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EFFECT OF EDUCATIONAL PROGRAMME ON KNOWLEDGE OF MOTHERS REGARDING EARLY DETECTION OF ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) IN SELECTED RURAL COMMUNITY, WEST BENGAL

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ABSTRACT

Introduction: Behavioral problems are the reactions to emotional disturbance or environmental maladjustments. Behavioral problems in school aged children can cause significant difficulties in children's healthy development. Aims: To develop an educational programme and to evaluate the effectiveness of educational programme in increasing the knowledge level of mothers regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD). Methods: One group pre test and post test design was conducted to assess the knowledge of mothers regarding early detection of Attention Deficit Hyperactivity Disorder, evaluate the effectiveness of educational programme on early detection of Attention Deficit Hyperactivity Disorder, association between pre test knowledge score of mothers with selected variables. Total 60 participants were selected through Non-probability purposive sampling technique. Data were collected by Semi-structured questionnaire for socio-demographic profile, Structured knowledge questionnaire contained 20 items and each having three options and Information Booklet on ADHD. Result: Results revealed that the mean post-test knowledge score was 12.76 which is higher than the mean pre-test knowledge score 8.10. Calculated 't' value (17.046) was greater than the table value of 2.00 with degree of freedom 59 at 0.05 level of significance. The maximum modified gain was in the area of signs and symptoms (0.54) and minimum modified gain was in the area of risk factors (0.26)of Attention Deficit Hyperactivity Disorder. There was significant association between pre test knowledge score of the mothers with education as calculated chi-square value was 6.782 (df=1) at 0.05 level of significance. So it could be concluded that the educational programme by

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administration of information booklet regarding early detection of Attention Deficit Hyperactivity Disorder was effective in increasing the knowledge of mothers as it significantly increased the knowledge in post test. Conclusion: Mental health of a child is of basic importance to gain the ability to live harmoniously in the changing environment. The community which neglects its children retards its future progresses. Children are dependent on their parents for their health and wellbeing. This study results focused that immediate need for regular assessment of children for early identification of behavioral problems.

Keywords: Behavioural Problem, Health Seeking Behaviour, Urban Community

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INTRODUCTION

Children are born with the desire and capacity to learn. They learn with different ways and at different rates. If we can meet their needs, provide a safe and nurturing environment, and then they can shine at their own best time.[1]

The DSM-5TM defines ADHD as a persistent pattern of inattention, along with or without hyperactivity, impulsivity that interferes with functioning or development and all these symptoms has presenting in two or more settings such as home, school, or work; and prevalent rate vary from 3 to 6% of the childhood population in varied cultures and geographical locations.[2]

Heinrich Hoff first described in 1854, the Hyperkinetic disorder (ADHD in DSM IV) as a persistent pattern of inattention and hyperactivity which is more frequent and severe than similar development level of children. In case of primary school children, the prevalence rate was 1.7% and it was also found that boys are four times more vulnerable than girls.[3]

Marissa Walsh conducted a study in 2018 on lifetime prevalence of mental disorders in U.S. adolescents, observed about statistics of ADHD that the percentage of children ever diagnosed with ADHD increases with age. Survey showed that 2.4% (388,000) of children aged 2 to 5 years and 9.6% (2.4 million) of children aged 6 to 11 years had been diagnosed. Another report revealed that according to National Institute of Mental Health in 2017, the U.S. lifetime prevalence of ADHD in adults age of 18 to 44 years was 8.1%, with current prevalence estimated to be 4.4%.[4]

Fayyad J, Sampson NA, Hwang I.Adamowski T., Aguilar-Gaxiola S., Al-Hamzawi A. conducted a study on prevalence of ADHD in adults aged 18–44 years in 2017. The study reported that the lowest prevalence was reported in Iraq (0.6%) and Romania (0.6%) and the highest was reported in France (7.3%) [5]

Study findings of Wang T., Liu K., Li Z., Xu Y., Liu Y., Shi W. in 2017 and reported that the overall worldwide prevalence of ADHD among individual below 18 years of age is 5.29%.The pooled prevalence of ADHD among children and adolescents was 7.1%. According to Wang T., the point prevalence of ADHD reported in the included studies ranged from 0.73% to 14.40%. According to another study the overall mean of worldwide prevalence of ADHD was 2.2% (range: 0.1-8.1%) had been estimated in children and adolescents (aged < 18 years).[6]

