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Research Article

Assessment of Quality of Life in Parents of Attention- Deficit/ Hyperactivity Disorder (ADHD) Children at a Tertiary Care Hospital in Bangladesh

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Abstract

Background: Optimal Quality of Life (QOL) among the parents of children with Attention- Deficit/ Hyperactivity Disorder (ADHD) is very crucial. This study aimed to explore the QOL of the parents of ADHD children at a tertiary care hospital.

Method: This cross-sectional study was conducted in the Department of Psychiatry, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh from August 2019 to August 2021. Total forty-four (44) parents of children with ADHD were interviewed. A socio-demographic questionnaire and World Health Organization Quality of Life Brief Scale (WHOQOL-BREF) were applied to evaluate QOL of different domains including physical, psychological, social and environmental domains among the respondents. Collected data were analyzed and compared by statistical tests.

Results: The mean age of the parents was 28.6±5.23 years, where 54.5% were aged >30 years. Female respondents were more (68.2%). Of them 22.7% were single parents. Among four domains of QOL; the psychological domain had lowest median score (11.0) followed by physical (11.3), social (11.5) and environmental (11.6) domain scores respectively. Physical domain score of QOL was significantly associated with gender, family size, employment status, monthly income and education of the parents. Psychological domain score of QOL was significantly associated with residence, monthly income and education. Social domain score of QOL was significantly associated with education. While environmental domain score of QOL was significantly associated with gender, marital status and education of parents.

Conclusions: The quality of life is impaired in parents of ADHD children where several socio-demographic factors influencing their quality of life.

Keywords: Attention- Deficit/ Hyperactivity Disorder (ADHD); Parents; Quality of Life (QOL); WHOQOL-BREF

1. Introduction

Attention- Deficit/ Hyperactivity Disorder (ADHD) is a neurodevelopment disorder characterized by developmentally inappropriate symptoms of hyperactivity, impulsivity and/or inattention [1]. ADHD is the most common behavioral disorder in childhood, manifested generally before starting school-age [2]. Symptoms of ADHD are often associated with disturbances in cognitive, behavioral, emotional, developmental function, social and impaired academic achievement [3]. A meta-analysis of 175 research studies worldwide on ADHD found an overall pooled estimated prevalence of ADHD was 7.2% [4]. In

Bangladesh, an exploratory epidemiological study comparing psychiatric disorder found prevalence of ADHD was 2% [5]. The concept of Quality of Life (QOL) has received increased attention over recent years around the world. In general terms, QOL may be thought of as a multidimensional construct incorporating an individual's subjective perception of physical, emotional, and social wellbeing, including both a cognitive (satisfaction) and an emotional component (happiness) [6]. It was reported that Quality of Life (QOL) is influenced by many proximal (e.g., family and friendship) and distal (e.g., socioeconomic and cultural) factors [6]. The World Health Organization (WHO) defines; Quality of Life (QOL) assesses individuals' perception of their position in life in the context of the culture and value systems in which they live, and in relation to their concerns, standards, goals and expectations [7]. The presence of a chronic illness has been considered as one of the most potent risk factors for worse QOL scores [6]. Many authors have reported that chronic illnesses have an impact on many different aspects of the patient's lives, which go beyond the core symptoms and impact their QOL [6, 8]. Evidence is limited for scales assessing QOL among parents of children with ADHD. In studies using the World Health Organization Quality of Life-Brief Form (WHOQOL-BREF), one of the most used instruments to assess QOL, the scores are frequently lower in patients with chronic diseases, such as diabetes [6]. A few researchers suggest that the parents of children with disabilities may be more vulnerable in developing physical or mental issues and these families have a lower quality of life [9]. Family support is strongly linked to improved health and better psychosocial outcomes for chronically ill children, and the relationship and functioning within the family may change over time coincident with different developmental stages and levels of autonomy [10]. The relationships in families who have a child with ADHD are associated with more conflicts and are considerably more stressful than the relationships in families without a family member affected by ADHD [11]. Likewise, parents' perceived psychological well-being and stress may affect the child's QOL, and the interventions that target parent stress and QOL have the potential of improvements in the child's QOL as well as enhance their parents' QOL [12]. There are few studies that have assessed the Quality of Life (QOL) among parents who have children with ADHD; however, interest in this subject has increased in recent years. There have been efforts to develop original scales for measuring the QOL among families of children with ADHD [11]. The aim of this study was to evaluate the Quality of Life (QOL) among parents having ADHD children at a tertiary care hospital in Bangladesh.

