EMPTY NEST SYNDROME AND ITS ASSOCIATION BETWEEN APPETITE AND QUALITY OF LIFE AMONG FEMALE ADULTS IN KUANTAN

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ABSTRACT

Introduction: Feeling lonely, depression, and grief upon a child leaving home is known as 'empty nest syndrome.' It has been noted in earlier studies that the mother is vulnerable towards this separation. Empty nest syndrome has mainly been overlooked among female adults supposedly for lack of extensive study and appropriate data. Aims: To build upon life course theory, this study examined the prevalence of empty nest syndrome among middle-aged women in Kuantan and its association with appetite and quality of life. **Methods:** Women aged 40 to 59 years old from Kuantan, Pahang, who have at least one child leaving the parental home, were recruited in this study (n= 242). Data were gathered through self-administered questionnaires using a translated version of the De Jong Gierveld Loneliness Scale, Council for Nutritional Appetite Questionnaires (CNAQ), and World Health Organization (WHOQOL) BREF Version. P-value was set at $p<0.05$ as statistically significant to determine the association between empty nest syndrome with appetite and quality of life. **Results:** Finding reveals a high prevalence of empty nest syndrome among female adults (68.2%) and diverse variation in appetite and quality of life by socio-demographic characteristics. It has then been denoted that empty nest syndrome was negatively correlated with both appetite and quality of life. It indicated in general, mothers who suffer from empty nest syndrome are having poor appetite ($p<0.001$) and low quality of life ($p<0.001$). **Conclusions:** Understanding empty nest syndrome with its associated factors and consequences is essential to inculcate the adoption of a healthy lifestyle and coping mechanism behaviors. Thus, further research is needed to uncover empty nest syndrome determinants in a more comprehensive view.

KEYWORDS: Empty Nest Syndrome, Mother, Women, Lonely, Appetite, Quality of Life

INTRODUCTION

Loneliness is identified as a significant public health issue. It can increase the risk of depression, Alzheimer's disease, cardiovascular, cerebrovascular, and other chronic diseases (Beutel et al., 2017). Those who suffer from loneliness are also at risk of premature death. As referring to psychology, adulthood is the most crucial stage of life where they juggle multiple roles and crises. Middle adulthood is a life stage where they need to adapt to children's departure, work retirement, getting menopause or andropause, and achieving stability in life either in a financial or social relationship. At the same time, they need to take care of aging parents. This is the reason why they are termed as sandwich generation (Brody, 1990), as cited by Aldwin and Levenson (2010). Failure to adapt to the crisis will make them vulnerable to physical and psychological impairment. Empty nest syndrome has been primarily overlooked among adults, supposedly for lack of extensive study and appropriate data. Often empty nest syndrome is reported among older adults and elderly who lived in a rural area (Locher et al., 2005; Baily, Matre & Van Wymelbeke, 2015; Eskelinen, Hartikainen, & Nykanen, 2016; Chang et al., 2016). Symptoms manifested from transition to empty nest like loneliness and depression should not be neglected since it will influence their quality of life. Additionally, emotional impairment affects appetite regulation and lead to poor nutrition. Consequently, it may contribute to the underlying factors of non-communicable diseases such as diabetes, hypertension, and many more. Previous studies have been discussing on the predisposing factors of empty nest syndrome. Parents' role and perception are essential in determining the severity of empty nest syndrome. Overly attached, overprotective, and parents' heavy involvement towards the children's affairs is one of the significant factors (Mitchell & Lovegreen, 2009). Full-time homemakers with limited social connections with other people also contribute towards the symptom (Powell, 1977). Besides, parents are not ready to launch off their children concerning their children's independence, welfare, and safety (Mitchell & Lovegreen, 2009). Thus, the post parenting role which is associated with empty nest syndrome, maybe the underlying causes of low appetite and quality of life among adults. In addition, most research regarding empty nest syndrome were accumulated among women, employment and education status (Powell, 1977); parental gender differences and cultural dynamics (Mitchell & Lovegreen, 2009); loneliness and empty nest syndrome in the elderly (Eskelinen et al., 2015; Chang et al., 2016). Very little research has been conducted on quality of life among empty-nester adults. No study has been conducted regarding the association of empty nest syndrome with appetite and quality of life in Malaysia. Most previous studies only stress the effects of loneliness among the elderly (Locher et al., 2005; Baily et al., 2015). Thus, research is warranted to identify empty nest syndrome determinants in middle-aged women and its associated factors.

