

Assessment of Daily Parenting Stress and Depressive Symptoms among Parents of Children with Intellectual Disability

Dr. Subhash Chandra Chouhan^{1s}, Dr. Paramjeet Singh² and Dr. Sunil Kumar³

¹ Junior Resident doctor, Dept of psychiatry, SMS Medical College, Jaipur (Rajasthan) India

² Senor Professor, Department of psychiatry, SMS Medical College, Jaipur (Rajasthan) India

³ Senior Resident, Department of psychiatry, SMS Medical College, Jaipur (Rajasthan) India

Abstract—There is a scarcity of available studies in India on parental stress and depression among parents of children with intellectual disability. Present hospital based cross sectional analytical type of observational study was carried with the specific aims to assess and compare daily parenting stress and depressive symptoms among parents of children with various degree of intellectual disability. Total 90 randomly selected subjects (both parents of mentally retarded (MR) children and normal children) were evaluated separately for daily parenting stress and depressive symptoms using the Family Interview for Stress and Coping and Hamilton Depression Rating Scale. According to Intelligence Quotient (IQ) of children, three groups were created: Group 'A' (30 parents of moderate to profound MR children), group 'B' (30 parents of mild to borderline MR children) and group 'C' (30 parents of children normal intelligence). IQ of the children was assessed by trained clinical psychologist and diagnosis was made as per ICD-10 criteria. Controls were taken from healthy volunteer and screened by two psychiatrists. A self designed, pre-tested & semi-structured detailed Performa was used for socio-demographical and clinical profile. The data were analyzed using SPSS trial version. Parents in group 'A' had significantly higher level of daily parenting stress and depressive symptoms than groups 'B' and 'C', group 'B' parents had higher level of daily parenting stress and depressive symptoms than group 'C'. Mothers experienced greater depressive symptoms and daily parenting stress compared to fathers. A positive correlation was found between daily parenting stress and depressive symptoms and negative correlation was found between IQ of the children and the daily parenting stress and depressive symptoms.

Key words: Mental retardation, depressive symptoms, daily parenting stress

I. INTRODUCTION

Intellectual Disability (ID), also known as mental retardation (MR), is characterized by significant limitations in intellectual functioning (intelligence), and in adaptive behavior including conceptual, social and practical skills. This disability originates before the age of 18.¹ Intellectual disability is a disabling condition. It is generally considered that 2% of the Indian population constitutes persons with intellectually disabled. In India, prevalence of intellectually disabled varies from 0.22 to 32.7 per thousand populations.²⁻³ Mentally challenged child in a family is usually a serious stress factor for the parents. The magnitude of mental retardation (MR) is highest in developing countries primarily due to environmental, nutritional, disease burden and poverty.⁴ Heller et al (1997)⁵ found that parents, especially mothers, experienced significantly greater stress as compared to parents of children with normal intelligence and reported that mothers spent more time in providing daily care, more types of support for MR child and perceived more care-giving burden. Family is the main source of support for the persons with intellectual disabilities in any society and who are closest and care for these children bear the brunt of their disability. Muhammad W.A. et al 2013⁶ reported in their study that there was a

high rate of anxiety and depression among parents of children with ID and rates were even more higher among mothers as compared to fathers.

Poor performance by the children with intellectual disability needs to be compensated by the caregivers (parents) and children had ensuing demands on the parents to manage medications and nutrition, and to manage repeated and multiple appointments with professionals, these parents also have to cope with various uncertainties about their children's medical conditions and their futures.

In a country like India where care provided for mentally challenged children is mainly home based and in modern society this home-based care has many adverse consequences in the social system (e.g. breaking up of joint families into nuclear families) and the economic system (e.g. unemployment, inflation, lower education of parents etc.) All these factors have contributed to the stress among the parents of mentally retarded children.⁷ Alternate support systems such as day care centers, weekend care and special schools are also meagre in our country .

So this study was planned with specific aim to assess and compare depressive symptoms & daily parenting stress in parents of various degree of IQ of children and to find out the associations among depressive symptoms and daily parenting stress in the three groups of parents of mentally challenged children in order to address the mental health of parents so that they can take care of MR children in a better way.

II. METHODOLOGY

A hospital based cross sectional analytical of observational study was conducted at OPD of Psychiatric centre, SMS Medical College, Jaipur, during from 1st June 14 to 30th May 15 i.e. in one year period.

