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Quality of life and psychosocial health of older people who were living alone or with another older person in Singapore

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Abstract

As the proportion of older people in the world continues to rise, many older people are living apart from their immediate and extended families. Their ability to continue to live independently and to enjoy optimal quality of life depends on their physical and psychosocial health. This study examined the quality of life and psychosocial health of older people who were living independently. Sixty community-dwellers aged 65 or above and who were living alone or with another older person participated in this descriptive cross-sectional study. The participants were relatively satisfied with QOL. They perceived poorer physical health when compared with social, psychological and environment domains of QOL. Compared with those living with other person, participants who were living alone were significantly associated with probable executive cognitive function impairment and poorer physically independence in IADL, and lower satisfaction with physical health domain of QOL and with social support. Healthcare professionals have the responsibilities to identify older people at risk and adopt appropriate interventions to enhance their psychosocial health and quality of life.

Keywords: older people, psychosocial health, quality of life

Introduction

The world population is ageing. Organisation for Economic Cooperation and Development countries will have one older person in three people by the year 2030 due to the increase in the proportion of older people and a shrinking proportion of younger generation (Tan & Lee, 2012). In Singapore, the population median age will rise from 37.6 in 2010 to about 43 by 2025 (Tan, 2013) and the old-age dependency ratio of adults aged 20-64 to those 65 or over is expected to soar from 100:15 in 2012 to 100:72 by 2065 (United Nations Department of Economic and Social Affairs Population Division, 2011). This

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change in demographic trend signifies more late middle-aged people will have surviving parents and older relatives and that increasingly more older people will be living alone or with another older person. Though this is already prevalent in European countries, only three in ten older people were living independently in Singapore in 2010. However, it is set to increase (United Nations 2013, Wong & Teo 2011).

In some cultures, it is expected that younger generation supports the older people. In Singapore, the social security system primarily relies on saving and home ownership and requires individual, family and community to take responsibilities for the care of the people in need (Tan, 2013). In situations where inter-generation support is unavailable or when older people live alone, the older people risk social isolation, impaired support system, depression and reduced quality of life (QOL) (Chen, Hicks, & While, 2014; United Nations, 2013; Wu & Chan, 2012). Hence, the psychosocial health of the older people may be compromised when they lived independently from their extended families.

Psychosocial health is vital to human functioning. QOL is a holistic evaluation and involves "individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns." (World Health Organisation, 1996, p.5). Depression reflects a compromised mental health state and is common among older people (Chen, Hicks, & While, 2012). A recent Singapore study reported that for older people who were living alone, depression was more associated with older people who felt lonely than those who did not and that loneliness was a more robust predictor for depression than living alone (Lim & Kua, 2011).

To the best of our knowledge, there is a paucity of research investigating how executive function and social support are associated with QOL, household status and loneliness. Executive functions are essential for goal-directed behaviour that requires planning, initiating, sequencing and monitoring skills. These are vital for instrumental daily living activities and may thus be associated with QOL (Davis, Marra, Najafzadeh, & Liu-Ambrose1, 2010). Similarly, social support can affect the coping by the older people (Trouillet, Gana, Lourel, & Fort, 2009). Social support is defined as "various forms of aid and assistance supplied by family members, friends, neighbours and others" (Barrera, Sandler, & Ramsay, 1981, p. 435).

An understanding of the relationships between psychosocial health (defined in this study in relation to depressive symptoms, executive function, loneliness, and social support) and QOL for older community-dwellers will inform interventions that enable older people to continue living in the community so as to maintain optimal QOL.

This study aimed to examine the psychosocial health, and the quality of life of older Singaporeans who were living alone or with other older person.

Methods

This study adopted a cross-sectional descriptive design. Questionnaires were used to collect data. As the major ity of the participants were illiterate, data were collected through face to face structured interview by a member of the research team.

Setting and subjects

A convenience sample was recruited from three day centres for the older people in the Central Singapore District. The inclusion criteria were (1) Singaporean or permanent resident; (2) age 65 or over; (3) lives alone or with another older person (including relative); and (4) able to communicate in Mandarin, English or dialects, such as Hokkien or

Cantonese. The exclusion criteria were: (1) hearing impairment; (2) self-reported mental illnesses; and (3) inability to provide informed consent.

Sixty-seven potential participants were recommended by the day centre staff. Six refused to participate and one withdrew during the interview. Hence, a total of 60 residents participated in the study and the response rate was 89.6%.

Measures

The eight-item Instrumental Activities of Daily Living Scale (IADL) was used to assess an older person's physical abilities to perform a range of eight activities. This instrument has been used by widely by Asian researchers in Hong Kong and Korea and reported with good Cronbach's alpha (Chan, Chiu, et al., 2009; Yoon et al., 2013).

Geriatric Depression Scale (GDS) was used to assess presence of depression. This 15-item GDS has been used extensively as a screening tool for older community-dwellers and was also used in Singapore with reported sensitivity =0.96, specificity =0.95 (Ma Shwe Zin Nyunt, 2010). GDS score of 5 or more indicates the risk of depression.