2. Materials and Methods

This prospective cross sectional study was conducted at the Department of Psychiatry, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh from August 2019 to August 2021. A total of forty four (44) parents of children with Attention-Deficit/ Hyperactivity Disorder (ADHD) attending at in-patient/out-patient department and Attention- Deficit/ Hyperactivity Disorder Clinic, Department of Psychiatry, BSMMU were enrolled as study population using purposive sampling technique. Parents of >1 child with ADHD and parents of ADHD children who had another children with intellectual disability, conduct disorder, oppositional defiant disorder or any childhood psychiatric disorder diagnosed by qualified psychiatrist were excluded from the study. This study was

approved by the Ethical Review Committee, BSMMU, Dhaka, Bangladesh.

2.1. Pre testing

Prior to the study, pre-testing of research instruments (questionnaires) was carried out among parents of ADHD children equivalent to 10% of total study population to test the applicability of the methodology including the research instruments. Some modifications in the questionnaires were made out and then it was finalized.

2.2 Research instruments

In this study two (2) separate questionnaires were used. These were socio-demographic data assessment questionnaire and World Health Organization Quality of Life scale, brief version (WHOQOL-BREF) [13].

A). Socio-demographic questionnaire: This was a semi-structured questionnaire for socio-demographic and other relevant information. Parents of ADHD children's was asked to complete this questionnaire. Different socio-demographic variables like- age, gender, education level, occupation, marital status, place of residence, monthly family income, number of family member etc. were included in this questionnaire. Data were collected from parents of ADHD children's by face-to-face interview using this questionnaire.

B). World Health Organization Quality of Life scale, brief version (WHOQOL-BREF): The Quality of Life (QOL) of the parents was assessed with WHOQOL-BREF scale questionnaire [13]. It includes 26 items; 24 of which were covered in 4 domains in QOL: physical health (7 items), psychological health (6 items), social relationships (3 items) and environment (8 items). The other two items were used to measure the overall QOL and general health. Physical health focused on; activities of daily living, dependence on medicinal substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep and rest, working capacity. Psychological health focused on; bodily image and appearance, negative feelings, positive feelings, self-esteem, spirituality/religion/personal beliefs, thinking, learning, memory, and concentration. Social relationships focused on; personal relationships, social support and sexual activity. Environment domain focused on; financial resources, freedom, physical safety, and security, health and social care accessibility and quality, home environment, opportunities for acquiring new information and skills, participation in and opportunities for recreation/leisure activities, physical environment (pollution / noise / traffic / climate) and transport. The 26 items were scored 1-5 to give domain scores. Domain scores were scaled in a positive direction (i.e higher scores denote the higher Quality of Life). The score of items within each domain was used to calculate the domain score. Scores were then multiplied by 4 to make domain scores comparable with the scores used in the WHOQOL-100. The first transformation method converts scores to a range of 4-20, comparable with the WHOQOL-100 [13]. The second transformation method converts domain scores to a 0-100 scale. The scale was translated into Bangla language for the parents who could not understand English. This Bangla translation was evaluated by a team comprises of practicing psychiatrist with an expert in English literature whose native language is Bangla. This scale has been trusted in Bengali by using scientifically based methods and its reliability and validity was tested in Bengali culture context [14].