Naik A., Patel S., Biswas DA. conducted a cross-sectional study in 2016 on prevalence of ADHD in a rural Indian population which was published in Journal of Medical Health Science.The result was published on 2019 with the prevalence rate of ADHD was found to be 3.66% among school-going children .[7]

Centre for Disease Control (CDC) in 2016, reported a percentage of privately-insured U.S. between 2003 and 2015, the age group of 15-44 years women who filled a prescription for a medicine to treat

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ADHD increased nearly 3.5%.[8]

Vaidya A., Dua H., Mujawar N., Edbor A. conducted a study in 2016 on prevalence of attention deficit hyperactivity disorder (adhd) amongst adolescent at rural in central India As per the report of population survey, about 5% children and 2.5% adults are affected by in most of the cultures. Around 60% of ADHD children will carry some of their behaviour into adulthood.[9]

According to American Psychiatric Association (2013) ADHD is a neuro-developmental disorder that affects a wide range of children with about 4% to 7% being formally diagnosed, usually during early childhood.[10] Vijyeta Bhasin (2013) conducted a study on effectiveness of various teaching programs on knowledge and attitude regarding Attention Deficit Hyperactivity Disorder (ADHD) and Learning Disabilities (LD) of children among primary school teachers. In year 2013, the prevalence of ADHD among primary school children was found to be 11.32% in South India. The Prevalence was found to be higher among the males (66.7%) as compared to that of females (33.3%). The prevalence among lower socio-economic group was found to be 16.33% and that among middle socio-economic group was 6.84%.[11] In worldwide, the prevalence rate of attention deficit hyperactivity disorder was 9.5%. In India, the prevalence rate of attention deficit hyperactivity disorder was 29.7%.[12]

In 2011, Agency for Healthcare Research and Quality (AHRQ) systematic review highlighted the benefit of psycho stimulants for children 6–12 years of age with ADHD for up to 24 months and found that psycho stimulants is more effective than psychosocial/ behavioral interventions alone for children with ADHD.[13]

ICMR Division of Non-communicable Diseases conducted a Multicentre project and reported in the age group 0-5 years; maximum number of children (33%) had diagnosis of hyperkinetic syndrome. Hysterical neurosis, hyperkinetic syndrome and conduct disorders are three common disorders seen among age group 6 to 11 years.[14]

ADHD institute report, the mean worldwide prevalence of the disorder, between 5.29 - 7.1%. According to National data, ADHD affects about 9.4% of U.S. children ages 2-17 including 2.4 % of children ages 2-5 and 4% to 12% of school aged. Boys are more than twice like as girls. Both boys and girl with the disorder typically show symptoms of an additional mental disorder and may also have learning and language problems[15]

Edmund J.S. (2011) conducted a study on early detection and intervention for attention-deficit/hyperactivity disorderthat result showed with symptoms typically emerging during early school years and a worldwide prevalence estimated between 5% and 7%.[16] According to the World Health Report, 15 % of children have a serious emotional disturbance. Epidemiological studies of child and adolescent psychiatric disorders conducted by ICMR indicated the overall prevalence of mental and behavioural disorders in Indian children to be 12.5%. The causes of disability among children above

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5yrs are mental disorders which account for 5 of the top 10 leading cause.Besides the increase in the number of children seeking help for emotional problems, over the years, the type of problems has also undergone a tremendous change.[17]

The study result shown by Peters k., Jackson D. that ADHD is a chronic neurodevelopment disorder, approximately 3–7% of children affected by ADHD, and high prevalent observed in males. The disorder is associated with a number of problems including conduct, learning disorders and mental health difficulties and is generally diagnosed on the basis of three factors: attention deficits, hyperactivity and impulsivity.[18]

American Psychiatric Association (APA 2000) focused that ADHD is diagnosed psychiatric children's disorder. Epidemiological studies have indicated that between 3% and 7% of children in the United States diagnosed with ADHD. It is likely that there will be a minimum of one child with ADHD in each classroom in every school.[19]