METHODS

Females aged within 40 to 59 years in Kuantan, Pahang, Malaysia who voluntarily agreed were invited to be respondents of the study. The subjects were from different marital status, educational background and occupational sectors. The study adopts a convenience sampling

scheme. The respondents were selected based on the inclusion and exclusion criteria, as shown in Table 1.

Table 1: Inclusion and exclusion criteria of respondents

Inclusion criteria	Exclusion criteria
Female	Childlessness
Malay	
Aged 40 to 59 years old	
At least 1 child has leave the home	

The data were collected both manually and through the online medium. All respondents have completed the survey, which consists of three main parts.

Sociodemographic Background

First, Part A, the questionnaires were about the socio-demographic background of the respondents, which later used to classify the respondents based on specific parameters which include:

a) Age
b) Marital status
c) Educational background
d) Occupational sector
e) Number of children
f) Number of other family members living together
g) Number of other children who have left the home

Dejong Gierveld Loneliness Scale

The second part of the questionnaires (Part B) aimed to measure the severity of empty nest syndrome. Dejong Gierveld Loneliness Scale has been used. The 6-item De Jong Gierveld Loneliness Scale is a reliable and valid measurement instrument for overall, emotional, and social loneliness suitable for extensive surveys (De Jong Gierveld & Van Tilburg, 2006). Penning, Chou, and Liu (2014) stated that the Dejong Loneliness scale is suitable for research involving middle-aged and older adults. This scale comprises of 6 questions. There were divided into two types of questions: negatively worded questions (questions 1 to 3) and positively worded questions (questions 4 to 6). The respondents were required to self-identify their condition and rate on a three-point Likert Scale:

1) Yes
2) More or less
3) No

In the end, the questionnaires give a range of score from 0 to 6 where

- 0-1= not lonely
- 2-4= lonely
- 5-6=lonelinest

For this study, the respondents were classified as not having empty nest syndrome (score 0-1) which was not lonely and as suffering from empty nest syndrome (score 2-6) (de Jong Gierveld & Theo van Tilburg, 1999). According to the Dejong Loneliness Scale used to assess the degree of loneliness among the respondents, there are 3 categories on loneliness which were 'not lonely', 'moderately lonely' and 'severely lonely'.

Council of Nutritional Appetite Questionnaires (CNAQ)

Meanwhile, the third part of the questionnaires (Part C) aimed to assess the degree of appetite. Council of Nutrition Appetite Questionnaire (CNAQ) is the short version of the Simplified Nutritional Appetite Questionnaire (SNAQ). The CNAQ is composed of 8 items to assess the appetite level in individuals. Each question presents five options for the answer, represented by the letters from A to E. Thus, the scoring method is based on the following scale:

- A = 1
- B = 2
- C = 3
- D = 4
- E = 5

CNAQ is usually used among patients admitted to the hospital and require an extended stay at the hospital. However, Wilson et al. (2005) has conducted a cross-sectional measurement study using CNAQ among community-dwelling adults. It has been denoted that CNAQ is a short and straightforward appetite assessment tool suitable for community-dwelling adults (Wilson et al., 2005).

When summed up, they give the questionnaire's total score, which may range from 5 to 40.

- Higher scores (score >28) = good appetite
- Lower scores (score <28) = low appetite by (Wilson et al., 2005).