The Executive Clock Drawing Task (CLOX) was used to assess executive functions (Royall, Cordes, & Polk, 1998). There were two steps in CLOX assessment: First, the person drew a clock on given specific instruction and the drawing was rated against a 15-item checklist. CLOX1 measures executive control functions that coordinate simple ideas and actions into complex goal-directed behaviours (Royall et al., 1998). Next, the person observed the examiner drew a clock and copied the drawing and the drawing was rated using the same checklist. CLOX2 targets posterior cortical deficits and specific dementia (Royall et al., 1998). Ratings of 10 or less than for CLOX1 and 12 or less for CLOX2 indicate impairment. CLOX was used with older Singaporean Chinese and reported to be a valid cognitive screen with adequate psychometric properties and is stable across culture and is thus recommended for wider use in Singapore (Yap, Ng, Niti, Yeo, & Henderson, 2007).

Social Support Questionnaire Short-Form (SSQ6) was used to measure social support. SSQ6 was used in older Asian Community-dwellers with depression (Chan, Chiu, et al., 2009) with high Cronbach's alpha reported. It has six items to measure SSQ Number Score (SSQN)—a score of the number of social support, and a corresponding six items to assess SSQ Satisfaction Score (SSQS) that reflects the satisfaction with the available social support (Sarason, Sarason, Sheerin, & Pierce, 1987).

De Jong Gierveld's Loneliness Scale was used to measure social loneliness and emotional loneliness. It is a 6-item scale. While "0" rating suggests absence of and "3" denotes intense loneliness, this scale is reported to be reliable and valid when used in seven countries including an Asian country and with older people (De Jong Gierveld & Van Tilburg, 2010).

World Health Organisation Quality of Life (WHOQOL-BREF) (WHO, 2004) was used to measure QOL. It is a 26-item measuring QOL in four domains: physical health, psychological health, social relationships and environment. There is also an item to assess overall QOL and an item on general health facet. This instrument has been used in longitudinal and cross-sectional studies with older people in Shanghai, Taipei and Hong Kong (Chan, Hsiung, Thompson, Chen, & Hwu, 2007; Chan, Jia, et al., 2009).

Data collection

Staff members of the three day centres made initial contacts with potential participants. The prospective participants were

then visited by both the centre staff and the researcher. After ascertaining that they met the criteria, the researcher explained the study purpose and the data collection process and addressed any queries that the prospective participants had in the language and dialect (Hokkien or Cantonese) that the resident best understood. Written informed consent was sought subsequently.

Ethical considerations

Ethical approval was obtained through an institutional review board. One participant withdrew in the course of the survey and the incomplete data form was destroyed. With participants' permission, those participants who were found to have the following conditions were referred to the corresponding activity centre that introduced the participant: (1) A score of 10 or less on CLOX1; (2) A score of 12 or less on CLOX2; or (3) A score of five or more on the GDS.

Data analysis

Quantitative data collected from survey was analysed using version 22 of the SPSS software by IBM Corporation. Descriptive statistics, chi-square, and Pearson correlation were used where appropriate.

Findings

Table 1 shows the demographic details of the 60 Chinese participants who were aged between 65 and 94 and with mean age of 77.3 (SD=7.3). Slightly more than a-third of the participants were men or remained married. While less than two-thirds had attended some formal education, 83.3% of the participants were able to communicate in Mandarin or English.

More than half of the participants were living by themselves, while 40% of the participants owned the apartment they were residing, and the rest stayed in public rental flat (studio or one-bedroom apartment) provided by the government. Most were relying on the saving from their past employment while a handful was working casually to earn a living. Three-quarters of the participants were receiving external financial support to supplement their saving.

Table 2 shows the descriptive statistics of all measures. The participants were generally physically independent and able to perform the IADL by themselves. The psychosocial health of the participants was measured in terms of depression, executive cognitive function, loneliness and social support. Fourteen (23.3%) of the older people were identified as at risk of depression. Based on the clock drawing task, 41.7% (n=25) of the participants might have compromised executive cognitive function and 35% (n=21) might have additional cognitive deficit. Emotional loneliness and social loneliness were reported by 35% (n=21) and 58.3% (n=35) of the participants. While the number of people that older people could turn to for social support was low, they were however moderately satisfied with the support received. The participants were relatively satisfied with QOL. They perceived poorer physical health when compared with social, psychological and environment domains of QOL.

Table 3 details the comparison of various measure scores against demographic variables. Participants of older age (>75 years) were significantly associated with probable executive cognitive function impairment when compared with their younger counterparts. This relationship was also identified for participants who had never attended school or unable to speak a language such as Mandarin or English.

Those participants who were divorced, widowed or single were found to have probable executive cognitive function impairment compared with peers who remained married. The former group was also statistically less physically independent in the performance of IADL.