Attention Deficit Hyperactivity Disorder begins in childhood. At seven years of age majority of children show symptoms, almost 3 to 7 percent of children have ADHD. Boys are affected more with Attention Deficit Hyperactivity Disorder than girls. It is found in almost all countries and ethnic groups.[20]

NEED FOR THE STUDY

Attention Deficit Hyperactivity Disorder (ADHD) is under diagnosed in many European countries and the process of accessing care and diagnosis is complex and variable. Attention deficit hyperactivity disorder (ADHD) is a neurodevelopment disorder affecting 3–5% of children, with symptoms often continuing into adulthood. In the UK, for example, reports suggest that only 0.73% of children and 0.06% of adults receive ADHD medication.[21]

Joseph J.K. (2019) conducted a study on Prevalence of attention-deficit hyperactivity disorder in India: A systematic review and meta-analysis to determine the prevalence and associated factors of ADHD in a remote rural. The prevalence of ADHD is 9.40 % among male children and 5.20% among female children with a range of 7.6%–15% in 8–15 years of children.[22]

A study was conducted by Andreas J. in 2019 on school performance and effect of medication. The study described that the lower school performance associated with ADHD and three months treatment with medication had positive impact with all primary outcomes in terms of lowering the risk of no eligibility to upper secondary school with odds ratio = 0.80, 95% confidence interval (CI) = 0.76−0.84 and a higher grade point sum (range, 0.0−320.0) of 9.35 points.[23]

Buitelaar, J.K., Montgomery, S.A., Zwieten-Boot, B.J. conducted a study on Attention deficit hyperactivity disorder: guidelines for investigating efficacy of pharmacological intervention. They focused that the disorder may occur at 2-3 years of age or later at 7 years of age, but diagnosis confirm

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between at the 6-9 years. Attention Deficit Hyperactivity Disorder is the most common behavioural disorder of childhood and generally thought to account for the majority of referral for mental health treatment.[24]

VA Harpin (2017) conducted a qualitative study a study on the effect of ADHD on the life of an individual, their family, and community from preschool to adult life. The study results showed that from the preschool years to primary school and adolescence, adverse effects of ADHD changes upon children and their families. Both professional and personal life may be disrupted due to persistence of ADHD into adulthood. In addition, there was an association with increased healthcare costs and ADHD. Similar association showed between ADHD and their family members.[25]

In 2016, Levine P., Bartos L., Dietler J. conducted a study on a guide for parents understanding Attention Deficit Hyperactivity Disorder. The study reported that the children are affected by ADHD in childhood; it put a lot pressure on child and associates around him. The disorder may occur at 2-3 years of age or later at 7 years of age, but diagnosis confirm between at the 6-9 years.[26]

Pingali S., Sunderajan J. A. (2014) conducted a study on comorbidities in attention deficit hyperactivity disorder which was published in 28 January, 2020.The report observed that prevalence of ADHD is highly variable worldwide, ranging from as low as 1% to as high as nearly 20% depending on the diagnostic criteria and the assessment tools used. The worldwide-pooled prevalence of 5.3%, ADHD is the most prevalent mental disorder in children. In India, the prevalence of ADHD has been reported to be 1.6–17.9%.[27]

In South India (2013), a study was conducted on the prevalence of ADHD among primary school children. The result of prevalence was found 11.32%. Male was found higher prevalence rate (66.7%) than females (33.3%). The prevalence among lower socio-economic group was found to be 16.33% and that among middle socio-economic group was 6.84%. [28]

American Academy of Pediatrics in 2011 reported that the families having ADHD child faces challenges beyond the symptoms of ADHD. The struggles that parents are experiencing to respect of intervention related to change children's behavioral symptoms (e.g. parent training and behavior therapy programs).Therefore, different family contexts and their impact on developmental trajectories for children with ADHD is crucial to the success of these interventions.[29]

Bruno Palazzo Nazar (2008) et.al conducted a study on Review of literature of attention-deficit/hyperactivity disorder with eating disorders. Inattention, restlessness and impulsivity are the common symptoms of ADHD in adults.A recent epidemiological study showed a prevalence of up to 4.4% among North-American adults.[30]