World Health Organization Quality of Life BREF (WHOQOL) (Malay Version)

The last part is (Part D) to measure the quality of life by using WHOQOL BREF (Malay Version). It is a short form of WHOQOL- 100. Hasanah and Razali (1999) have conducted a pilot study of WHOQOL-100 to determine the Quality of Life among subjects suffering from hypertension and diabetes mellitus in Kelantan hospital. Also, WHOQOL BREF (Malay version) demonstrates good discriminant validity, construct validity, internal consistency, and test-retest reliability when given to healthy and ill subjects (Hasanah, Naing, & Rahman, 2002). WHOQOL BREF comprises of four main domains as following:

- Physical
- Psychological
- Social relationship
- Environment

The domains score is scaled from 1 to 5 in a positive direction.

1. Not at all
2. Not much
3. Moderately
4. A great deal
5. Completely

The cut-off point to determine whether one has low or high quality of life is 60 (Silva et al., 2014). A higher score (>60) denotes a higher quality of life, and a lower score (<60) denotes a low quality of life.

Statistical analysis

Data were analyzed using SPSS 20.0 software. Descriptive statistics was used to analyze the prevalence of empty nest syndrome and socio-demographic data. Statistical analysis for demographic data was divided into two parts. There were categorical data such as age, marital status, level of education, occupational sector, and numerical data: the number of children, number of family members staying together, and the number of children who have left home. The prevalence of empty nest syndrome was presented in the form of numbers and percentages. According to the Dejong Loneliness Scale used to assess the degree of loneliness among the respondents, there are three categories of loneliness: 'not lonely,' 'moderately lonely,' and 'severely lonely.' Thus, respondents are regarded as empty nesters when they score 2-6 and non-empty nesters upon scoring 1-2 on the loneliness scale. Then, Pearson's Correlation Coefficient analysis was used to assess both objectives 2 and 3 of this research. Correlation analysis was used to identify the association of empty nest syndrome with appetite and quality of life. Pearson's correlation analysis has been used because the loneliness scale, appetite scale, and quality of life scale are numerical. The p-value was set at $p<0.05$ as statistically significant. The correlation analysis also indicates the strength of the associated variables through rho's value (r). The third objective was analyzed based on four domains. According to the questionnaires WHOQOL BREF version, quality of life can be explained in 4 specific domains: physical, psychological, social relationship, and environmental. Based on the manual for WHOQOL BREF, the raw data needs to be converted to transform the data in order for the results to be comparable with the original extended version of WHOQOL-100.

Ethical Approval

Application for ethics in this research has been approved by Kuliyyah Post Graduate Research Committee (KPGRC) and International Islamic University Malaysia Research Ethics

Committee (IREC) - IREC 2019-066. All procedures regarding the research were conducted in accordance with good ethical conducts. Written informed consent form was also obtained from respondents prior to participation in the study.

RESULTS

Two hundred forty-two respondents participated in this study, and their socio-demographic background is shown in Table 2.

Table 2 Socio-demographic background of the respondents

Characteristics	Total number, N (%)
Age	
40-45 years old	52 (21.5%)
46-49 years old	85 (35.1%)
50-55 years old	78 (32.2%)
56-59 years old	27 (11.2%)
Marital status	
Married	229 (94.6%)
Divorced	5 (2.1%)
Single mother	8 (3.3%)
Level of Education	
High school	63 (20.0%)
Diploma	25 (10.3%)
University	142 (58.7%)
Others	12 (12%)
Employment sectors	
Government	144 (59.5%)
Non- government	23 (9.5%)
Self employed	13(5.4%)
Housewives	58 (24.0%)

Prevalence of empty nest syndrome

Based on Table 3, all 242 respondents are classified under three categories: 'not lonely,' 'moderately lonely,' and 'severely lonely.' 'Moderately lonely' denotes the highest percentage, which is 50.8%, with a total of 123 respondents. Seventy-seven respondents (31.8%) reported being not lonely, and the remaining 17.4% (n=242) was severely lonely, which is 42 from a total of 242 respondents.

Table 3 The Prevalence of Empty Nest Syndrome Among Female Adults in Kuantan

Empty Nest Syndrome	Classification	Frequency (%)

No	Not Lonely	77 (31.8%)
Yes	Moderately lonely	123 (50.8%)
	Severely lonely	42 (17.4%)

With regards to the empty nest syndrome, 68.2% of the respondents are categorized as having empty nest syndrome (n=165), as shown in Figure 1.