Table 1
Socio-demographic data of the participants (n=60)

	Sample (%)
Age	
>65 - <75	26 (43.3)
75 - < 85	24 (40.0)
>= 85	10 (16.7)
Gender	
Male	23 (38.3)
Female	37 (61.7)
Race	
Chinese	60 (100)
Marital status	
Married	22 (36.7)
Divorced	2 (3.3)
Widowed / Widowered	20 (33.3)
Single	16 (26.7)
Education	
Never attended school	21 (35.0)
Primary	27 (45.0)
Secondary and higher	12 (20.0)
Able to speak Mandarin or English or both	
Yes	50 (83.3)
No	10 (16.7)
Religion	
Buddhism / Taoism	37 (61.7)
Christian / Catholicism	15 (25.0)
Free thinker	8 (13.3)
Living arrangement	
Alone	33 (55.0)
Spouse	20 (33.3)
Friend / Arranged by government	7 (11.7)
Ownership of accommodation	
Self-own	24 (40.0)
Rented from government	36 (60.0)
Receiving financial assistance from family, friends, voluntary welfare organisations and / or public assistance scheme	
Yes	45 (75.0)
No	15 (25.0)

Table 2
Mean, standard deviation, range and possible range of domains of IADL, GDS, CLOX, SSQ6, Gierveld's Loneliness Scale, and WHOQOL-BREF (n=60)

Domains	Mean (SD)	Range (Possible range)
IADL	7.4 (1.6)	1-8 (0-8)
GDS	3.2 (3.2)	0-15 (0-15)
CLOX		
CLOX1	8.5 (4.7)	0-15 (0-15)
CLOX2	11.7 (4.3)	0-15 (0-15)
Gierveld's Loneliness Scale		
Emotional loneliness	0.4 (0.6)	0-2 (0-3)
Social loneliness	1.2 (1.2)	0-3 (0-3)
SSQ6		
SSQN	2.0 (1.9)	0-9 (0-9)
SSQS	5.1 (0.7)	3-6 (1-6)
WHOQOL-BREF		
QOL total score	96.8 (15.7)	39-127 (26-130)
Overall quality of life	3.6 (1.0)	1-5 (1-5)
Satisfaction with health	3.5 (1.1)	1-5 (1-5)
Physical health domain	14.5 (2.8)	4.6-20.0 (4-20)
Psychological domain	15.2 (2.8)	4.7-20.0 (4-20)
Social relationships domain	14.8 (3.2)	4.0-20.0 (4-20)
Environment domain	15.4 (2.5)	8.5-20.0 (4-20)

IADL - Instrumental Activities of Daily Living
GDS - Geriatric Depression Scale
CLOX - Executive Clock Drawing Task
SSQ6 - Social Support Questionnaire Short-Form
SSQN - Social Support Questionnaire Number Score
SSQS - Social Support Questionnaire Satisfaction Score
WHOQOL-BREF - World Health Organisation Quality of Life

Those participants who were living alone compared with those living with other person were significantly associated with probable executive cognitive function impairment and poorer physically independence in IADL. They also reported significantly lower satisfaction with physical health domain of QOL and with social support.

Compared with participants living in their self-owned property, those who were in renting accommodation from the government were significantly more likely to be depressed and feeling lonely, probably having executive cognitive function impairment and were less physically independent in their IADL performance.

Table 3
Comparison of mean scores of IADL, GDS, CLOX, Gierveld's Loneliness Scale, SSQ6, and WHOQOL-BREF and different socio-demographical variables (n=60)

	IADL	GDS	CLOX		Gierveld's Loneliness Scale		SSQ6		WHOQOL-BREF						
			CLOX1	CLOX2	Emotional Loneliness	Social Loneliness	SSQN	SSQS	QOL Total Score	Overall QOL	Satisfaction with Health	Physical Health Domain	Psychological Domain	Social Relationship Domain	Environment Domain
Gender									Mean (SD)						
Gender															
Male (n=23)	6.9 (2.2)	3.0 (2.2)	8.2 (5.3)	11.6 (5.1)	0.5 (0.7)	1.4 (1.3)	1.6 (1.4)	5.0 (0.6)	96.0 (14.0)	3.6 (1.0)	3.7 (1.0)	14.7 (2.5)	15.1 (2.3)	14.3 (2.7)	14.9 (2.6)
Female (n=37)	7.7 (0.9)	3.3 (3.8)	8.6 (4.3)	11.7 (3.6)	0.4 (0.6)	1.1 (1.1)	2.3 (2.1)	5.1 (0.7)	97.2 (16.8)	3.7 (1.0)	3.5 (1.1)	14.4 (3.1)	15.2 (3.2)	15.0 (3.5)	15.7 (2.4)
t	-1.63	-0.38	-0.36	-0.15	0.61	0.91	-1.60	-0.62	-0.29	-0.31	0.68	0.29	-0.14	-0.81	-1.11
p-value	0.12	0.71	0.72	0.89	0.55	0.37	0.12	0.54	0.77	0.76	0.50	0.78	0.89	0.42	0.27
Age															
>65 - <75 (n=26)	7.3 (2.0)	2.8 (2.7)	10.0 (4.5)	13.0 (3.1)	0.5 (0.8)	1.2 (1.1)	1.8 (1.5)	4.9 (0.7)	96.3 (13.7)	3.6 (0.9)	3.6 (1.1)	14.6 (2.8)	15.1 (2.3)	14.4 (3.1)	15.2 (2.2)
>75 (n=34)	7.4 (1.2)	3.5 (3.6)	7.26 (4.6)	10.7 (4.7)	0.3 (0.5)	1.2 (1.2)	2.2 (2.1)	5.2 (0.7)	97.1 (17.2)	3.7 (1.1)	3.5 (1.1)	14.5 (2.9)	15.2 (3.2)	15.0 (3.3)	15.5 (2.7)
t	-0.35	-0.90	2.31	2.33	1.27	-0.07	-0.89	-1.73	-0.17	-0.26	0.28	0.11	-0.09	-0.72	-0.47
p-value	0.73	.372	0.02*	0.02*	0.21	0.94	0.38	0.09	0.86	0.792	0.78	0.91	0.93	0.48	0.64