Faraone SV., Perlis RH., Doyle AE., Smoller JW, Goralnick JJ., Holmgren MA., Sklar P.(2005) conducted a study on molecular genetics of attention-deficit/hyperactivity disorder. The result described

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Attention-deficit/hyperactivity disorder (ADHD) is highly prevalent, affecting 5–8% of children. It is characterized by developmentally atypical and extreme levels of inattention-disorganization and/or hyperactive-impulsive behavior and is diagnosed at an average age of 7 years.[31]

Currier, Rebecca Owen (2004) conducted a study on relation between knowledge of ADHD and treatment acceptability in a multi-disciplinary paediatric clinic and results revealed that parent ratings of their child's behavior did not correlate with treatment acceptability ratings, baseline knowledge was low and increased significantly for the experimental group when compared to the control group demonstrating good treatment integrity.[32]

The planned teaching programme will be positively influenced on mothers to know more about the among children who manifest complex psychopathology characterized by attachment difficulties, relationship insecurity, trauma-related anxiety, less common problems such as self injury and food maintenance behaviours.[33]

Prevalence rate is increasing high in day to day but there was lack of awareness and research study on knowledge of parents' specially rural area. Parents are the primary care giver, playing vital role in taking care, provide adequate love of the child. Early detection and proper management are necessary.

So investigator would like to conduct a study to assess the mother's level of knowledge regarding early detection of ADHD and create an educational programme to increase some knowledge for early assessment of symptoms of ADHD and better prognosis.

Therefore, a need for study to "Assess effectiveness of educational programme on knowledge of mothers regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD) in selected rural community, West Bengal" was felt.

STATEMENT OF PROBLEM

Assess effectiveness of educational programme on knowledge of mothers regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD) in selected rural community, West Bengal.

OBJECTIVES OF THE STUDY

1. To assess the knowledge of mothers regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD)
2. To evaluate the effectiveness of educational programme on early detection of Attention Deficit Hyperactivity Disorder (ADHD) among mothers.
3. To find out association between pre test knowledge score of mothers with selected variables.

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METHODOLOGY

One group pre test and post test pre-experimental study was conducted at Subhas Gram, Sonarpur, South 24 Paraganas,West Bengal from 21.12.2020 to 16.01.2021. Cluster sampling technique was used to select **6**0respondents (Mothers having children between 3 to 6 years of age. The present study was carried out after getting all permission from the concerned authority. Informed consent was taken and anonymity was maintained. This study was based on the general system theory as postulated by Ludwig Von Bertalanffy in 1928. Content validity of two tools were established by 09 experts from the field of Community, Psychiatry and Pediatric. The reliability of tool was computed using Karl Pearson's split half methods for establishing the internal consistency of the questionnaire. The reliability of tool was 0.824 which indicated that tool was reliable. For administration, all tools were translated into Bengali language and linguistic validation was done by linguistic experts. Both descriptive and inferential statistics were used to analysis the data. Considering the objectives of the study, total three tools were used and data were organized in five sections: **Section – I:** Description of demographic characteristics of mothers; **Section – II:** Findings related to analysis of pre test and post test knowledge score of mothers regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD); **Section – III:** Findings related to effectiveness of information booklet regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD) among mothers and **Section – IV:** Findings related to association between pre test knowledge score on early detection of Attention Deficit Hyperactivity Disorder (ADHD) among mothers with selected socio-demographic variables.

RESULTS

Description of demographic characteristics of respondents:

Data presented in Table 1 shows that most 28 (46.67%) of the mothers belonged to the age group 20-24 years and 2 (3.33%) mothers belonged to the age group <20 years. Majority of mothers 32 (53.34%) had secondary education and only 6 (10%) mothers had completed up to graduation and above. The table also showed that monthly family income of 29 (48.33%) mothers was Rs 5,001-10,000 and 7 (11.67%) mother's monthly family income was Rs.10,001 -15,000. In figure 1, the diagram showed that most of the mothers 35 (58.33%) were home maker and only 5 (8.33%) mothers were labour. The figure 2 depicted that 34 (56.67%) mothers belonged to the nuclear family and 5 (8.33%) mothers belonged to the extended family. From table 2, it revealed that 43 (71.67%) family had one children and rest of 17 (28.33%) family had two children. It also depicted that 60 (100%) families had no history of ADHD. This table showed that only 7 (11.67%) families got information about ADHD. Out of 7, 4 (57.15%) mothers got information from others, where as 3 (42.85%) mothers got from books and journals. Data

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presented in table 3 indicated that 32 (53.33%) mothers had knowledge ≥median with a range of score 8–5 and 28 (46.67%) mothers had knowledge <median with a range of score 3–7 in pretest regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD).

