

Original Article

## CHILD DAY CARE CENTER USE AND MENTAL STRESS OF WORKING MOTHERS

Tasnuva Nawrin Himika<sup>1</sup>, Md. Ziaul Islam<sup>2</sup>

### ABSTRACT

**Background:** Some of the working mothers use child day care center (CDCC) for their children to reduce their mental stress. This study was designed to assess the association between mental stress of working mothers and child day care center use.

**Methods:** This comparative cross sectional study was conducted among 106 working mothers of whom 53 were CDCC users and 53 were non-users from January to December, 2019. Data were collected by face to face interview by a semi-structured questionnaire. Mental stress was estimated by Perceived Stress Scale (PSS). Data were analyzed by the Statistical Package for Social Sciences. Quality control checks for data were done. All ethical issues were maintained strictly in different stages of the study and informed written consent was taken from each individual.

**Results:** Mean ( $\pm$ SD) age was 32.92( $\pm$  2.901) and 33.55( $\pm$  3.160) years in CDCC users and non-users respectively. Average monthly family income was Tk.191698.11 in CDCC users and Tk. 209433.96 in non-users. Majority (67.9%) of the CDCC users lived in nuclear family while 67.9% of the CDCC non-users lived in joint family. Mothers had significantly higher (85.5%) stress who had maid servant in comparison to mothers who had not and mothers had higher (75.0%) stress who suffered from illness compared to mothers who did not suffer and it was significant ( $p<0.05$ ). Both low (61.5%) and moderate (59.4%) stress were significantly higher among CDCC users while high stress (83.3%) was significantly higher among CDCC non-users. Chance of having low stress was high (OR=8.0) in mothers who were CDCC users than mothers who were CDCC non-users.

**Conclusion:** CDCC non-users had high level of mental stress than the CDCC users. CDCC should be established with every organization to reduce the mental stress of working mothers.

JOPSOM 2021; 40(1):59-65  
<https://doi.org/10.3329/jopsom.v40i1.56692>

**Keywords:** Child Day Care Center, Mental Stress, Working Mothers.

1. Dr. Tasnuva Nawrin Himika, Lecturer (Community Medicine), Bangladesh Medical College, Dhaka. Ex-Student of MPH (Community Medicine), National Institute of Preventive and Social Medicine (NIPSOM), Mohakhali, Dhaka- 1212.
2. Professor Dr. Md. Ziaul Islam, PhD, Head, Department of Community Medicine, National Institute of Preventive and Social Medicine (NIPSOM), Mohakhali, Dhaka- 1212.

**Correspondence:** Dr. Tasnuva Nawrin Himika, E- mail: doctor.himika19@gmail.com

### INTRODUCTION

Working mothers suffer from extra mental stress due to double burden in workplace and child rearing. If a working mother is worried and stressed, she may be less productive in her job and may be prone to mistakes that need to be corrected<sup>3</sup>. As families are becoming nuclear and joint families are becoming difficult to run in the cities. When both parents are working the responsibility of children usually fall on the mother. Daycare may provide a certain kind of social support to families. Parental satisfaction with daycare centers may also play a role in mental stress

of the working mother<sup>1</sup>. A study about prevalence of stress among working women in India showed that prevalence of stress was 64.6%. This perceived stress mostly depends on majority 45.5% who were in 31-45 age group, around 78% lived in nuclear family, majority 61.6% had two children and social support in form of support from family members especially from their husbands was 31.0%<sup>2</sup>. Many factors responsible for the mental stress of the working mothers those are socio-demographic factors like age of the mothers, family type, family members, number of child, age of the child, monthly family income. Familial factors like

conjugal life, support from family members, care giver of child at home. Job related factors like working department and designation, structure of salary, getting support from colleagues. Factors associated with mental stress are having home maid for household work, having any illness that causes mental stress etc. This study identified the presence of mental stress among working mothers who used and did not use child day care center. The result of the study will help the policy makers to reduce the mental stress of the working mothers and reinforce the necessities of better day care centers for working mothers to have a productive job life.

