malas relaciones con sus hijos adultos (p = 0.05), tuvieron puntuaciones promedio de EAG más altas, indicando niveles más altos de ansiedad. Se identificaron variables predictoras de ansiedad como la soledad, el género y la educación. En conjunto, estas variables predijeron el 23% de la variabilidad en las puntuaciones de EAG (R2 = 0.233, R = 0.48, p = 0.04).*

Conclusión: *Los niveles de ansiedad son bajos en los adultos mayores jamaicanos. Las mujeres con nivel de educación primaria que están solas presentan un mayor riesgo. Se necesita la investigación de otros factores tales como la religión, ya que los factores explorados en este estudio representaron solamente el 23% de la variación en las puntuaciones de EAG.*

Palabras clave: Ansiedad en la postrimería de la vida, adultos mayores residentes en la comunidad, adultos mayores jamaicanos

INTRODUCTION

Anxiety in late life can be often overshadowed by the focus on depression and dementia. It is often overlooked and not diagnosed as older adults tend to somatise their psychiatric problems, have multiple psychiatric, medical and medication issues. For older adults, anxiety can cause considerable subjective distress leading to reduced life satisfaction and increased risk of disability even in the high functioning older adult (1).

The earlier studies on the mental health of the older adult were more focussed on the psychopathology of depression and dementia, with less attention to anxiety (2, 3). However, more recent literature has shown that anxiety has a negative association with the cognitive function of older adults (1, 4–7). As late-life anxiety often co-exists with depression or medical illness, current research is investigating the co-occurrence of anxiety and depressive syndromes, such as in anxiety disorder with sub-threshold depression, mixed anxiety and depressive disorder with sub-threshold anxiety (8, 9)

Examining the local literature, a study by Waldron *et al* (10) evaluated the cognitive function of 2943 community dwelling older Jamaican adults using the Mini-Mental State Examination (MMSE). They found that 21% (n = 591) of the participants had mild cognitive impairment, while 11% (n = 307) had MMSE scores suggesting severe impairment. The authors noted that this prevalence was significantly higher than that previously found for Jamaican older adults. In the discussion of the findings, the authors associated severe cognitive impairment with dementia or with a high-risk of developing dementia, but did not attribute any of their findings to anxiety.

At the last population census, 11% of the total Jamaican population were 60 years and older (11). Understanding anxiety in this population has therefore, become necessary. The researchers sought to determine urban community dwelling older Jamaican adults' level of anxiety, to examine relationships between anxiety and sociodemographic characteristics and to identify areas of concern.

SUBJECTS AND METHODS

This is a cross-sectional correlational study. Ethical approval for this study was granted in January 2014 from the University Hospital of the West Indies/ The University of the West Indies, Faculty of Medical Sciences, Mona, Ethics Committee. Ethical considerations were duly exercised to ensure anonymity and confidentiality of data and participants gave consent.

Purposive and snowball sampling methods were employed in the selection of participants for the study. Participants were selected from senior citizen church groups in urban working and lower-middle class communities in the parish of St Andrew, and from the National Council for Senior Citizens in Kingston. Older adults who were ages 65–95 years old, community dwelling and who had given consent, were included in the study. Older adults screened as having cognitive impairment and those who did not give consent, were excluded from the study. The lower cut-off point of age 65 years was used to facilitate comparison of this work with other works published by international authors.

Older adults were approached, briefed about the study and invited to participate. Those who expressed an interest, were screened for mild cognitive impairment using the St Louis University Mental Status Test (SLUMS), a tool recommended for use in the older adult population (16, 17). It evaluates attention, working memory, cognition, executive function, language, mental health, reasoning and problem solving. Required minimum score was 25 for persons with only primary level education and 27 for those with high school or tertiary level education. Scoring was done in accordance with the recommendations for this standardised tool. Persons with mild cognitive impairment were excluded. Older adults who entered the study, first completed a demographic questionnaire, followed by the geriatric anxiety scale (GAS). Items on the data collection instruments were read to participants; this compensated for varying levels of literacy, and reduced anxiety and/or embarrassment in situations of significant limitation.

Measurements
Sociodemographic data were collected using the demographic questionnaire, designed by the researchers. Data on ageing related anxiety were collected using the GAS which is available in the public domain. It is a 30-item self-report tool, designed as a four-point Likert scale measuring somatic, cognitive and affective anxiety symptoms. To complete the instrument, respondents were asked to indicate how often they experienced each anxiety related symptom during the week prior to data collection. Anchors range from "Not at all" (score of 0) to "All the time" (score of 3). The internal consistency of this tool among community dwelling older adults was found to be very good (r = 0.90). For each subscale, the alpha was also good: cognitive r = 0.90, somatic r = 0.80

and affective subscales r = 0.82. The GAS items were derived from the range of anxiety disorder symptoms in the DSM-IV-TR and the total score is based on the first 25 items and range from a minimum 0 to a maximum of 75. The other five items on the GAS assess concerns for the older adult, which include concern about finances, health, children, fear of dying and fear of becoming a burden to others. These items do not add to the total score of the GAS. The GAS demonstrates a strong evidence of validity for the quantitative assessment of anxiety symptoms in diverse community and clinical samples of older adults (5, 13–15).