Findings related to knowledge score respondents regarding early detection of ADHD

In post test data revealed that 31 (51.67%) mothers had knowledge ≥median with a range of score 13 - 20 and 29 (48.33%) mothers had knowledge <median with a range of score 9 – 12. Data presented in table 4 revealed that the maximum modified gain was in the area of signs and symptoms (0.54) of Attention Deficit Hyperactivity Disorder (ADHD) and minimum modified gain was in the area of risk factors (0.26) of Attention Deficit Hyperactivity Disorder (ADHD).

Findings related to effectiveness of information booklet regarding early detection of ADHD

Data presented in table 5 showed that the mean post-test knowledge score was 12.76 higher than the mean pre-test knowledge score 8.10. The mean difference was 4.66. SD of pre-test knowledge score was 2.72, whereas the SD of post-test knowledge score was 2.70, which showed that the pre test knowledge score was dispersed than the post test knowledge score. Calculated 't' value (17.046) was greater than the table value of 2.00 with degree of freedom 59 at 0.05 level of significance. So null hypothesis was rejected and research hypothesis was accepted. So it could be concluded that the educational programme by administration of information booklet regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD)was effective in increasing the knowledge of mothers as it significantly increased the knowledge in post test.

Findings related to association between pre test knowledge score on early detection of ADHD with selected variables.

From the above table 6 it was showed that there was no significant association between pre test knowledge score of the mothers with selected variables like age and occupation at 0.05 level of significance. So for these variables the research hypothesis was rejected and null hypothesis was accepted. Further, the findings revealed that there was significant association between pre test knowledge score of the mothers with selected variable like education as computed chi square value 6.782of df 1 at 0.05 level of significance. So for this variable research hypothesis was accepted and null hypothesis was rejected. The data presented in the table 7 indicated that there were no significant association between pretest knowledge score of the mothers with selected variables like monthly family income, type of family, no. of children between 3 to 6 years of age. The calculated chi-square value was lower than table value so, the research hypothesis was rejected and null hypothesis was accepted.

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DISCUSSION

Discussion related to knowledge of mothers regarding early detection of ADHD

In present study revealed that 32 (53.33%) mothers had knowledge ≥ median with a range of score 8 – 15 and 28 (46.67%) mothers had knowledge <median with a range of score 3 – 7 in pre test and in post test, 31 (51.67%) mothers had knowledge ≥ median with a range of score 13 - 20 and 29 (48.33%) mothers had knowledge < median with a range of score 9 – 12. The study findings likely to be supported by the study conducted by Kaur G. and Nitakumari K. A. (2018) to assess the level of knowledge regarding ADHD among primary school teachers. The majority (56%) of primary school teachers had poor level of knowledge.[34] The findings of the present study was also supported by the study conducted by Dodangi N., Vameghi R., Habibi N. (2017) on evaluation of knowledge and attitude of parents of Attention Deficit/Hyperactivity Disorder children to investigate the parents knowledge and attitude towards ADHD. The study results revealed that most of the parents have very low knowledge and even incorrect beliefs.[35] The present study findings was likely to be supported by the study conducted by Shetty A., Rai May S.in 2014 on awareness and knowledge of attention deficit hyperactivity disorders among primary school teachers in India. The results showed that out of 312 teachers, 268 teachers had an inadequate knowledge about ADHD [36]