**METHODS**

This comparative cross sectional study was conducted among 106 working mothers who worked in International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), British American Tobacco, Mohakhali Dhaka, Banglalink Head Office, Gulshan Dhaka, Robi Axiata Limited, Gulshan, Dhaka during the period of January to December, 2019. By purposive sampling technique, 53 were CDCC users and 53 were CDCC non-users included in this study. After taking informed written consent data were collected by face to face interview by using a pretested semi-structured questionnaire. Ethics was maintained strictly at different stages of this study. After data collection data were checked thoroughly for any

inconsistency and incompleteness. Then analysis done by using SPSS software. Descriptive statistics were presented by mean, frequency, standard deviation, proportion in table and graph and inferential statistics were presented by chi-square, t-test, ANOVA, correlation and regression analysis.

**RESULTS**

Mean ( $\pm$  SD) age of CDCC users was 33.55 ( $\pm$  3.160) years compared to 32.92( $\pm$  2.901) years in CDCC non-users. Among CDCC users and non-users majorities i.e. 37(69.8%) and 29(54.7%) were post graduated respectively. Majority of the CDCC users i.e. 36(67.9%) lived in nuclear family on the other hand, majority i.e. 36(67.9%) CDCC non-users lived in joint family. Mean ( $\pm$  SD) family income of CDCC users was Tk. 191698.11 ( $\pm$  80925.793) and Tk. 209433.96 ( $\pm$  72759.221) of CDCC non-users. Mean ( $\pm$  SD) total family member of CDCC users was 4.45 ( $\pm$  1.526) compared to 5.25( $\pm$  1.426) in CDCC non-users. Mean ( $\pm$  SD) age of the child of CDCC users was 24.04 ( $\pm$  10.717) years compared to 25.60 ( $\pm$  12.986) years in CDCC non-users. Majority i.e. 33(62.3%) and 32(60.4%) of CDCC users and non-users worked in Health services delivery department. Majority i.e. 33(62.3%) and 32(60.4%) of CDCC users and non-users were health services providers (Table-1).

**Table-1: Comparison of socio-demographic characteristics of CDCC users and non-users**

Characteristics	CDCC users	CDCC non-users
<b>Age (Mean<math>\pm</math> SD) years</b>	33.55 ( $\pm$ 3.160)	32.92( $\pm$ 2.901)
<b>Education</b>		
Graduated	16(30.2%)	24(45.3%)
Post graduated	37(69.8%)	29(54.7%)
<b>Family type</b>		
Nuclear	36(67.9%)	17(32.1%)
Joint family	17(32.1%)	36(67.9%)
<b>Monthly family income (Mean<math>\pm</math> SD) (Tk.)</b>	191698.11 ( $\pm$ 80925.793)	209433.96 ( $\pm$ 72759.221)
<b>Total family members (Mean<math>\pm</math> SD)</b>	4.45 ( $\pm$ 1.526)	5.25( $\pm$ 1.426)
<b>Age of the child (Mean<math>\pm</math> SD) Months</b>	24.04 ( $\pm$ 10.717)	25.60 ( $\pm$ 12.986)
<b>Working department</b>		
HR & Admin	4(7.5%)	11(20.8%)
Finance & Accounts	7(13.2%)	3(5.7%)
Marketing & Branding	5(9.4%)	6(11.3%)
IT & Device	4(7.5%)	1(1.9%)
Health services delivery	33(62.3%)	32(60.4%)
<b>Designation of the respondent</b>		
Executive	11(20.8%)	7(13.2%)

Specialist	6(11.3%)	9(17.0%)
Manager	3(5.7%)	5(9.4%)
Health services providers	33(62.3%)	32(60.4%)

Among the CDCC users highest level of mental stress was moderate i.e. 41(59.4%) on the other hand, among CDCC non-users highest level of mental stress was high i.e. 20(83.3%).

Type of the respondents showed statistically significant difference with level of mental stress ( $p=0.001$ ) (Table-2).

**Table-2: Comparison of type of respondents with mental stress**

Level of mental stress	Type of the respondents		Total	Significance
	CDCC users (f %)	CDCC non-users (f %)		
Low	8(61.5)	5(38.5)	13(12.3)	$\chi^2 = 13.808$ df = 2 p = 0.001
Moderate	41(59.4)	28(40.6)	69(65.1)	
High	4(16.7)	20(83.3)	24(22.6)	
Total	53(100.0)	53(100.0)	106(100.0)	

CDCC users had high chance of being in low mental stress group than CDCC non-users ( $B=2.079$ ). Chance of having low stress was 8.000 times higher in CDCC users than CDCC non-users ( $OR=8.000$ ). CDCC users

had high chance of being in moderate mental stress group than CDCC non-users ( $B= 1.991$ ). Chance of having moderate stress is 7.321 times higher CDCC users than CDCC non-users ( $OR=7.321$ ) (Table-3).

