FUNCTIONAL SKILLS FOR CHILDREN WITH AUTISM AND ITS IMPACT ON PARENTS' AWARENESS AND KNOWLEDGE- AN INTERVENTION STUDY

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Abstract: The objective of this study was to examine the efficacy of intervention program on functional skills among children with autism and its impact on parent's awareness and knowledge. A sample of 120 parents of children with autism (aged 5-10 years) was selected through purposive sampling technique from special schools catering to the educational needs of autistic children in Bangalore. Self-structured tools on functional skills for children with autism as well as awareness and knowledge of parents were used to collect the data from parents. The research design adopted for the study was quasi experimental design (i.e. pre-test and post-test with an intervention program). The post assessment data revealed that the intervention program had a positive effect on the functional skills of children with autism as well as the parent's awareness and knowledge.

Key words- Awareness, Children with Autism, Functional Skills, Knowledge

1. INTRODUCTION

Autism is a complex neurological disorder that affects the brain functioning of the child, which causes impairment in the areas of development including communication and social interaction as well as restricted, repetitive behaviour (Omar, Ahmed, & Basiouny, 2017). The degree may vary from mild to very severe. Because of the impairment in all these areas, children with autism have poor functional skills. Functional skills are defined as "skills that are used every day, in different situations at home, school and community" (Collins, 2008). It includes self-care skills, functional academic skills, pre-vocational skills, social skills and community living skills (Learning, 2003).

Due to the lack of functional skills, autistic children need help from their parents in performing these skills in their everyday life (Eapen, & Guan, 2016; Ministry of Health and Welfare, & Korea Institute for Health and Social Affairs, 2011). Parents need to cope with the physical and emotional demands of caring for an autistic child; this poses a threat to the psychosocial wellbeing of the parents which in turn leads to the reduction of the parent's self-confidence and self-esteem (Duggal et al., 2001).

Parents often experience helplessness, feelings of inadequacy and failure, anger, shock, guilt, frustration, and resentment (Abirami, Vijay, Usha, & Mareeswari, 2018). With the knowledge of autism the aggravating situation for children with autism can be avoided. The lack of awareness among parents about autism can lead to failure to recognize symptom, seek diagnosis and treatment (Zaki, & Moawad, 2016). Parent's knowledge about the care of their autistic children is essential in rearing the child with autism, in assessing the signs and symptoms, current condition, recurrence risk, carrying out the instructions and interventions prescribed by the physician, therapists, and other professionals, identifying the side effects of medications and handling the common behaviour problems of the child at home. It is also necessary to identify the problems in children so as to begin appropriate interventions as soon as possible since such early intervention may help to improve the child's overall development, lessen inappropriate behaviours, and lead to better long-term functional outcomes. But their knowledge regarding the care of the autistic children is inadequate. Through parents' education and knowledge, children with autism can considerably improve their level of functioning and quality of life (Bharat, Srinath, Sheshadri, Girimaji, 1997). Thus an attempt has been made to examine the efficacy of intervention program on functional skills among children with autism and its impact on parent's awareness and knowledge.

2. METHODOLOGY

2.1 Objectives:

The objectives of the study were to assess the following:

1. The functional skills for children with autism
2. The efficacy of intervention program on functional skills for children with autism
3. The impact of intervention program on parent's awareness and knowledge

2.2 Sample:

The sample consisted of one-twenty parents of children with autism who were between the ages ranged from 5 to 10 years. It was identified from various special schools catering to the educational needs of children with autism in Bangalore city

through purposive sampling technique. Of the sample, sixty parents who gave their consent to participate in the intervention program were identified as the experimental group and another sixty parents were considered as control group.

2.3 Tool used:

The following two tools were used to collect the necessary data:

Tool I- Functional skill for children with autism framed by the investigator was used to assess the functional skills of children with autism. It comprised of a total of 94 items; and has five dimensions such as Self-care Skills, Functional Academic Skills, Pre-vocational Skills, Social Skills and Community Skills. It is a three-point Likert type rating scale in which the response options given to the respondents were "Never", "Sometimes" and "Always". Each item that was marked 'never' was given a score of 0, 'sometimes' was given 1 and 'always' was given 2 score.

Tool II- Awareness and Knowledge of Parents is a multiple choice test questions format framed by the investigator to assess the parent's awareness and knowledge of autism and the importance of functional skills of children with autism. The correct answer for each item was given a score of 1 and a wrong answer was given a 0 score. The checklist comprised of 15 items in which 7 items were related to awareness and the remaining 8 items were related to knowledge.

2.4 Method:

The method used for the present study was experimental design (i.e. pre-test, post-test design with an intervention program).