2.3. Data collection Procedure

After Institutional Review Board (IRB) approval, due permission was taken from respective authority for data collection. Selected participants were informed about the purpose, method and outcome of the study. Informed written consent was taken from parents of ADHD children prior to the enrollment. Data was collected by face to face interview. First socio-demographic information was documented by using the socio-demographic questionnaire to identify the socio-demographic characteristics of the study subjects. Then Bangla version of World Health Organization Quality of Life Scale brief version (WHOQOL-BREF) was applied to evaluate Quality of Life (QOL) among parents of ADHD children. In cases of illiterate respondents who were unable to read in Bangali, researcher read out the questions to them and fills up the answers in order to respondent's response. Finally screening of the questionnaires to cross-check the completeness of each question was done accordingly. The whole procedure took approximately 30 minutes for each participant.

2.4. Data processing and analysis

Data cleaning, validation and analysis were performed using the computer based software program- Statistical Package for Social Science(SPSS), version 23. Descriptive statistics such as frequencies with percentages and mean values with standard deviation (SD) were used to express the data. Normality was conducted using Shapiro-Wilk test. Mann-Whitney U test and Kruskal-wall is test were done to determine the differences between different variables. A p value less than 0.05 was considered as statistically significant.

3. Results

This cross-sectional study was intended to assess the Quality of Life (QOL) of parents having Attention- Deficit/ Hyperactivity Disorder (ADHD) children. The total study population was 44 parents of children with ADHD. Socio-demographic data showed that, **t**he mean age of the study subjects (parents of children with ADHD) was 28.6 ± 5.23 years and a little more than half of the participants were in the age group>30 years (54.5%). A bulk portion of the participants were in coupled (77.3%) whereas only 22.7% of them were single (either widow or divorced) parents. Among the participants 59.1% had more than four members in their family and 45.5% of them were employed (Table 1). The income status of the study subjects was classified into two groups for this study. An income of equal/above 15000 BDT (Bangladeshi taka)/month was considered adequate income for living a decent lifestyle and an income less than 15000 BDT/month was considered as inadequate for living a decent lifestyle. In this context, more than half (52.2%) of the respondents had an adequate income and 47.8% had inadequate income (Table 1). It was observed that majority of the respondents were from urban areas (56.8%), while 43.2% of them were from rural areas (Table 1). Analysis the level of education among the study subjects revealed that; 34.1% of them had acquired secondary level education followed by 27.3% had higher secondary or above level of education and 15.9% had primary level education. On the other hand, 22.7% of the parents with ADHD children were illiterate (No formal education) (Table 1).

Variables	Frequency (n)	Percentage (%)
Gender		
Male	14	31.8
Female	30	68.2
Age		
≤ 30 years	20	45.5
>30 years	24	54.5
Mean ± SD (years)	28.6 ± 5.23	
Marital status		
Couple	34	77.3
Single (Widowed/divorced)	10	22.7
Number of family members		
≤4	18	40.9
>4	26	59.1
Employment status		
Employed	20	45.5
Unemployed	24	54.5
Income status		
Adequate	23	52.2
Inadequate	21	47.8
Residence Status		
Urban	25	56.8
Rural	19	43.2
Education Status		
Illiterate/No formal Education	10	22.7
Primary	7	15.9
Secondary	15	34.1
Higher Secondary and above	12	27.3

Table 1: Socio-demographic characteristics of the study subjects (N=44).

The Quality of Life (QOL) of the parents with ADHD children were analyzed according to the WHOQOL BREF scale [13]. Three types of scores were recorded; initially the raw scores were recorded which was later transformed into a score between 4-20 and a score between 0-100. In physical domain, the median score was 11.3 and for psychological domain the median score was 11. Moreover, 11.5 and 11.6 were the median scores for the social and environmental domain respectively. Additionally, the median scores of perception of health and Quality of Life (QOL) was around 2.8 (Table 2).