Discussion related to effectiveness of information booklet

The present study revealed that mean post test knowledge score (12.76) which was higher than mean pre test knowledge score (8.10) with calculated 't'value (17.046) at 59 degree of freedom at 0.05 level of significance. The present study findings was supported by the study conducted by Chavda A. , Patel K., Patel N. , Rathv S., Patel V.,Pandya S. , Patel V., Patel K.D. in 2017 to assess the effectiveness of structured teaching program on knowledge regarding common behavioral disorders among mothers of 1-12 years children in selected area of Anand District. Result revealed that the pre-test mean score and SD was 8.57 + 2.31 and post-test means score and SD was 19.31 + 4.83. Mean difference was 10.74. The calculated 't' value (19.38) was more than tabulated value (3.4632) at P< 0.05 level of significance.[37] The present study findings were supported by the study conducted by Gautam A. (2017) on effectiveness of planned teaching programme on knowledge regarding Attention Deficit Hyper Activity Disorder (ADHD) among primary school teachers, Sangli, Miraj. The study findings revealed that mean pre-test knowledge score was 9.140, Standard Deviation was 3.381 and mean post-test knowledge score was 10.940, Standard Deviation was 3.628. Calculated 't' value (17.046) which was greater than the table value of 2.00 of degree of freedom 59 at 0.05 level of significance.[38] The findings of present study was supported by the study of Negi U., Chanu E. S., Masih S. in 2017 to assess the effectiveness of structured teaching programme (STP) on the knowledge among teachers regarding

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"Identification and management of behavioural problem in children"(IMBP) in a selected primary schools at Dehradun, Uttarakhanda. The study result revealed that pre test mean knowledge score was 23.9 and post test knowledge score was 38.51. Calculated 't' value 27.58 was more than tabulated value.[39]

The study findings are supported by the study by Kapil Kumar, (2014) to assess the effectiveness of planned teaching programme through booklet on knowledge of parents regarding selected emotional and behavioral problems of children at Jaipur. The result showed that the mean post test knowledge score 16.13 which was higher than the mean pre test knowledge score 9.46. This indicated that planned teaching programme through booklet which increasing knowledge of parents regarding selected emotional and behavioral problem.[40]

The study findings are supported by the study by Patidar J. in 2013, a quasi experimental study to assess the effectiveness of information booklet on knowledge of primary school teachers to identify the attention deficit hyperactivity disorder in selected school at Pune city. The result showed that the mean post test score 16.24 was higher than the mean pre test knowledge score 10.84. This clearly indicated that information booklet increase the level of knowledge in the post test score which was higher than the pre test score.[41]

Discussion on association between pre test knowledge score with selected variables

In the present study there was significant association between pre test knowledge score of the mothers with selected variable such as education as calculated chi square value (6.782) of df 1 at 0.05 level of significance.

The findings of present study was supported by the study conducted by Dodangi N., Vameghi R., Habibi N in 2017 to investigate the parents knowledge and attitude towards ADHD. The result showed that the knowledge of parents had associated with their educational level. [35]

CONCLUSION

The present study findings showed that mean post test knowledge score was higher than mean pre test knowledge score. The calculated 't' test value between the pre test and post test knowledge score was significantly higher than table 't' value. Thus educational programme by administration of information booklet was more effective as a method of increasing knowledge.

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LIMITATIONS

The limitations of present study was-

The study was conducted in small size of samples (60) so generalization of the study findings was restricted.

CONFLICT OF INTEREST: There has been no conflict of interest, financially otherwise

ANNEXURE:

Table 1 Frequency and percentage distribution of demographic characteristics of the mothers by age, education and monthly family income.

n=60

Characteristics	Frequency	Percentage
Age in years		
<20	2	3.33
20 – 24	28	46.67
25 – 29	21	35
30 – 34	6	10
>34	3	5
Education		
Primary	7	11.67
Secondary	32	53.33
Higher Secondary	15	25
Graduation and above	6	10
Monthly family income		
Up to 5,000	Nil	0.00
5,001 – 10,000	29	48.33
10,001 – 15,000	7	11.67
15,001 – 20,000	10	16.67
>20,030	14	23.33