Table 3 (Continued)
Comparison of mean scores of IADL, GDS, CLOX, Gierveld's Loneliness Scale, SSQ6, and WHOQOL-BREF and different socio-demographical variables (n=60)

	IADL	GDS	CLOX		Gierveld's Loneliness Scale		SSQ6		WHOQOL-BREF						
			CLOX1	CLOX2	Emotional Loneliness	Social Loneliness	SSQN	SSQS	QOL Total Score	Overall QOL	Satisfaction with Health	Physical Health Domain	Psychological Domain	Social Relationship Domain	Environment Domain
Gender									Mean (SD)						
Marital status															
Married (n=22)	7.9 (0.3)	2.6 (2.2)	11.8 (2.7)	14.0 (1.5)	0.5 (0.7)	0.8 (1.1)	2.5 (1.4)	5.2 (0.4)	99.3 (14.2)	3.5 (0.9)	3.8 (1.0)	15.2 (2.7)	15.6 (2.3)	14.8 (2.9)	15.5 (2.5)
Divorced / Widowed / Single (n=38)	7.0 (1.9)	3.6 (3.7)	6.5 (4.6)	10.3 (4.7)	0.4 (0.6)	1.4 (1.2)	1.8 (2.1)	5.0 (0.8)	95.3 (16.4)	3.7 (1.1)	3.4 (1.1)	14.2 (2.9)	14.9 (3.1)	14.8 (3.5)	15.3 (2.5)
t	-2.83	1.20	-5.61	-4.34	-0.79	1.80	-1.29	-1.33	-0.95	0.68	-1.60	-1.36	-0.91	-0.02	-0.33
p-value	<0.01**	0.24	<0.01**	<0.01**	0.43	0.08	0.20	0.19	0.35	0.50	0.12	0.18	0.37	0.99	0.74
Education															
Never attended school (n=21)	7.4 (1.4)	4.1 (4.2)	6.0 (4.5)	8.6 (5.1)	0.3 (0.6)	1.3 (1.3)	2.4 (2.3)	5.2 (0.7)	97.1 (19.6)	3.8 (1.2)	3.4 (1.2)3	14.4 (3.1)	15.3 (3.9)	15.0 (3.7)	15.5 (2.9)
Some formal education (n=39)	7.3 (1.7)	2.7 (2.5)	9.8 (4.3)	13.3 (2.5)	0.5 (0.6)	1.1 (1.1)	1.9 (1.6)	5.0 (0.7)	96.5 (13.4)	3.5 (0.9)	3.6 (1.0)	14.6 (2.7)	15.1 (2.1)	14.6 (3.0)	15.3 (2.2)
t	0.11	1.68	-3.26	-3.98	-1.21	0.58	1.03	1.06	0.14	0.82	-0.56	-0.31	0.23	0.47	0.38
p-value	0.91	0.10	<0.01**	<0.01**	0.23	0.57	0.31	0.29	0.89	0.42	0.58	0.76	0.82	0.64	0.71

Table 3 (Continued)
Comparison of mean scores of IADL, GDS, CLOX, Gierveld's Loneliness Scale, SSQ6, and WHOQOL-BREF and different socio-demographical variables (n=60)