Statistical analysis
The Statistical Package for the Social Sciences (SPSS, version 20) was used to analyse the data. Statistical significance was set at an alpha level of 0.05. Descriptive statistics were calculated for sociodemographic characteristics and for items 26–30 of the GAS. As the GAS has never been used in a Jamaican population of older adults prior to its use in this study, the Cronbach's alpha, was calculated to examine the instrument's internal consistency in this population. The data was skewed hence, a log transformation was performed to obtain a normal distribution prior to analysis. Application of statistical tests of difference (*t*-test and ANOVA) and association (stepwise multiple linear regression) were performed. Post application of statistical tests, the Log ^{10} data was back-transformed and values reported.

RESULTS
Of the 114 persons who participated in the study, 67%, were female (n = 76) and 73%, had only primary level education (n = 80). Ninety per cent reported a good relationship with their children (n = 103) and 77% were confident that their children could care for them in advanced old age (n = 88). Sixty-nine per cent were unemployed (n = 79) and 54% reported that they had insufficient income to meet basic needs (n = 62). Twenty per cent lived alone (n = 23) and 44% reported loneliness (n = 50). Participants' ages ranged from 65 to 95 years, with a mean of 73 years, a median of 71 years and a mode of 67 years (Table 1). Two-thirds of the respondents reported some concerns about finances (n = 76), 82.5% had concerns about health (n = 94) and 76% about their children (n = 87). Most were not afraid of dying (n = 99, 86.8%) and had varying levels of concern regarding dependency on family or adult children (Table 2).

Table 1:   Distribution of sociodemographic characteristics

Variable	N	%
Age group		
65–74 years	72	63
75–84 years	28	25
85$^+$ years	14	12
Gender		
Male	38	33
Female	76	67
Education		
Less than high school	80	73
High school/tertiary	30	27
Employment		
Currently employed	35	31
No longer employed	79	69
Sufficiency of income		
Sufficient	52	46
Not sufficient	62	54
Living arrangements		
Live alone	23	20
Not living alone	91	80
Loneliness		
Lonely	50	44
Not lonely	64	56
Good relationship with children		
Relationship good	103	90
Relationship not good	5	5
Have no children	6	5
Confidence that children could care for them as they advance in age		
Yes	88	77
No	20	18
Have no children	6	5

Table 2:   Frequency of older adults' concerns

Concerns	Not at all n (%)	Sometimes n (%)	Most of the time n (%)	All of the time n (%)
Finances	38 (33.3%)	48 (42.1%)	15 (13.2%)	13 (11.4%)
Health	20 (17.5%)	52 (45.6%)	24 (21.1%)	18 (15.8%)
About children	27 (23.7%)	36 (31.6%)	28 (24.6%)	23 (20.2%)
Afraid of dying	99 (86.8%)	11 (9.6%)	1 (0.9%)	3 (2.6%)
Afraid of becoming a burden	42 (36.8%)	37 (32.5%)	18 (15.8%)	17 (14.9%)

Distribution of GAS scores was positively skewed and ranged from 0–44, indicating low levels of anxiety. Mean score was 9.2 ± 8.3, median was 7.0 and the mode was 5.0. Cronbach's alpha was calculated at 0.91, demonstrating excellent reliability of the tool in this population. Women, persons with a primary or less education, those not currently employed, those reporting loneliness and

not having a good relationship with adult children were found to demonstrate greater levels of anxiety (Table 3).

Table 3:   Difference of GAS scores within sociodemographic characteristics

Variable	Mean (SD) GAS Scores	Statistic
Age group		
65–74 years	6.61 (0.39)	
75–84 years	6.17 (0.40)	$p = 0.69$
85$^+$ years	5.50 (0.28)	
Gender		
Male	6.92 (0.43)	**t = -2.51**
Female	7.14 (0.35)	**df = 111**
		$p = 0.01$
Education		
Less than secondary education	7.08 (0.36)	**t = 2.28**
Secondary and tertiary education	4.62 (0.37)	**df = 107**
		$p = 0.02$
Employment		
Currently employed	4.57 (0.39)	**t = -2.78**
No longer employed	8.32 (0.36)	**df = 111**
		$p = 0.01$
Sufficiency of income		
Sufficient	5.89 (0.40)	t = -1.09
Not sufficient	7.08 (0.36)	df = 111
		$p = 0.28$
Living arrangements		
Live alone	6.03 (0.37)	t = 1.91
Not live alone	6.03 (0.37)	df = 110
		$p = 0.06$
Loneliness		
Lonely	9.77 (0.330)	**t = 4.91**
Not lonely	4.68 (0.36)	**df = 111**
		$p = 0.00$
Good Relationship with children*		
Relationship good	6.03 (0.37)	**t = -2.00**
Relationship not good	12.89 (0.37)	**df = 105**
		$p = 0.05$
Confidence that children will provide care in advanced age*		
Yes	5.89 (0.77)	t = - 1.43
No	7.94 (0.90)	df = 105
		$p = 0.154$

* 5 participants had no children

The correlation matrix between the eight sociodemographic variables and the GAS log scores (Table 4) showed weak correlations, with only a few being statistically significant. All variables were entered into a

stepwise multiple linear regression model. Loneliness, gender and education were found to predict anxiety [$R^2 = 0.233$, R = 0.48, $p = 0.04$], (Table 5). The condition index was between 1.00 and 1.03, indicating no collinearity symptoms.