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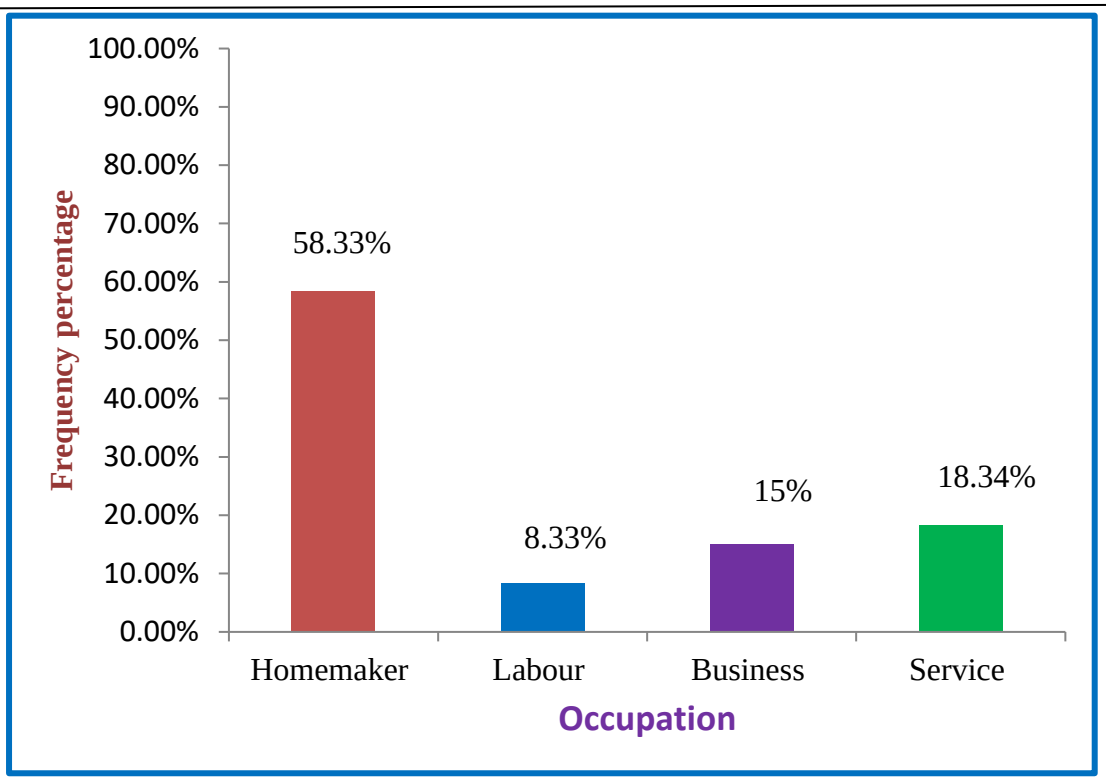

Figure 1 Bar diagram representing percentage distribution of occupation of mothers

n=60

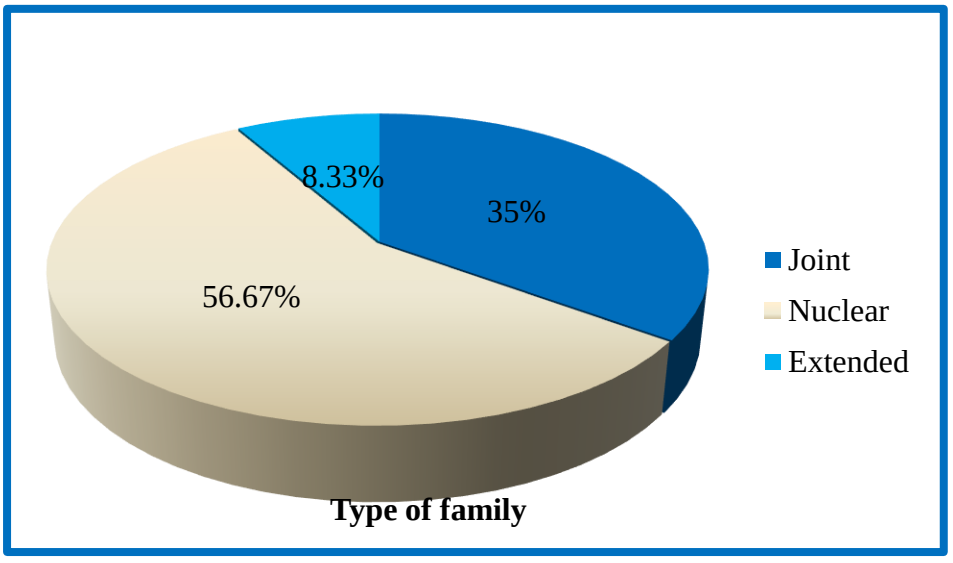

Figure 2 Pie diagram representing percentage distribution of mothers according to type of family