	IADL	GDS	CLOX		Gierveld's Loneliness Scale		SSQ6		WHOQOL-BREF						
			CLOX1	CLOX2	Emotional Loneliness	Social Loneliness	SSQN	SSQS	QOL Total Score	Overall QOL	Satisfaction with Health	Physical Health Domain	Psychological Domain	Social Relationship Domain	Environment Domain
Gender								Mean (SD)							
Able to speak Mandarin or English or both															
Yes (n=50)	7.4 (1.7)	3.1 (3.4)	9.4 (4.3)	12.8 (3.1)	0.5 (0.6)	1.1 (1.1)	2.0 (1.8)	96.3 (16.1)	5.0 (0.7)	3.6 (1.0)	3.5 (1.1)	14.4 (2.9)	15.2 (2.9)	14.8 (3.3)	15.3 (2.5)
No (n=10)	7.3 (0.8)	3.9 (2.5)	3.9 (4.2)	5.9 (4.7)	0.2 (0.4)	1.4 (1.5)	2.1 (2.1)	98.9 (13.7)	5.5 (0.6)	3.8 (0.9)	3.7 (0.9)	14.9 (2.3)	15.2 (2.8)	14.9 (3.1)	16.0 (2.2)
t	0.11	-0.74	3.69	4.49	1.61	-0.56	-0.13	-0.47	-1.86	-0.63	-0.54	-0.48	-0.04	-0.10	-0.08
p-value	0.91	0.46	<0.01**	<0.01**	0.12	0.59	0.89	0.64	0.07	0.53	0.59	0.64	0.97	0.93	0.43
Religion															
Has a religion (n=52)	7.5 (1.5)	3.5 (3.4)	8.4 (4.6)	11.6 (4.1)	0.4 (0.6)	1.2 (1.2)	2.2 (1.9)	96.3 (16.1)	5.1 (0.7)	3.6 (1.0)	3.5 (1.1)	14.4 (2.9)	15.1 (3.0)	15.0 (3.4)	15.3 (2.4)
Atheist (n=8)	6.6 (2.1)	1.4 (1.3)	8.6 (5.9)	12.3 (5.1)	0.5 (0.5)	1.3 (1.2)	1.1 (1.2)	99.6 (12.6)	5.0 (0.3)	3.9 (0.8)	3.6 (0.7)	15.2 (2.2)	15.7 (2.0)	13.3 (1.6)	16.1 (2.9)
t	1.42	1.74	-0.11	-0.42	-0.41	-0.22	1.52	-0.56	0.78	0.83	-0.26	-0.74	-0.53	1.45	-0.84
p-value	0.16	0.09	0.91	0.68	0.69	0.83	0.13	0.58	0.44	0.44	0.80	0.46	0.60	0.15	0.41

Table 3 (Continued)
Comparison of mean scores of IADL, GDS, CLOX, Gierveld's Loneliness Scale, SSQ6, and WHOQOL-BREF and different socio-demographical variables (n=60)

	IADL	GDS	CLOX		Gierveld's Loneliness Scale		SSQ6		WHOQOL-BREF						
			CLOX1	CLOX2	Emotional Loneliness	Social Loneliness	SSQN	SSQS	QOL Total Score	Overall QOL	Satisfaction with Health	Physical Health Domain	Psychological Domain	Social Relationship Domain	Environment Domain
Gender								Mean (SD)							
Living arrangement															
Alone (n=33)	7.0 (2.0)	3.6 (3.8)	6.5 (4.5)	10.6 (4.9)	0.4 (0.6)	1.4 (1.1)	1.9 (2.1)	93.4 (16.8)	4.9 (7.7)	3.6 (1.1)	3.3 (1.1)	13.9 (2.9)	14.6 (3.3)	14.6 (3.5)	15.0 (2.6)
With spouse / friend / flat mate (n=27)	7.8 (0.6)	2.7 (2.3)	10.9 (3.7)	13.0 (2.7)	0.4 (0.6)	0.9 (1.2)	2.2 (1.5)	100.8 (13.4)	5.3 (4.6)	3.7 (0.9)	3.8 (0.9)	15.3 (2.6)	15.8 (2.1)	15.0 (2.9)	15.9 (2.2)
t	-2.35	1.09	-4.17	-2.41	0.10	1.69	-0.65	-1.86	-2.29	-0.34	-1.89	-2.04	-1.65	-0.56	-1.40
p-value	0.02*	0.29	<0.01**	0.02*	0.92	0.10	0.52	0.07	0.03*	0.73	0.06	0.05*	0.11	0.58	0.17
Ownership of accommodation															
Self own (n=24)	7.9 (0.3)	2.1 (1.8)	11.2 (2.8)	13.2 (2.4)	0.3 (0.6)	0.8 (0.9)	2.6 (1.9)	101.3 (11.9)	5.2 (4.8)	3.6 (0.8)	3.8 (1.1)	15.2 (2.6)	15.9 (2.0)	15.5 (2.7)	16.1 (2.1)
Rented from government (n=36)	7.0 (1.9)	3.9 (3.8)	6.6 (4.8)	10.6 (4.9)	0.5 (0.70)	1.4 (1.3)	1.7 (1.8)	93.8 (17.2)	5.0 (0.8)	3.6 (1.2)	3.4 (1.0)	14.1 (2.9)	14.7 (3.2)	14.3 (3.5)	14.9 (2.6)
t	2.91	-2.47	4.64	2.71	-1.29	-2.22	1.85	1.86	0.78	-0.21	1.55	1.57	1.63	1.49	1.95
p-value	<0.01**	0.02*	<0.01**	<0.01**	0.20	0.03*	0.07	0.07	0.44	0.84	0.13	0.12	0.11	0.14	0.06

Table 3 (Continued)
Comparison of mean scores of IADL, GDS, CLOX, Gierveld's Loneliness Scale, SSQ6, and WHOQOL-BREF and different socio-demographical variables (n=60)