Quality of Life(QOL)	WHOQOL-BREF Raw score		WHOQOL-BREF Transformed scores (4-20)		WHOQOL-BREF Transformed scores (0-100)	
	Mean(SD)	**Median (IQR)**	**Mean(SD)**	**Median (IQR)**	**Mean(SD)**	**Median (IQR)**
Physical domain*	19.95(3.21)	19.78(15-23)	11.4(2.2)	11.3(10-13)	46.25(13.2)	45.62(34.2-58.5)
Psychological domain*	18.2(3.44)	19.25(14.9-21.6)	10.4(2.2)	11(8.2-12.1)	40.00(15.5)	43.75(35-60.1)
Social domain*	18.55(2.89)	20.12(16.9-22)	10.6(2.0)	11.5(9-12.1)	41.25(18.6)	46.88(30.7-57.8)
Environmental domain*	19.78(3.53)	20.3(17-24)	11.3(2.1)	11.6(9-13)	45.63(16.3)	47.5(37.6-61)
Perception of health(Q1)	2.66(0.43)	2.84(2.6-2.9)	2.66(0.4)	2.84(2.6-2.9)	2.66(0.4)	2.84(2.6-2.9)
Perception of QOL(Q2)	2.92(0.16)	2.82(2.8-3)	2.92(0.2)	2.82(2.8-3)	2.92(0.2)	2.82(2.8-3)

*Normally distributed data; IQR = interquartile range; Q1 and Q2 = Ordinal variable; QOL = Quality of Life; SD = standard deviation; WHOQOL-BREF = World Health Organization Quality of Life- Brief scale

Table 2: Quality of Life (QOL) of the parents with ADHD children.

Data analysis revealed that there was a significant relationship between physical domain with gender of the parents responsible in taking care of the child and the number of family members living together in a family ($p<0.05$). Women had lower scores than men (10 versus 12) and family members less than four had higher score of QOL (12.4 versus 10). Residence status had a significant influential relationship with the psychological domain of QOL ($p=0.002$); parents living in urban areas had low scores in psychological domain than parents living in rural areas (9.3 versus 12). Environmental domain was significantly associated with gender of the parents and marital status ($p<0.05$). Men scored significant higher than women in environmental domain of QOL (13 versus 10, $p=0.017$) and divorced/widowed parents with ADHD children had significant lower score compared to couple parents (9 versus 12, $p=0.018$). But social domain was not significantly related to gender, age, marital status, residence status and family size of the respondents ($p>0.05$) (Table3).

Variables	Physical domain	Psychological domain	Social domain	Environmental domain
	Median(IQR)	Median (IQR)	Median(IQR)	Median (IQR)
Gender of the parent responsible for taking care				
Male	12(10.2-13.8)	11.2(7.6-14.8)	12.5(11.5-13.5)	13(10.3-15.7)
Female	10(8.5-11.5)	11(6.9-15.1)	12.1(10.4-13.8)	10(8-12)
p-value*	0.006*	0.102	0.203	0.017*
Age				
≤30	11.5(8-15)	12(11.2-12.7)	11.8(8.6-15)	12.3(10.3-14.3)
>30	10.2(6.2-14.2)	12.5(11-14)	11.2(8.2-14.2)	12(10-14)
p-value*	0.053	0.385	0.851	0.604
Marital status				
Married	11(8-14)	11(6.8-15.2)	11.8(8.6-15)	12(10-14)
Widowed/divorced	9(6.9-11.1)	10.78(8.6-13)	10.3(5.8-14.8)	9(7.1-10.9)
p-value*	0.069	0.157	0.059	0.018*
Residence				
Urban	10(9-12)	9.3(6.8-11.8)	10.3(7.3-13.3)	10.1(6.5-13.7)
Rural	11(7.5-14.5)	12(9.8-14.2)	12(9.7-14.3)	11.6(8.6-14.6)
p-value*	0.139	0.002*	0.083	0.067
Number of family members				
≤4	12.4(10.9-13.9)	10.7(8.7-12.7)	12(8-14)	12.3(9.2-15.4)
>4	10(8.7-11.3)	10(8-12)	11.6(8.9-14.3)	11(7-15)
p-value*	0.001*	0.409	0.257	0.305
*p-value was obtained by Mann-Whitney U test				

Table 3: Relationship of socio-demographic characteristics and all domains of QOL (WHOQOL-BREF transformed scores).