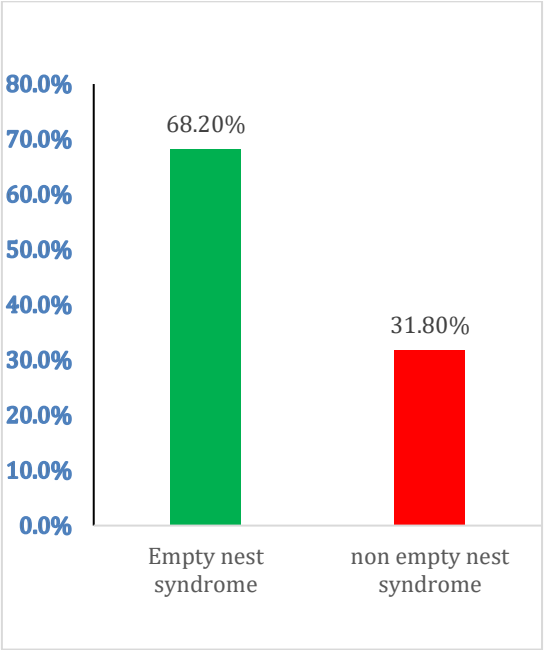

Figure 1 Prevalence of empty nest syndrome among female adults in Kuantan (n=242)

Association between empty nest syndrome and appetite

According to Table 4, out of 242 respondents, 160 respondents (66.1%) have a poor appetite, and the remaining 33.2 % (n=82) respondents have a good appetite.

Table 4 Appetite classification

Appetite	Frequency	Percent (%)
Poor Appetite	160	66.1
Good Appetite	82	33.9

Table 5 shows that there was a significant association between empty nest syndrome and appetite. However, the association was weak and negatively correlated with the r-value of -0.250. Therefore, with every increase in empty nest syndrome, the degree of appetite is reduced.

Table 5 Association between empty nest syndrome and appetite

Variables	N	r-value	p- value*
Empty nest syndrome and Appetite	242	-0.250	<0.001

*Pearson correlation coefficient

The association between empty nest syndrome and quality of life

Based on the questionnaires used to assess the quality of life, 60 score was the cut-off point in determining the respondents' quality of life (Silva et al., 2014). According to the result, 45 respondents had scored lower than 60, while the remaining 197 respondents had scored more than 60. Among the 242 respondents, the average score was 71, which was higher than the cut-off point indicating most respondents had a good quality of life. The minimum score was 28, while the highest score was 97 (Table 6).

Table 6 Quality of Life Score (n=242)

	Score				
Quality of Life	Minimum score	Maximum score	Mean (sd)	≤60	≥60
	28	97	71.31 (11.88)	45	197

Table 7 shows that empty nest syndrome significantly correlated with four domains in quality of life and the overall quality of life, with p= 0.002 for the physical domain and p< 0.001 for the entire remaining domains and overall quality of life. As referring to the r-values, empty nest syndrome has a negative correlation with the quality of life where fair negative correlation with psychological domain (-0.374), social relationship domain (-0.361), environmental domain (-0.275), and overall quality of life (-0.357). However, empty nest syndrome has a weak negative association with the physical domain (-0.195). Therefore, increase empty nest syndrome significantly reduces the quality of life.

Table 7 Association between empty nest syndrome and quality of life (n=242)

Variables	Quality of life	
	r-value	p-value*
Physical Domain	-0.195	0.002
Psychological domain	-0.374	<0.001
Social relationship domain	-0.361	<0.001
Environmental domain	-0.276	<0.001
Overall Quality of Life	-0.357	<0.001