	IADL	GDS	CLOX		Gierveld's Loneliness Scale		SSQ6		WHOQOL-BREF						
			CLOX1	CLOX2	Emotional Loneliness	Social Loneliness	SSQN	SSQS	QOL Total Score	Overall QOL	Satisfaction with Health	Physical Health Domain	Psychological Domain	Social Relationship Domain	Environment Domain
Gender							Mean (SD)								
Receiving financial assistance from others															
Yes (n=45)	7.2 (1.8)	3.2 (3.0)	8.6 (4.8)	12.0 (4.0)	0.5 (0.7)	1.1 (1.2)	2.0 (1.7)	95.9 (13.4)	5.1 (0.7)	3.6 (1.0)	3.4 (1.0)	14.5 (2.5)	15.2 (2.5)	14.7 (2.9)	15.1 (2.3)
No (n=15)	7.7 (0.5)	3.3 (4.1)	7.9 (4.5)	10.6 (4.9)	0.2 (0.4)	1.4 (1.1)	2.1 (2.4)	99.2 (21.3)	5.0 (-0.7)	3.8 (1.1)	3.9 (1.2)	14.6 (3.7)	15.1 (3.9)	15.0 (4.1)	16.2 (2.9)
t	-1.77	-0.09	0.55	1.13	1.99	-0.89	-0.21	-0.70	0.35	-0.81	-1.71	-0.17	0.09	-0.34	-1.56
p-value	0.08	0.93	0.58	0.26	0.05	0.38	0.83	0.49	0.73	0.42	0.09	0.87	0.93	0.74	0.12

IADL - Instrumental Activities of Daily Living
GDS - Geriatric Depression Scale
CLOX - Executive Clock Drawing Task
SSQ6 - Social Support Questionnaire Short-Form
SSQN - Social Support Questionnaire Number Score
SSQS - Social Support Questionnaire Satisfaction Score
WHOQOL-BREF - World Health Organisation Quality of Life
t Independent t-test; *Significant level at 0.05; **Significant level at 0.01.

Table 4 presented the correlations among the various measures. The correlations were moderate among GDS and SSQS ($r=-0.63$, $p<0.001$). There were strong correlations between QOL total score and GDS ($r=-0.78$, $p<0.001$), and with SSQS ($r=0.71$, $p<0.001$).

Discussion

This study aimed to describe the psychosocial health of older people who lived independently. An understanding of the psychosocial health of older people who lived alone or with another older person in Singapore will help to identify gaps that healthcare professionals can address to enhance their QOL.

The sample in this study comprised older people who were living independently. There were fewer house owners than the national average house ownership rate of 90.5% in 2013 (Government of Singapore, 2014). To qualify for the public rental housing, the older people were of lower socioeconomic status (SES). Hence, older people from the lower SES were over-represented in this study. Formal education among the older people was uncommon for this pioneer generation of Singapore as there was little education opportunity before Singapore became a self-governed state in 1959 (Wong & Teo, 2011).

Generally, the participants were quite satisfied with their QOL. This study finding was supported by the literature on older community-dwellers in Singapore (Wong, 2003). A study on older people living in long term institutions in Taiwan reported comparatively lower scores for physical health, psychological, social relationship and environment domains of QOL when compared with the present study (Chien, Wang, Yao, Sheu, & Hiseh, 2007). These differences may be because the Taiwanese participants were institution-bound and they would have some medical conditions or functional deficits. The present evidence supports measures to promote older people to age-in-place in their own homes as long as possible.

The results of the present study were compared with findings from an international validation study of the WHOQOL-BREF (with participants aged 61 or over) from 23 countries, the scores in our study were higher across the four domains, notably the environment domain (Skevington, Lotfy, & O'connell, 2004). The differences may be because the older people were enjoying a better QOL and the generally clean living environment in Singapore. Or it may be related to cultural and dominant values of the pioneer generation of Singapore who would not demand what was not one's own and to be satisfied with what was provided. Further exploratory studies on how this pioneer generation of older people perceive their QOL can provide insights to this finding.

This study identified that depression has strong negative correlation with QOL. These affirm some findings from previous studies. For example, a study of older people living alone in China found significant association between depression and reduced QOL (Chen et al., 2014). In addition, a study of depressed older people in Hong Kong illustrated a strong association between level of depression and QOL and that the improvement from depression over a 12-month period predicted the corresponding improvement in QOL perception (Chan, Chiu, et al., 2009).

Comparing mean score of the GDS, our finding of 3.2 (SD=3.2) was higher than 2.5(SD=3.4) and 1.9 (SD=2.7) from a large scale study of older people in Singapore who lived alone and living with others (Lim & Kua, 2011). Our study focused on older people who lived alone or with another older person. Such findings might suggest that older person who lived alone or with another older person were more at risk of depression than those living with extended family.