Sample size was calculated as 30 subjects in each group (A, B, & C) at an ' α ' error 0.05 and power 80%, assuming minimum mean difference to be detected in Family Interview for Stress & Coping (FISC) of 9 ± 11 (mean $\pm$ SD) among the groups.

2.1 Ethical Consideration

Study was approved by research review board and ethical committees of the institute. An informed written consent was obtained from the subject prior to participation in the study and confidentiality was assured.

2.2 Procedure

For this study purpose, IQ of the 5-15 years aged children of either sex having no other mental or physical disorder was assessed by a clinical psychologist and diagnosis was made by a consultant psychiatrist using the ICD-10 criteria (WHO 1992).⁸ Children were diagnosed as Intellectual Disability (ID) according to ICD 10 criteria (IQ<80). IQ of the children was assessed by trained clinical psychologist and diagnosis was made as per ICD-10 criteria.

As per IQ of children, three groups of the subjects were there:

1. Group A: 30 parents of moderate to profound MR children
2. Group B: 30 parents of mild to borderline MR children.
3. Group C: 30 parent's children with normal intelligence from a school or community.

After taking formal written consent in an informed consent form (Formatted in Hindi language) from 90 randomly selected eligible subjects, were screened for psychiatric as well as medical morbidities. Specific (clinical) variables of the child and Socio-demographical profile of study subjects were collected on a self designed, pre-tested & semi-structured detailed Performa. Kuppuswamy, s-14 socio-economical status scale (updated 2014)⁹ for Indian's families was used to assess socio-economic status of participants. A self designed, pre-tested & semi-structured detailed Performa was used for socio-demographical and clinical profile.

Both parents were interviewed and evaluated separately. Parents were then administered the Family Interview for Stress and Coping (FISC-MR) in Mental Retardation, Section 1 (for parenting stress), of Girimaji SR (1999).¹⁰ Hamilton Depression Rating Scale (HAM-D) 18¹¹ assessment of depression.

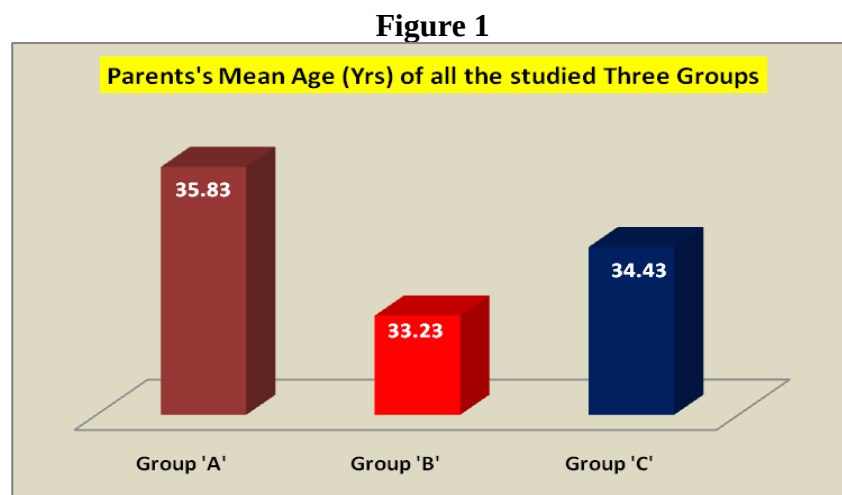
2.3 Statistical Analysis

Data were summarized and statistical analysis was done using MS Excel 2007 and SPSS version-21 Trial Version. To get inferences Chi-square test, ANOVA with Post hoc tests, Kruskal-Wallis test and Pearson correlation were used. Significance was set at a standard of $p < 0.05$.

III. RESULTS

3.1 Subject characteristics

Study sample (parents) had an age range of below 32 years to 37 years with mean age of 35.833 years in group 'A', 33.233 years in group 'B' and 34.433 years in group 'C'. On analysis by ANOVA and Post hoc Tukey test, it was inferred that there was no significant difference in mean age of all the three groups. (Figure 1)



Abbreviation- Group A= Moderate to profound Mental Retardation, Group B= Mild to Borderline Mental Retardation, Group C= Control group

ANOVA=2.03

P value= 0.137 LS=NS

Post hoc Tukey Test = No significant difference in mean age in any of above 2 groups i.e. Group 'A' & 'B', Group 'A' & 'C' and Group 'B' & 'C'