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Table 2 Frequency and percentage distribution of demographic characteristics of mothers by no. of children between 3 to 6 years of age, family History of ADHD and receives any information about ADHD and sources of receiving information.

n=60

Characteristics	Frequency	Percentage
No. of children between 3 to 6 years of age		
a) One children	43	71.67
b) Two children	17	28.33
c) Three children and more	Nil	0.00
Family history of ADHD		
a) Yes	Nil	-
b) No	60	100
Receives any information about ADHD		
a) Yes	7	11.67
b) No	53	88.33
Sources of receiving information ($n_1 = 7$)		
1) Radio and T.V.	Nil	-
2) Books and journals	3	42.86
3) Health worker	Nil	-
4) Relatives and friends	Nil	-
5) Others	4	57.15

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Table 3 Frequency and percentage distribution of the level of knowledge of mothers regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD)

n=60

Knowledge level	Range of score	Pretest		Range of score	Posttest	
		Frequency	%		Frequency	%
≥Median	8 – 15	32	53.33	13 – 20	31	51.67
< Median	3 – 7	28	46.67	9 – 12	29	48.33

Maximum score – 20

Minimum score – 0

Table 4 Area wise maximum possible score, mean, mean percentage and distribution of knowledge score of mothers regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD) before and after administration of educational programme.

n=60

Area of knowledge	Maximum Possible score	Pre-test		Post-test		Mean gain %		Modified gain
		Mean score	Mean (%) score	Mean score	Mean (%) score	Actual gain	Possible gain	
Meaning of ADHD	3	0.80	26.67	1.9	63.33	36.66	73.33	0.50
Causes	3	1.53	51.11	2.1	70	18.89	48.89	0.39
Risk factors	3	1.63	54.44	1.98	66.11	11.67	45.56	0.26
Signs and symptoms	8	1.8	22.50	5.13	64.16	41.66	77.50	0.54
Prevention	3	1.11	37.0	1.65	55.00	18.00	63.00	0.29

Maximum possible score = 20

Minimum possible score = 0

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Table 5 Mean, Mean difference, Median, SD and 't' value of pre-test and post test knowledge scores of mothers regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD). n = 60

Knowledge score	Mean	Mean difference	Median	Standard Deviation	't' value
Pre test	8.10		8	2.72	
		4.66			17.046*
Post test	12.76		13	2.70	

't'(59) = 2.00, P<0.05 * Significant

Table 6 Chi square value showing association between pretest knowledge score of mothers regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD) with selected variables (age, education and monthly family income).

n = 60

Variables	Knowledge Scores		Total	Value of χ^2
	≥Median	<Median		
Age in years				
Up to 24	14	15	29	0.577
Above 24	18	13	31	
Education				
Below H.S.	16	23	39	6.782
H.S. and above	16	5	21	
Occupation				
Home maker	18	17	35	0.122
Others	14	11	25	

Table value χ^2=3.84, df=1, p>0.05, * p<0.05

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Table 7 Chi square value showing association between pre test knowledge score of mothers regarding early detection of Attention Deficit Hyperactivity Disorder (ADHD) with selected variables (monthly family income, type of family and no. of children between 3 to 6 years of age).

n=60

Variables	Knowledge Scores		Total	Value of χ^2
	≥Median	<Median		
Monthly Family Income				
5,001-10,000	13	16	29	1.632
10,001and above	19	12	31	
Type of family				
Joint	11	15	26	2.241
Nuclear	21	13	34	
No. of children between 3 Yrs. to 6 Yrs. of age				
One children	23	20	43	0.001
Two children	9	8	17	

Table value χ^2=3.84, df=1, p>0.05, , p<0.05

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