Table 4

Correlations between IADL, GDS, CLOX, SSQ6, Gierveld's Loneliness Scale, and WHOQOL-BREF Mean Scores (n=60)

			CLOX		Gierveld's Loneliness Scale		SSQ6		WHOQOL-BREF						
	IADL	GDS	CLOX1	CLOX2	Emotional Loneliness	Social Loneliness	SSQN	SSQS	QOL Total Score	Overall QOL	Satisfaction with Health	Physical Health Domain	Psychological Domain	Social Relationships Domain	Environment Domain
IADL	1.00														
GDS	-0.02	1.00													
CLOX1	0.52**	-0.23	1.00												
CLOX 2	0.43**	-0.10	0.72**	1.00											
Emotional loneliness	0.16	0.36**	0.11	0.22	1.00										
Social loneliness	-0.28*	0.43**	-0.24	-0.08	0.14	1.00									
SSQN	0.21	-0.34**	0.14	0.02	-0.26*	-0.50**	1.00								
SSQS	0.08	-0.63**	0.07	-0.11	-0.46**	-0.46**	0.67**	1.00							
QOL Total Score	0.24	-0.78**	0.19	0.11	-0.36**	-0.45**	0.49**	0.71**	1.00						
Overall QOL	-0.01	-0.63**	-0.04	-0.07	-0.36**	-0.18	0.30*	0.52**	0.75**	1.00					
Satisfaction with health	-0.01	-0.64**	0.09	-0.01	-0.19	-0.21	0.37**	0.51**	0.72**	0.54**	1.00				
Physical health domain	0.32*	-0.67**	0.21	0.17	-0.22	-0.39**	0.37**	0.56**	0.90**	0.57**	0.61**	1.00			
Psychological domain	0.20	-0.81**	0.16	0.10	-0.37**	-0.48**	0.51**	0.73**	0.94**	0.76**	0.69**	0.79**	1.00		
Social relationships domain	0.02	-0.59**	0.05	-0.00	-0.50**	-0.47**	0.57**	0.66**	0.73**	0.56**	0.44**	0.52**	0.72**	1.00	
Environment Domain	0.26*	-0.63**	0.20	0.09	-0.32*	-0.37**	0.40**	0.61**	0.89**	0.65**	0.60**	0.71**	0.76**	0.60**	1.00

IADL - Instrumental Activities of Daily Living
GDS - Geriatric Depression Scale
CLOX - Executive Clock Drawing Task
SSQ6 - Social Support Questionnaire Short-Form
SSQN - Social Support Questionnaire Number Score
SSQS - Social Support Questionnaire Satisfaction Score
WHOQOL-BREF - World Health Organisation Quality of Life
*Significant at p <0.05; **Significant at p <0.01

The present study found 23.3% of our participants were at risk of depression. This was much higher than previous studies using similar instrument—the GDS. For example, a study on older Finnish community-dwellers who visited the emergency department identified a depression prevalence of 6% (Kariniemi-Ormala & Vehviläinen-Julkunen, 2012). A Singapore-wide study reported that 7.8% of older people screened were depressed (Ma Shwe Zin Nyunt, 2010) while another large population-based study on Chinese community-dwellers concluded a prevalence of 13.3% (Niti, Ng, Kua, Ho, & Tan, 2007). In the last study, only 7.0% of the participants were living alone. The higher prevalence of depression in our study might suggest that older person who lived alone or with another older person are more at risk of depression than those living with extended family or other people.

More effort is needed to promote psychological well-being and QOL for this group of older people. Health and social care professionals have to pay attention to those older people who live alone; and to identify those who are at risk of depression early to provide necessary support and intervention. Hopefully, it could help to enhance their QOL (Atkins, Naismith, Luscombe, & Hickie, 2013). For older people who lived independently, able to maintain an optimal QOL is paramount.

This study identified that the older people have small but relatively well-established supportive network and that their perceived satisfaction with social support was strongly correlated with QOL. Traditionally, Chinese families live with their older parents though this is changing over time. The literature suggested that the collectivist Chinese culture continues to influence family togetherness even when the older people are living by themselves (Lim & Kua, 2011). A systematic review affirms that the quality social support is important to QOL for older people (Chen, Hicks, & While, 2013). It was also reported in the literature that the unique and mutual supportive relationship with significant others is vital to well-being and it provides an engaging attachment arising from sharing of personal life and experience, and also strength to continue with living (Puts et al., 2007). Public housing measures could be introduced to promote proximal living for extended families. This could be in the form of designing and building 3-generation flat (dual-key residence) and providing financial subsidy (Lee, 2013).

Social support in terms of emotional support from social networks could be more important than instrumental support (behavioural assistance and material aids) and the number of people who remained in contact with the older people. Thus helping older person who lived alone to engage an active life (Stuck et al., 1999) could be a way to enhance satisfaction (Chen et al., 2012). Social support can come in the form of continued employment or voluntary work to help others. It can also be through group intervention programmes that promote social relationships and engagement in community centres. An improvement in satisfaction in social support might help to reduce the risk of depression, thus promoting QOL (Melchiorre et al., 2013; Puts et al., 2007; Schwingel, Niti, Tang, & Ng, 2009).

Being alone does not necessarily equate to feeling lonely. Loneliness is a more vigorous measure than living arrangement (Lim & Kua, 2011). In our study, social loneliness (58.3%) arising from the little engagement with contacts was more prevalent than emotional loneliness (35%) that stems from the lack of close emotional bonding. A local study that adopted an one-item loneliness scale identified 18.9% prevalence among older community-dwellers and a higher prevalence (24.7%) for those living alone (Lim & Kua, 2011). The dissimilar findings may be attributed to the different measures used and possibly the lower SES of the older people in our study.