DISCUSSION

This study has demonstrated that anxiety in older adult Jamaicans may not be as significant as noted in the international literature, given the low GAS scores (18). This may be due to the older adults' good relationships, with their children and the confidence that their children would take care of them in later life. This may also be impacted by the high percentage of participants who reported that they were not concerned about dying. The participants were selected mainly from church groups and this group may have more support and hence, less anxiety and concerns about dying. However, this suggests how significant these factors are, given that most persons were not employed and reported that they had insufficient money for basic needs.

Participants who were female, who had only primary level education, who were not employed, who reported loneliness and who did not report having a good relationship with adult children had greater levels of anxiety. Of these variables, loneliness was identified as a significant predictor of anxiety, followed by gender and education. Ahmed *et al* (18) studying 240 older adults in Cairo Egypt, also found loneliness to be a predictor of anxiety. They also found being married or divorced to be predictors of anxiety, these however, were not explored in this current study. Ribeiro *et al* (19) also identified loneliness as a predictor of anxiety when they studied anxiety in centenarians. They also identified income inadequacy as a predictor. This variable was however, not identified as a predictor in this current study. McDowell *et al* (20) reported that women were more likely to have anxiety symptoms than men and his was supported by the findings of this current study. Perhaps the social factors in family life in Jamaica could be an influence in these findings. In Jamaica and the wider Caribbean, many families consist of one parent, usually the mother, with

Table 4:   Correlation matrix

Variables	1	2	3	4	5	6	7	8	9
Attitude to ageing	-								
Age	-0.129	-							
Gender	-0.037	0.012	-						
Living arrangements	0.123	-0.039	0.086	-					
Loneliness	-0.332*	0.053	0.014	-0.372*	-				
Employment	0.303*	-0.290*	-0.226*	0.039	-0.173	-			
Income meets basic needs	0.245*	-0.082	0.064	0.132	0.271*	0.200*	-		
Relationship with children	-0.098	0.282*	0.041	0.058	-0.089	-0.104	-0.031	-	
Confident children will care for them in advanced age	-0.093	0.082	-0.031	-0.023	-0.029	0.041	-0.073	0.567*	-

*$p < 0.01$

Table 5:   Final stepwise multiple linear regression analysis predicting GAS scores

Model	Unstandardized Coefficients		Standardized Coefficients	t	*p*-value	R^2	Adj. R^2	F	df	*p*-value
	B	Std. Error	β							
Model 1										
(Constant)	0.671	0.044		15.385	0.00	0.162	0.155	20.76*	(1, 107)	0.00
Loneliness	0.300	0.066	0.403	4.556	0.00					
Model 2										
(Constant)	0.568	0.063		9.059	0.00	0.201	0.186	13.33*	(1, 106)	0.00
Loneliness	0.300	0.065	0.404	4.556	0.00					
Gender	0.154	0.068	0.196	2.260	0.03					
Model 3										
(Constant)	0.760	0.110		6.909	0.00	0.233	0.212	10.66*		0.00
Loneliness	0.283	0.064	0.380	4.408	0.00				(1,105)	
Gender	0.166	0.067	0.211	2.264	0.02					
Education	-0.151	0.071	-0.183	-2.11	0.04					

the fathers living elsewhere and adopting a marginal role in the child rearing process. This may cause women to feel a greater sense of lonliness when their children leave home.

Sociodemographic characteristics of gender and age were found to be similar to that found in the 2011 population Census. It was not surprising to find that many of the older adults had not been educated beyond the primary level. Bourne, Morris and Eldemire-Shearer (21) had similar findings when they had studied older Jamaican men in the parish of St Catherine. For persons born in the early 1900s to the pre-independence era of the 1950s, only the exceptionally bright from poorer homes who received scholarship awards and the children from wealthy families were able to receive secondary education.

The older adults invited to participate in the study exhibit varying levels of reluctance that seemed to stem from their distrust of the research processes in general. This reduced the numbers of eligible persons that could have participate in the study, thus, limiting the sample size and hence, reducing the power to test differences and associations. The study however, represents important additions to the literature on anxiety in later life.

CONCLUSION

Overall anxiety levels were low, loneliness, gender and education were identified as predictors of anxiety. Women, those with only a primary educational level and those experiencing loneliness were most likely to have higher levels of anxiety. Continued investigation is necessary to further explore factors that are associated with and that may predict anxiety in older Jamaican adults.

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Author Contribution
Both SKP Williams and W Palmer conceived the paper. SKP Williams defined the study design and methodologies and had overseen the data collection. Both SKP Williams and W Palmer analysed the data, interpreted the results, wrote the manuscript and approved the final version of the manuscript.

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