*Pearson correlation coefficient

DISCUSSION

Prevalence of Empty Nest Syndrome

As quoting the definition of empty nest syndrome, it is the feeling of sadness, loneliness, and grief experienced by parents and caregivers when their children leave the parental home (Mitchell & Lovegreen, 2009). According to the finding in this study among 242 respondents, the prevalence of empty nest syndrome is highly contributed from the 'moderately lonely' category (50.8%) compared to the 'severely lonely' category (17.4%). Meanwhile, the 'not lonely' category (31.8%) is defined as not experiencing empty nest syndrome. Based on the results, the prevalence of empty nest syndrome among female adults in Kuantan is higher (68.2%) than the non-empty nest syndrome (31.8%). It indicates that most female adults in Kuantan suffer from empty nest syndrome despite living in an urban developed area. This result is supported by the earlier study on empty nest syndrome among Indian women in middle adulthood, where the prevalence reported was 59.4% (Pillay, 1988). It occurs especially among Indians who practice a traditional extended family system where the eldest son will stay in the parental home even after getting married. However, westernization has changed the traditional system. Thus, mothers need to adapt to the changes and eventually feeling isolated. Besides, living in an urban area like Kuantan is also burdening as the living cost increases. At the same time, women, especially those who engage in the workforce have multiple roles which include a mother, wife, daughter, and employee. According to Lesse (1983), the biochemical changes associated with menopause add to the process, making it difficult to cope with the current situation regardless of whether individuals live in rural or urban areas. The result contradicts with a previous study conducted by Mitchell and Lovegreen (2009), where they reported that the prevalence of empty nest syndrome is 31.6% and is decreasing across time. However, their study compared the degree of acceptance upon emptying nest transition between different ethnic groups, including East Indian, South Italy, and Southern European communities. Their results were also not comparable with this study since they did not include Asian community. Surprisingly, respondents who worked in government sectors recorded the highest number

in the empty nest syndrome category, followed by respondents who were housewives, worked in the non- government sector, and were self-employed. As opposed to the previous study, housewife and part-timer parents usually report higher empty nest syndrome (Mitchell and Lovegreen, 2009).

Association Between Empty Nest Syndrome and Appetite.

Based on the result, there is a significant association between empty nest syndrome and appetite. It has also been found that empty nest syndrome has a weak negative correlation with appetite. It indicates that mothers who are suffering from empty nest syndrome have a low appetite. Since the prevalence of empty nest syndrome is high among female adults in Kuantan, it is estimated that there will be more respondents who are having a low appetite than good appetite. It is proved that about more than half of respondents reported having a low appetite as compared to a good appetite, which indicates sadness and loneliness have suppressed appetite of people who suffer from empty nest syndrome (Pilgrim et al., 2015). Since the correlation is weak, the empty nester respondents who have a good appetite are explained by Berthoud's self-reward hypothesis (2011). According to this hypothesis, people would tend to eat more to compensate for the sad or stressful events.

Association Between Empty Nest Syndrome and Quality of Life

For the overall quality of life, it has a moderate negative correlation with empty nest syndrome. Therefore, the majority of respondents with empty nest syndrome have a lower quality of life score. This condition is explained by a previous study where parents will have free time for themselves. Besides, there is a positive consequence of normative life events, especially in marital relationships and life satisfaction (Mitchell & Lovergreen, 2009). Parents also would have chances to focus on their own life like traveling, making a retirement plan, and pursuing a hobby (Mitchell, Lovergreen, 2009). Furthermore, positive or good quality of life is well supported by Heather (2005). The empty nest transition is a period for parents towards increased life options, freedom, a chance to develop whom they want to be as a person. Besides, parents can achieve a state of well-being since they feel accomplished and proud of successfully launching their children as mature human beings.

Limitation and Strength of the Study

Identified limitation is the use of non-randomization to recruit respondents. Thus, this might not be a true representative for Kuantan population; which limiting the findings' generalizability. Nevertheless, noted strength of this study is the validated questionnaires used in this study among the respondents.

CONCLUSIONS

In conclusion, the prevalence of empty nest syndrome among female adults in Kuantan is high. The majority of respondents reported having poor appetite but a high quality of life with a significant negative association with empty nest syndrome. Future research is recommended

to explore other underlying causes of empty nest syndrome and its consequences among different gender. Further investigation is also needed to uncover whether other aging related changes or non-communicable diseases have positive or negative effects towards parents' experience of the empty nest transition.

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