We found a significant relationship between physical domain of QOL with employment, income and educational status of the respondents (P<0.001). Unemployed parents had lower scores than employed parents (9.9 versus 11.5). Parents with inadequate income had lower scores than those with adequate income (9.8 versus 12.6). Moreover, parents with primary level education had scored higher (13) than parents who had secondary level education (12.5) and higher secondary/above level education (10), while illiterate parents had the lowest score (9). There was a significant relationship between the psychological domain of QOL with income and educational status of the respondents (p<0.001). In this context, parents with inadequate income (10) showed lower score than parents had adequate income (12). Additionally the parents had secondary level education scored highest (12.2) followed by parents with primary

level education (12), illiterate parents (8.6) and parents with higher secondary/above level education (8). There was a significant relationship between the social domain of QOL and educational status of the respondents (p=0.006). The median score for parents who had primary level education (12.3) was near to median score for those with secondary level education (12) but interestingly almost same scores were seen among illiterate parents (9.1) and parents with higher secondary/above level education (9). Educational status of the respondents showed a significant relationship in the environmental domains of QOL (<0.001). Parents who had primary and secondary level education scored highest in this domain (13) and lowest scores were seen among illiterate parents (9.1) and parents with higher secondary/above level education (9) (Table 4).

Variables	Physical domain Median(IQR)	Psychological domain Median (IQR)	Social domain Median(IQR)	Environmental domain Median (IQR)
Employment status				
Employed	11.5(10.6-12.4)	12(10-14)	10.75(8.2-13.2)	11.7(7.7-15.7)
Unemployed	9.9(9.2-10.5)	11.8(9.8-13.8)	10(8-12)	10.5(7.5-13.5)
p-value*	<0.001*	0.36	0.27	0.18
Income				
Adequate	12.6(10.1-15.1)	12(11.2-12.8)	11.6(8.7-14.5)	11.94(7.9-15.9)
Inadequate	9.8(7.8-11.8)	10(9-11)	11(7-13)	11.2(7.2-15.2)
p-value*	<0.001*	<0.001*	0.547	0.838
Educational status				
Illiterate/No formal education	9(6.5-11.5)	8.66(6.6-10.7)	9.1(6-12.3)	9.1(8.1-10.1)
Primary	13(11-15)	12(11.5-12.5)	12.3(11.9-12.7)	13(10.7-15.3)
Secondary	12.5(8.7-16.2)	12.2(11.2-13.2)	12(11.1-12.9)	13(10.3-15.7)
Higher secondary and above	10(9-11)	8(5.4-10.6)	9(7.13-10.9)	9(6.3-11.7)
p-value**	<0.001*	<0.001*	0.006*	<0.001*
*p-value obtained by Mann-Whitney U test; **p-value obtained by Kruskal-Wallis test				

Table 4: Relationship between socio-economic and education status with all domains of QOL (WHOQOL-BREF transformed scores).

4. Discussion

Attention- Deficit/ Hyperactivity Disorder (ADHD) among children is a major clinical and public health problem [15]. It is a common neurodevelopment disorder with a high degree of associated behavioral problems [3]. It has a negative impact on Quality of Life (QOL) among parents