Children were selected in the age group of 5-15 years and majorities were from age group of below 8 years to 11years (75.56 %). An overwhelming majority of the children males (73.33 %), Hindus (82.22 %), living in nuclear and nuclear extended families (72.22%), hailed from urban areas (58.89%) and majority belonged to Upper lower socio-economic classes (96.67%). On analysis by Chisquare test, all

the three groups were found comparable as per age, type of residence except religion, type of family and socioeconomic class they belonged. (Table 1)

Table 1
Demographic Associates of Study Group

Variables	Group-'A' (N=30)		Group-'B' (N=30)		Group-'C' (N=30)		χ^2 (df)	
	No.	%	No.	%	No.	%	n value	LS
Children age (Yrs)								
<=8 (N=43)	13	43.3	16	53.3	14	46.7	6.791(4)	
9-11 (N=25)	13	43.3	6	20.0	6	20.0	P=0.147	NS
>11 (N=22)	4	13.4	8	26.7	10	33.3		
Children Gender								
Male (N=66)	20	66.7	24	80	22	73.3	1.364 (2)	
Female (N=24)	10	33.3	6	20	8	26.7	P = 0.506	NS
Religion								
Hindu	28	93.3	20	66.7	26	86.57	14.205 (4)	
Muslim	2	6.7	4	13.3	4	13.43	P=0.007	S
Others	0	0	6	20.0	0	0		
Locality								
Urban	19	63.3	16	53.4	18	60	2.431 (4)	
Rural	11	36.7	4	46.6	12	40	P=0.657	NS
Family Type								
Nuclear	11	36.7	13	43.3	18	60.0	12.730 (4)	
N. Ext.	14	46.6	5	16.7	4	13.3	P=0.013	S
Joint	5	16.7	12	40.0	8	26.7		
Parents Age (Yrs)								
<=32	13	43.3	18	60.0	11	36.7	4.990 (4)	
33-36	5	16.7	4	13.3	9	30.0	P = 0.288	NS
37+	12	40.0	8	26.7	10	33.3		
SES								
Upper (N=3)	0		1		2			
Upper middle (N=36)	7		11		18		12.624 (6)	
Lower middle (N=26)	11		9		6		P= 0.049	S
Upper lower (N=25)	12		9		4			
Lower (N=0)	0		0		0			

When parents were compared for depressive symptoms in various studied groups it was found that parents of children in groups A {Mean 15.83 (2.479)} had higher score on Hamilton's depression rating scale (HAM-D) than group B {Mean 14.38(2.456)} although both scores were not significantly different ($p=0.572$). Both mentally challenged groups (A and B) had significantly ($p<0.001$) higher score than group C {Mean 2.53(1.737)}. It shows that the parents of mentally retarded children had higher scores on Hamilton's depression rating scale than parents of children with normal intelligence (Table 2).

Table 2
Comparison of HAD Scores in Parents of all the three groups

Comparison of HAM-D Scores in Parents of all the three groups					
HAD Scores	Group-'A' (N=30)	Group-'B' (N=30)	Group-'C' (N=30)	*p value	LS
Mean	15.83	14.38	2.53	<0.001	S
SD	2.479	2.456	1.737		
Post hoc analysis: HAM-D					
Comparison of Groups		P Value		Level of Significance	
Group 3- Group 2		<0.001		S	
Group 3- Group 1		<0.001		S	
Group 2- Group 1		0.572		NS	

* as per Kruskal-Wallis test

When parents were compared daily parenting stress in various studied groups it was revealed that parents of children of all the three groups were having significant (<0.05) difference in mean scores of FISC i.e. 16.30, 11.07 and 1.63 in Group 'A', 'B' and 'C' respectively. It shows that the parents of mentally retarded children had more stress in coping than parents of children with normal intelligence. (Table 3)

Table 3:
Comparison of FISC Scores in Parents of all the three groups

Comparison of FISC Scores in Parents of all the three groups					
FISC Scores	Group-'A' (N=30)	Group-'B' (N=30)	Group-'C' (N=30)	*p value	LS
Mean	16.30	11.07	1.63	<0.001	S
SD	4.120	2.791	0.964		
Post hoc analysis: HAM-D					
Comparison of Groups		P Value		Level of Significance	
Group 3- Group 2		<0.001		S	
Group 3- Group 1		<0.001		S	
Group 2- Group 1		0.002		S	

*as per Kruskal-Wallis test

When HAM-D score & FISC-score between mother and father were compared, both the scales were found significantly ($p<0.001$) more in mothers than fathers. This indicated that mothers had higher depressive symptoms and daily parenting stress than fathers. (Table 4).