**Table-3: Regression between type of respondents and level of mental stress**

Level of mental stress	Factors	Coefficient (B)	Unadjusted OR	95% C.I. for OR		Significance
				Lower	Upper	
Low	CDCC users	2.079	8.000	1.699	37.672	.009
Moderate	CDCC users	1.991	7.321	2.258	23.735	.001

\*Reference category: Working mothers with high mental stress.

By religion, among CDCC users and non-users mean mental stress ( $17.40 \pm 4.091$ ) and ( $24.52 \pm 4.532$ ) were Muslim and ( $21.33 \pm 5.508$ ) and ( $28.00 \pm 3.464$ ) were Hindu. Mean mental stress was higher i.e. ( $24.59 \pm 4.069$ ) who had 3-5 male and ( $25.42 \pm 3.656$ ) who had 1-2 female family members among CDCC

non-users. By gender and age of child mean mental stress was higher i.e. ( $25.67 \pm 6.439$ ) who had male and female both children and ( $24.58 \pm 5.815$ ) who had children of 13-24 months among CDCC non-users (Table-4).

**Table-4: Comparison of mean score of mental stress between CDCC users and non-users by some selected socio-demographic factors**

Attributes		CDCC users	Significance	CDCC non-users	Significance
Religion	Islam	$17.40 \pm 4.091$	t = 1.592 df = 51 p = 0.117	$24.52 \pm 4.532$	t = 1.302 df = 51 p = 0.199
	Hindu	$21.33 \pm 5.508$		$28.00 \pm 3.464$	
	1-2	$17.89 \pm 4.061$	t = 0.704	$24.85 \pm 5.033$	t = 0.202

Total male family members	3-5	17.00±4.633	df = 51 p=0.485	24.59±4.069	df = 51 p= 0.841
Total female family members	1-2	18.31±4.666	t = 1.487 df = 30 p= 0.143	25.42±3.656	t = 0.844 df = 17 p=0.402
	3-5	16.57±3.249		24.32±4.953	
Gender of child	Male	17.55±4.172	F = 1.140 df = 2 p=0.328	24.86±3.889	F = 0.272 df = 2 p=0.763
	Female	18.29±4.123		24.17±4.985	
	Both	15.57±4.614		25.67±6.439	
Age of child (Months)	7-12	18.83±4.086	F = 2.187 df = 2 p=0.123	25.29±2.164	F = 0.149 df = 2 p=0.862
	13-24	18.26±3.828		24.58±5.815	
	25-48	16.00±4.498		24.45±4.524	

Moderate level of mental stress was highest among working mothers. Majority i.e. 58(84.1%) of working mothers had moderate level of mental stress due to work related stress, 41(59.4%) who did not have any

recreational activities, 59(85.5%) who had maid servant for household works and 15(75.0%) who suffered from any other diseases (Table-5).

**Table-5: Association between some factors related to mental stress and mental stress**

Attributes		Level of mental stress			Significance
		Low f (%)	Moderate f (%)	High f (%)	
Work related stress	Yes	10(76.9)	58(84.1)	20(83.3)	Fisher's Exact Test=0.644 p = 0.798
	No	3(23.1)	1(15.9)	4(16.7)	
Recreational activities	Yes	7(53.8)	28(40.6)	11(45.8)	$\chi^2= 0.859$ df= 2 p=0.673
	No	6(46.2)	41(59.4)	13(54.2)	
Satisfaction with remuneration	Yes	9(69.2)	33(47.8)	14(58.3)	$\chi^2=2.388$ df= 2 p=0.915
	No	4(30.8)	36(52.2)	10(41.7)	
	No	0(0.0)	4(5.8)	1(4.2)	
Maid servant for household works	Yes	10(76.9)	59(85.5)	24(100.0)	Fisher's Exact Test =5.665 p=0.039
	No	3(23.1)	10(14.5)	0(0.0)	
Mental stress for other disease	Yes	0(0.0)	15(75.0)	5(100.0)	Fisher's Exact Test =5.718 p=0.041
	No	2(100.0)	5(25.0)	0(0.0)	

Among CDCC non-users majority i.e. 21(75.0%) had moderate level of mental stress whose child's caregiver were grandparents. Mothers who did not trust and satisfy with the services of their child's care

giver had 3(10.7%) and 5(17.9%) moderate stress respectively, moderate stress was highest i.e. 21(75.0%) who did not pay their caregiver of child (Table-6).