An international study was conducted on participants aged between age 60 and 79 across seven countries (six European countries and Japan) using the same Gierveld's loneliness scale as our study (Leung, de Jong Gierveld, & Lam, 2008). The mean scores for social

loneliness and emotional loneliness reported in Japan (n=1891) was among the lowest (1.33 and 0.63 respectively) and reflected less loneliness. In our study, the mean scores were 1.2 (SD=1.2) and 0.4 (SD=0.6) respectively. Hence, reflecting a lower sense of loneliness among Singaporean older people who lived alone when compared with other countries.

Such results could be related to the fact that Singapore is a smaller city state when compared with Japan and contacts with networks are generally more accessible and convenient. Nevertheless, it is important to alleviate loneliness. A systematic review suggested that group interventions with education and social components that were developed specifically for older people could be effective in reducing social isolation and loneliness (Cattan, White, Bond, & Learmouth, 2005). Healthcare professionals can develop such intervention that are based on sound theories and evidence for day centre or community centres for older people and support the evaluation of its impacts.

This study found that older people who were residing in rental public housing had higher loneliness scores and were more likely to be depressed. Those who lived in public housing usually were of lower SES. The findings of the present study concurred with another study of older people (n=4467) across seven European countries. Socio-economically disadvantaged older people were associated with lower social support (Melchiorre et al., 2013). A systematic review on depression among older people in China reported social support as a predictor for depression (Chen et al., 2012). Our study also highlighted a moderate association between depression and satisfaction with social support. There is a necessity to focus on addressing the specific needs of older people who live alone in rental public housing.

A population-based study of older community-dwellers in Singapore found that the provision of home support services and participations at social senior activity centre strongly predicted lower risk of isolation (Wu & Chan 2012). This clearly highlights the need to enhance the quality of social support for older people who live alone. Social support in the form of home support services and activities in community centres are thus important.

The proportion of older people with compromised executive cognitive function at 40% in our study was similar to a study on a group of Mexican American older community-dwellers (35.6%) (Royall, Espino, Polk, Palmer, & Markides, 2004). However, it was lower than 62% of older people who visited the emergency department in the United States and this was probably because the older people were unwell and seeking medical help (Hirschman et al., 2011).

The findings in our study suggested that executive cognitive function impairment was associated with people at greater age, living alone, not in marital relationship and without house ownership. Alternatively, the associations between compromised executive cognitive function with the absence of formal education and inability to speak a common language (Mandarin and English) in this study might suggest that the specificity of CLOX could be education-dependent and thus resulting in a false positive finding (Yap et al., 2007). Further studies are needed to develop more cultural appropriate instruments for assessing executive cognitive function for older people in Asian countries.

Possibly, older people from the lower SES and who are more isolated are at greater risk of executive cognitive dysfunction. It was reported that an integrated lifestyle in social, physical and mental domains benefited cognitive function and protects cerebral degeneration in older people (Fratiglioni, Paillard-Borg, & Winblad, 2004). Thus more could be done to actively engage older people who lived alone or from the lower SES in community events and self-help groups to enhance their psychosocial functions.

This study has limitations. The cross-sectional design could only provide descriptions of the association among the variables. The small sample size and convenience sampling approach limited the generalisability of the findings though this was partially compensated by recruiting from three different centres and a high response rate from the older community-dwellers. Self-report study faced inherent limitation of social desirability with their responses. However, satisfaction with social support, loneliness and QOL are subjective perceptions that can only be evaluated through personal assessment.

Conclusion

In this study, while the prevalence of depression was quite high, the older community-dwellers who lived alone or with another older people in Singapore were generally satisfied with the social support and their QOL. Healthcare professionals may consider providing intervention programme as a platform to further improve social support through engagement and bonding to reduce depression risk and enhance QOL for older people.

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摘要

獨居長者的生活質素和心理健康

全球長者人口比例持續上升，很多長者與家人分開居住。他們持續獨立生活及享受最高生活質素的能力取決於他們的生理及心理健康。本文探討獨居長者的生活質素和心理健康。六十個居住於社區的65歲或以上長者參與了這項描述性橫剖面研究，他們均是獨居或與另一名長者同住。參加者普遍滿意生活質素。當與社交、心理及環境生活質素範疇比較時，他們的生理健康情況較差。相對與他人同住的長者，獨居長者明顯有較大的認知功能障礙、較差的日常獨立活動能力，對生理健康及社交支援的滿意程度亦較低。醫療專業人士有責任識別高危長者，採取適當的介入，改善他們的心理健康及生活質素。

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Upcoming Themes

The Hong Kong Journal of Mental Health is the official publication of the Mental Health Association of Hong Kong and is published on a half-yearly basis. It is an interdisciplinary journal intended to serve as a focal point for the exchange of information to both enhance the definition and development of the field of mental health and facilitate the applications of facts, principles, and methods derived from psychology, psychiatry, medicine, sociology, epidemiology, anthropology, social work, nursing, education and other health-related disciplines.

The Editorial Board has suggested several upcoming themes including (but not limited to) the following:

- ♦ Research in Mental Health
- ♦ Dementia

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