and on family function [15]. ADHD usually starts at a young age children and triggers a range of emotional responses in the parents [15-16]. Due to lack of understanding of the pattern of QOL, the stress and strain experienced by the parents of children with ADHD are often ignored and not properly managed [17]. There is lack of evidence based information available regarding the severity of burden among parents of children with ADHD [17]. In this background this current study aimed to assess the Quality of Life (QOL) in parents with ADHD children. World Health Organization Quality of Life scale, brief version (WHOQOL-BREF) was used to measure the QOL and examined the significant relationship between Quality of Life (QOL) and the socio-demographic factors of the parents with ADHD children. This study included forty-four parents with children with ADHD with a 100% response rate. The mean age of respondents was 28.6±5.23 years and 54.5% were belonged to age more than 30 years. The percentage of gender of the respondents revealed that male respondents were 31.8% which was nearly half of the female respondents (68.2%). Of all study subjects, 77.3% were coupled parents and 22.7% were single parents (divorced/widow), number of family members >4 was 59.1% and more than half (54.5%) of the respondents were unemployed. In our study, 52.2% respondents had monthly family income >15000 BDT (Bangladeshi taka) and rest 47.8% respondents had monthly family income <15000 BDT, which was determined as an adequate and inadequate monthly family income respectively. In Bangladesh perspectives, father is the only earning person of a family and mostly busy with their jobs outside the home. Therefore, accompanied person with ADHD children were mostly mother. The similar findings also found in a previous study, where nearly two thirds of the study respondents were mother (64%) [3]. In this study, majority of the study respondents hailed from urban areas (56.8%). This study was conducted at a tertiary care hospital in Dhaka city, Bangladesh. So, the majority of the attendants belonged to the urban areas. Among the study respondents, percentage of secondary level of education was high (34.1%) than higher secondary/above level education (27.3%) and primary level education (15.9%), while 22.7% had no formal level of education (Illiterate). A study done on 125 parents with ADHD children in Egypt found that among the participants 61.36% were studied up to secondary level of education which was more than higher secondary level (22.4%), primary level (8.8%) and no formal education (6.4%) respectively; this findings were consistent with the findings of this present study [3].In this study, four domains of Quality of Life (QOL) like-physical, psychological, social and environment domains were assessed by WHOQOL-BREF scale [13]. A major finding of this study was low scores in all domains of Quality of Life (QOL) among parents with ADHD children. In this study median scores of physical, psychological, social and environmental domains were 11.3, 11.0, 11.5 and 11.6 respectively in WHOQOL-BREF transformed scores (4-20). According to WHOQOL-BREF scale higher the score, better the quality of life. The scores of current study were lower than a comparative study carried out in Egypt, where among 125 parents with ADHD children; the median score of all four domains (physical, psychological, social and environmental domains) was 12.0 in each domain [3]. Similarly all domains scores were higher in the Hong Kong population, where among 77 parents with ADHD children on physical (13.3), psychological (13.4), social (13.5), and environmental (12.9) domains compared to this current study [8]. On the other hand, in the 0-100 transformed score

of WHOQOL-BREF scale in Brazilian population were reported higher than our study; where among 63 caregivers of ADHD children with physical, psychological, social and environmental domains were 70.3, 64, 61.9 and 55.8 respectively [6]. The current study findings were low in comparison to these previous study findings may be due to different assessment scales, different socio-economic/cultural context and ethnic diversity.

In this study among the all four domains, the psychological domain had the lowest median score (11.0) followed by physical domain (11.3), social domain (11.5) and environmental domain (11.6) respectively. Of these psychological domain was significantly associated with residence status of parents with ADHD children ($p<0.002$). The respondents who hailed from urban areas had low score than rural areas (9.3 versus12). Similar finding was reported in a related previous study [3]. Although urban areas tend to be more developed, the constant stress of the city life can result on higher risk of having mental disorder which may affect the Quality of Life (QOL) of the people. It was observed that there was a significant relationship between the physical domain and the gender ($P<0.006$). This study results showed that low physical domain score among the mother of ADHD children than father of ADHD children (10.0 versus 12.0). This result was consistent with similar previous studies [3, 18]. Mother with ADHD children are more likely to be encountered with physical problem because of the high level of stress [18]. In fact, the physical health of children affects the Quality of Life (QOL) and marital intimacy of parents, and so childhood disorders may negatively affect different aspects of the parents' life. Study suggested that mothers of children with ADHD are more stressed than mothers of healthy children [15, 18]. Stress can lead to physical illness, impairment of performance and poor adaptation capacity that ultimately affect the Quality of Life (QOL). It was reported that the abusive behavior of these children had a negative effect on the parent child interaction and might cause feelings of helplessness in families [16-19]. With respect to the socio-cultural background regarding maternal role expectation in Bangladesh; mothers of children with ADHD sometimes blamed by the community or self-blamed for their children's uncooperativeness with rules, disobedience and social incompetence. These affiliated stigma results on the mothers of children with ADHD going through depression, distress, low parenting competence, elevated care burden and social isolation from the family, neighbors, colleagues and friends. Therefore, children's ADHD coupled with traditional role expectations of mothers in Bangladeshi culture may be associated with poor QOL of mothers in physical domain. This study showed that environmental domain significantly associated with gender ($P <0.017$). In this domain female participants had low score (10.0) than male participants (13.0). Similar finding was found in a previous study and reported that environmental domain significantly associated with mother of ADHD children ($P<0.005$) [3]. Mother who perceived less family support had worse score in environmental health related quality of life (HRQOL) domain. Supportive behavior from family, friends and neighbors or from the community was significant protective factor of HRQOL in mothers of children with ADHD [19]. This study finding revealed that, marital status (parents in couple/single) was significantly associated with environmental domain ($P<0.018$). Result showed that low score in single parents (divorced/widow) compare with coupled parents (9.0 versus 12.0). This result was supported by a related previous study [19]. Since the