**Table-6: Association between some attributes and mental stress among CDCC non-users**

Attributes		Level of mental stress			Significance
		Low f (%)	Moderate f (%)	High f (%)	
Caregiver of child	Grandparents	5(100.0)	21(75.0)	14(70.0)	Fisher's Exact Test =1.869 p = 0.792
	Maid	0(0.0)	4(14.3)	2(10.0)	
	Nanny	0(0.0)	3(10.7)	4(20.0)	
Trust on child caregiver	Yes	3(60.0)	25(89.3)	20(100.0)	Fisher's Exact Test =6.223 p = 0.033
	No	2(40.0)	3(10.7)	0(0.0)	
Satisfied with the services of child caregiver	Yes	3(60.0)	23(82.1)	16(80.0)	Fisher's Exact Test =1.513 p = 0.540
	No	2(40.0)	5(17.9)	4(20.0)	
Pay to the child caregiver	Yes	0(0.0)	7(25.0)	6(30.0)	Fisher's Exact Test =1.548 p = 0.520
	No	5(100.0)	21(75.0)	14(70.0)	

Among CDCC users it was revealed that, duration of using CDCC and duration of child stay in CDCC in a

day had partial negative correlation with mental stress. On the other hand payment of CDCC had partial negative correlation with mental stress and it was statistically significant (Table-7).

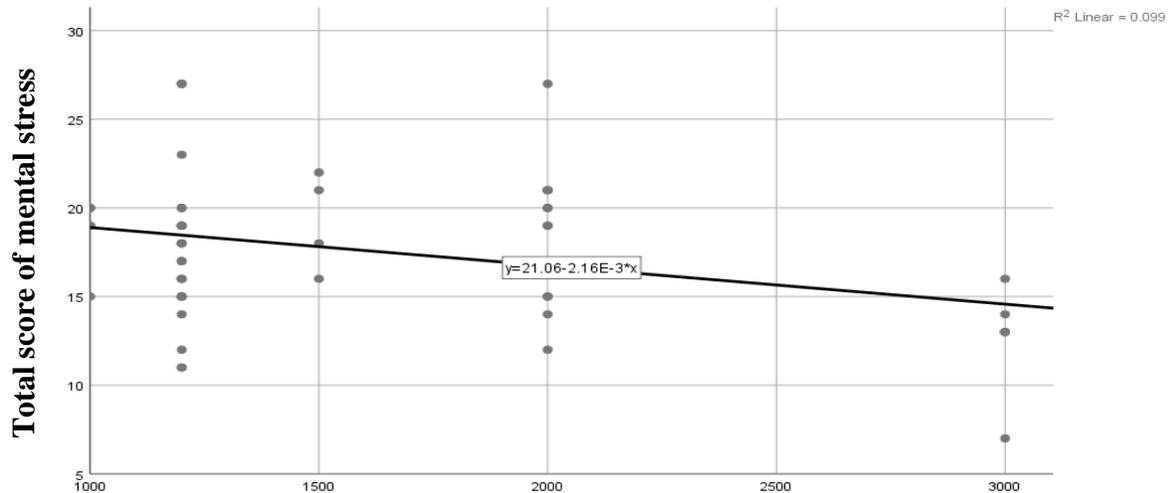
**Table -7: Correlation of mental stress with selected attributes among CDCC users**

Attributes	Mental stress of CDCC users	
	r	p
Duration of using CDCC (Months)	-.252	.068
Duration of stay in CDCC in a day (Hours)	-.077	.584
Payment of CDCC (Taka)	-.315*	.021

\*. Correlation is significant at the 0.05 level (2-tailed).

A linear association was present between payment of CDCC and mental stress of CDCC users. They are negatively related when payment of CDCC decreases,

mental stress increases in case of CDCC users ( $R^2 = 0.099$ ) (Figure- 1).