Table 4

Comparison of scores on Hamilton depression rating scale (HAM-D) and Family interview for stress & coping scale (FISC) between (Mothers and father)

Type of Scores	Father Mean (SD)	Mother Mean (SD)	Unpaired 't' value (df)	p value	Level of significance
HAM-D Scale	14.07 (2.303)	16.13 (2.403)	-0.401(58)	<0.001	S
FISC –Scale	11.70 (3.843)	15.67 (4.003)	-0.915(58)	<0.001	S

In this study positive correlation of HAM-D scores and FISC score were found ($r = 0.874$, $p < 0.001$) i.e. HAM-D scores also increase suggesting that higher the FISC score, more the depressive symptoms are experienced. But when these both scales were compared with IQ of children, negative correlation was found of IQ of children with both the type of scores. i.e. as the IQ of children decreases the stress level and depression in parents increases. (Table 5)

Table 5

Correlation of HAM-D and FISC Mean scores with each other and with IQ of children

Hamilton's depression Scale (Total Score) with FISC-Total score and IQ of Children		FISC-Total score	IQ of Children
Hamilton's depression Scale (Total Score)	Correlation (r)	0.874	-0.855
	P Value (p)	<0.001	<0.001
FISC-Total (Total Score) with Hamilton's depression Scale (Total Score) and IQ of Children		Hamilton's depression Scale (Total Score)	IQ of Children
FISC-Total score	Correlation (r)	0.874	-0.891
	P Value (p)	<0.001	<0.001

IV. DISCUSSION

This study was designed to assess and compare daily parenting stress and depressive symptoms in parents of mentally retarded children and their correlation with IQ of the children. In this study it was found that if IQ of children decreases the stress level in parents increases. These findings are well supported observations made by N. Hidangmayum et al 2012¹² and Plant KM 2007.¹³

In this study, it was also found that if IQ of children decreases depression in parents increases. Observations of H. Chandorkar et al. 2000.¹⁴ FH Shabo (2011)¹⁵ were also well in resonance to observations of present study.

Higher daily parenting stress among parents of MR children is also supported by the results of Erum Abid Awan et al 2015¹⁶ in which the authors found that the most significant reason for high stress is difficulty in daily caring of child, children's behavioural problems and severity of disability. Care of mentally challenged child often requires additional physical, emotional, social, and financial resources

& child's multifaceted medical, educational, and developmental interventions while balancing competing family needs.¹⁷

Daily parenting stress and depression more in mothers than fathers of MR children may be understandable on the ground of nature of their jobs, where they face many adversities. Mothers were not working hence are main for to meet the daily demands of care giving of an intellectually disabled child. They spend more time with mentally retarded child. A study conducted by Muhammad Waqar et al 2013⁶ and Thiyan Kiran Singh et al 2015¹⁸ also support these observation.

In present study, IQ of the child had negative correlation with HAM-D scores and FISC score which implies that lower the IQ more the daily parenting stress and depressive symptoms are experienced. Almost similar observations were made by Mukesh Morya et al. 2015.¹⁹

Positive correlation between HAM-D score and FISC score implies that as the parental stress (FISC score) increases, HAM-D scores also increases. Muhammad Waqar et al 2013⁶ had also reported their findings well in resonance with the present study.

Studies may be extended to with other factors like life style, physical fitness, coping skills, self efficacy, duty hours, family dynamics and interpersonal relationships in the family etc.

V. CONCLUSIONS

This study showed that parents of intellectually disabled children experienced more daily parenting stress and depression than parents of children with normal intelligence. More the stress, more is chances of depression. Lower IQ of the child, higher is stress and depression in parents. This stress and depression was more in mothers than fathers. Mothers experienced greater stress as compared to fathers due to greater involvement in care giving of the intellectually disabled child and spending more time with their mentally challenged children.

Hence, this study concluded that parents of intellectually disabled children require extra support in giving care to their special children, as they appear to be a population more prone to experiencing depression and stress which will hinder proper care of the intellectually disabled child, leading to a vicious circle. This circle has to be broken for the better upbringing of these special children.

CONFLICT

None declared till date.