social stigma of being widowed and divorced is still persisting in Bangladesh despite the constant efforts to demolish such traditional beliefs, it's apparent that widowed/divorced parents with ADHD children are more prone to poor scores in WHOQOL-BREF scale as they have deal with both the society's expectations and the taking care of their child. Single parent with ADHD children had poor support system from close relatives, friends or community. Enduring stress leads to impair their interpersonal relationship and ultimately leads to poor Quality of Life (QOL) [19-20].

In this study it was observed that employment status and income status was statistically significant in physical domain of QOL among parents with ADHD children ($p<0.001$). Unemployed parents (9.9) and inadequate income parents (9.8) had lower score than employed parents (11.5) and adequate income parents (12.6) respectively. This finding was also an agreement with a couple of similar previous study [3, 19]. Data analysis revealed that education status was significantly associated with all four domains of QOL among parents with ADHD children ($p<0.05$). The plausible explaining behind this finding could be that parents with higher educational qualifications tend to be working mothers and fathers who find it difficult to balance between work and taking care of their ADHD children, resulting on the parents having poor physical, psychological and social well-being hence a poor Quality of Life (QOL). In contrary, opposite result was observed in a couple of previous study and reported that, higher educational level had a favorable effect on QOL in parents with ADHD children [8, 15].The possible reasons of this finding might be that well-educated subjects can find appropriate employment and their living conditions could more likely satisfy their needs and expectations accordingly, and subjects with higher education have more access to information on ADHD or the illnesses they suffer, and are more aware of treatment strategies, so are less stressed. Therefore, in light of the satisfaction QOL model, they would have a higher QOL compared to subjects with lower levels of education [8, 15]. This study documented that the parents of children with ADHD had average scores in QOL and perception of health. There was a significant relationship between some socio demographic characteristics and each of the 4 domains of QOL. Educational status of the parents played an influential role in the QOL of parents with ADHD children. Poor QOL was associated with urban resident, widows/divorced mothers, inadequate income, and unemployed status. All these findings suggested that further assessment of QOL along with family function is recommended.

5. Conclusion

This study concluded that the Quality of Life (QOL) was impaired in parents of ADHD children. The psychological domain was impaired most among the other three domains of WHOQOL-BREF scale. Socio-demographic factors including gender, residence, family income, number of family members, marital status, occupation and education levels were associated with lower WHOQOL-BREF scores. These findings suggested that comprehensive and multi-dimensional approaches including child, parental and family perspectives should be considered when evaluating QOL of parents with ADHD children.

Limitations of the study

It was a single center study with a relatively small sample size and there was no comparison group.

Recommendation

A population based multicenter study with large sample size will be needed for proper evaluation of QOL in parents with ADHD children.

Conflict of Interest

The authors declare that they have no conflicts of interest regarding the publication of this article.

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