**Payment of CDCC per month**

**Figure-1: Payment of CDCC per month and mental stress of CDCC users.**

**DISCUSSION**

This cross-sectional study in two sample situation was conducted among working mothers used and did not use child day care center. Study result revealed, majority i.e. 36(67.9%) of the CDCC users and 17(32.1%) CDCC non-users lived in nuclear family. There was another similar study with different findings which showed majority i.e. (78%) working women lived in nuclear family. This dissimilarity could be due the total population of Bangladesh is less than the total population of India<sup>2</sup>. Among working mothers, majority i.e. 24(45.3%) of CDCC users and 35(66.0%) of CDCC non-users respectively were in the income group of 100001-200000 Taka. There was another similar study with different findings which showed (23%) of working women whose monthly family income was 1275000 Taka. Regarding age of the child, 18(34.0%) CDCC users and 20(37.7%) CDCC non-users had children of age group 25-48 months. There was another similar study with different findings which showed (58.8%) of working mothers had children of 12 months. This dissimilarity could be due to the socio-demographic structure was different in Bangladesh in comparison to United States<sup>3</sup>.

Regarding work related stress, majority i.e. 45(84.9%) of CDCC users and 43(81.1%) of CDCC non-users had work related stress. There was another similar study with different findings which showed prevalence of work related stress was (64.6%) among working women. This dissimilarity could be due to this study was conducted among working mothers of different professions in Dhaka, Bangladesh and

another study conducted among working women of health sectors in Delhi, India<sup>2</sup>. Among mothers, who were not satisfied with remuneration, majority i.e. 36(52.2%) felt of moderate stress. There was another similar study with different findings which showed (80%) of working women felt stress for their low remuneration. Mothers who got time for recreational activities majority i.e. 31(58.5%) of CDCC users and 29(54.7%) CDCC non-users had no time for recreational activities. There was another similar study with different findings which showed (42%) of working women got time for recreational activities to deal with stress. This dissimilarity could be due to the small sample size of this study<sup>1</sup>.

In this study, majority i.e. 17(70.8%) had high mental stress in 31-35 years age group. Regarding educational qualification, mothers who were graduated had 10(41.7%) high mental stress. On the other hand, among the mothers who were post-graduated felt 14(58.3%) high mental stress. There was another similar study with different findings which showed majority i.e. (43%) had high stress in 20-29 years age group and working women who were graduated felt (45%) and working women who were post-graduated felt (22%) stress. This dissimilarity could be due to in this study the number of post-graduated working women were larger than graduated working women<sup>1</sup>.

Regarding working departments, majority i.e. 38(55.1%) had moderate stress who worked in health services delivery department. There was another similar study with different findings which showed (28%) had stress regularly in banking sectors in

Bangladesh. This dissimilarity could be due to the working departments of the women were different<sup>1</sup>. In this study, majority i.e. 29(42.0%) had stress who were in middle income group (100001-200000) Taka. There was another similar study with different findings which showed (80%) of working women had stress due to low salary. This dissimilarity could be due to in this study most of the respondents were in middle income group<sup>1</sup>.

In this study, the level of mental stress was different among CDCC users and non-users. Among CDCC users low 8(61.5%) and moderate 41(59.4%) stress was more than CDCC non-users. And among CDCC non-users high 20(83.3%) stress was more. It was statistically significant ( $p < 0.05$ ). Chance of having low stress is 8.000 times higher in mothers who were CDCC users than in mothers who were CDCC non-users (OR=8.000; 95% CI: 1.699-37.672) and Chance of having moderate stress is 7.321 times higher in mothers who were CDCC users than in mothers who were CDCC non-users (OR=7.321; 95% CI: 2.258-23.735). This is due to the CDCC were placed adjacent to the workplace of the mothers. So, the users could observe their children closely than the CDCC non-users. Also the cost of the CDCC was less than the cost of the care givers of the non-users.

## CONCLUSION

As a pioneering effort, the present study showed the recent picture of mental stress of working mothers who were CDCC users and non-users in the urban Dhaka. Two third of mothers were health services providers worked in department of health services delivery faced work related stress and belong to middle income family. Most of the CDCC belong to nuclear and non-users belong to joint family. Mothers who had other diseases and maid servants for household works had more mental stress than the mothers who did not have these. Low and moderate level of mental stress was more in CDCC users and high level of stress was more in CDCC non-users. To inform the authority regarding the working mothers with mental stress and persuade them to take appropriate measures to change the existing situation for betterment of their mental health.

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