REFERENCES

1. Schalock, R., Luckasson, R., & Shogren, K. The renaming of mental retardation: Understanding the change to the term intellectual disability. *Intellectual and Developmental Disabilities*, 2007; 45(2), 116-124
2. Madhavan, T., Kalyan, M., Naidu, S., Peshawaria, R. & Narayan, J. *Intellectually disabled - A manual for psychologists*. Secunderabad: NIMH. ; 1989
3. Shalini. In: Madhavan T, Kalyan M, Naidu S, Peshawaria R, Narayan J. *Intellectually disabled: A Manual for Psychologists*. Andhra Pradesh, India: National Institute for the Mentally Handicapped (Under the Ministry of Social Justice and Empowerment, Government of India); 1982
4. Fujiura G, Park HJ, Rutkowski K, Mitta V.:Disability statistics in the developing world: A reflection on the meaning of our numbers. *J Appl Res. Intellect. Disability*. 2005; 18: 295-304

5. Heller T, Hsieh K, and Rowitz L: Maternal and paternal care giving of persons with mental retardation across the life span". *Family relations*; 1997, 46 (4): 407-115
6. Muhammad Waqar Azeem; Imtiaz Ahmad Dogar, Snehal Shah; Mohsin Ali Cheema; Alia Asmat; Madeeha Akbar; Sumira Kousar; Imran Ijaz Haider: Anxiety and Depression among Parents of Children with Intellectual Disability in Pakistan. *J Can Acad Child Adolesc Psychiatry*; 2013, 22(4): 290-295
7. Mita Majumdar, Yvonne Da Silva Pereira, John Fernandes: Stress and anxiety in parents of mentally retarded children. *Indian journal Psychiatry*.2005, 47:144-147
8. World Health Organization (WHO). The ICD-10 Classification of mental and behavioural disorders. Diagnostic criteria for research. WHO: Geneva; 1992
9. Gururaj Maheshwaran Kuppaswamy's Socio-Economic Status Scale –A Revision of Income Parameter For 2014. *International Journal of Recent Trends in Science and Technology*, ISSN 2277-2812 E-ISSN 2249-8109, Volume 11, Issue 1, pp 01-02
10. Girimaji SR, Srinath S, Seshadri and Subba Krishna DK: Family interview for stress and coping in mental retardation (FISC-MR): A tool to study stress and coping in families of children with mental retardation. *Indian Journal of Psychiatry*;1999, 41: 341-349
11. Hamilton, M: A rating scale for depression, *Journal of Neurology, Neurosurgery, and Psychiatry* 1960, 23:56-62
12. N. Hidangmayum and Pushpa B.: Parenting stress of normal and mentally challenged children - *Karnataka Journal of Agriculture Science*, 2012; 25 (2): 256-259
13. Plant, K.M. & Sanders, M. R.: Predictors of caregiver stress in families of preschool aged children with developmental disabilities. *Journal of Intellectual Disability*, 2007; 51: 109-124
14. H. Chandorkar & Brig. P.K. Chakra barty: Psychological morbidity of parents of mentally retarded children- *Indian Journal of Psychiatry*, 2000; 42 (3): 271-274
15. F.H. Shabo, Abdullah A. Rahman Mohamed, Mohamed Omer El Tahir: Psychosocial Impacts of Mentally Retarded Children on Parents in Sudan. *Sudan Journal of Medical Sciences*; 2011, Vol 6, No 1: 7-16
16. Erum Abid Awan, Farzana Bibi, Abid Ghafoor Choudhary: Relationship of depression, hopelessness and associated attitude among parents of mentally retarded children. *Pakistan Association of Anthropology*, Islamabad, Pakistan. 2015, Special issue 724 ISSN 1013-5316, CODEN: SINTE 8 Sci.int.(Lahore),27(1):723-726
17. Silver EJ, Westbrook LE and Stein RE: Relationship of parental psychological distress to consequences of chronic health conditions in children. *Journal of Paediatric Psychology*, 1998; 23: 5-15
18. Thiyam Kiran Singh, Prianka Panda : Burden, Stress and Coping Strategies of Intellectually Disabled Children. *The International Journal of Indian Psychology* 2015; Volume 2, Issue 3
19. Mukesh Morya, Atul Agrawal, Suneet Kumar Upadhyaya, D. K. Sharma: Stress & Coping Strategies in Families of Mentally Retarded Children. *Journal of Evolution of Medical and Dental Sciences*; 2015, Vol. 4, Issue 52: 8977-8985