2.5 Pre-test:

The investigator conducted a survey within the city of Bangalore to seek the permission for conducting the study. The investigator interacted with the school authorities and explained the purpose of the study and sought permission to meet the parents. Then contacted with parents of children with autism and briefed them about the objectives and process of the research work. The investigator established rapport with parents and assured them that data obtained from them will be kept confidential. Data was collected from those parents who gave the consent to participate the study by administering the developed tools.

2.6 Intervention Program:

The ASSURE model developed by Forest (2015), was adopted in developing the intervention module to teach functional skills to children with autism as well as to effectively carry out the intervention program (IP). The detail of the ASURE model is shown below:

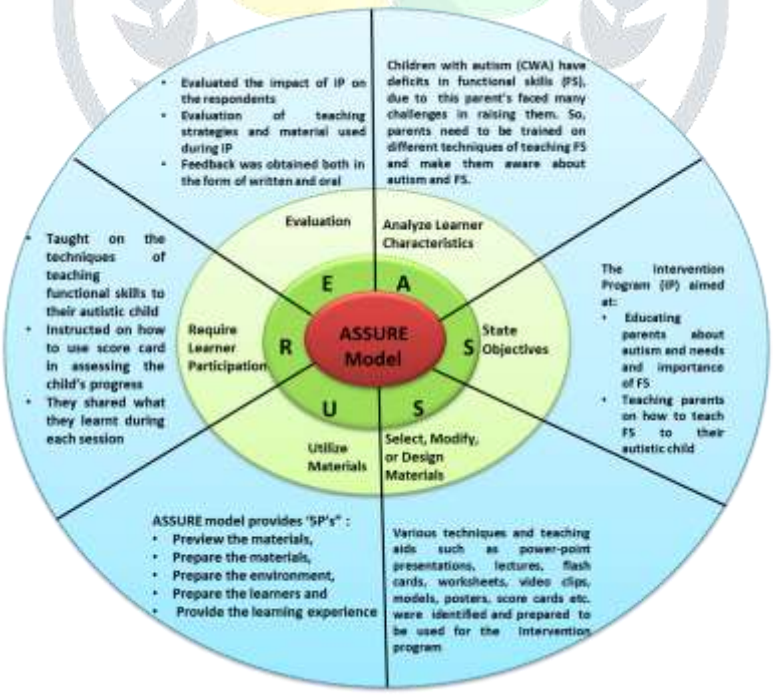

Figure 1: ASSURE Model by Forest (2015)

The intervention program was designed to create awareness among parents of children with autism about autism and the importance of functional skills of children with autism as well as to train them the techniques of teaching functional skills to their autistic child/children. It was conducted by the investigator for only the respondents of experimental group for a period of four months and lasted for three hours per session. Topics covered and techniques used during the intervention program are shown in table 1.

Table 1: Topics Covered and Techniques Used During the Intervention Program

Sl. No.	Topics covered		Techniques covered
1	**About Autism**	Definition, Prevalence, Causes and Characteristics	Power-point presentation, lecture and group discussions
2	**About Functional Skills**	Meaning, Types, Need and importance of functional skills to children with autism, and Influence of functional skills of children with autism on parent's adjustment and life satisfaction.	Power-point presentation, lecture and group discussions
3	**Self-care Skills**	Brushing, Toileting, Washing hands, Bathing, Dressing, Eating, and Night routine	Flash cards, activities, models, posters, short video clips, etc.
4	**Functional Academic Skills**	Concepts of alphabets, Concepts of numbers, Identify colours, Recognise shapes, Time concept, Money concept, Identify body parts, and Calendar concept	Flash cards, activities, models, posters, puzzles, worksheets, etc.
5	**Vocational Skills**	Envelopes making, Greeting Cards, Woollen key chain, Different kinds of flowers, Candle making, Door hanging, Diya decoration, Pencil Box, and Flower vase	Hands on experience, activities, demonstrations and models.
6	**Social Skills**	Making eye contact, Telling name, Making friends, Emotions, Behaviours, Helping others, Greeting or praising others, and Apologising to others	Flash cards, activities, lego blocks, models, posters, puppets, short stories, short video clips, etc.
7	**Community skills**	Following instructions, Using public transportation, Following rules in school, Know the role of community workers, Recognise various organisation, and Know where to shop	Flash cards, activities, models, posters, puppets, role play, short stories, short video clips, etc.

The respondents were taught how to prepare and use score cards to monitor their children's progress in learning a targeted skill. They were also taught how to use prompts if the child is not able to follow the steps taught by his/her parents. In addition, home assignments were given to the respondents, to ensure that they begin to teach their child the skills by using the techniques that they learnt during the program. Colouring materials such as crayons, colour pencils, paint boxes, colour sheets, hand-made papers, foam sheets etc. were given to the respondents as incentives. Further, at the end of each session, feedback was also obtained from the respondents and they were also sought clarifications from the investigator regarding about the matters that they found difficult to deal with.

2.7 Post-test:

After a gap of one month from the intervention program, functional skills tool and awareness and knowledge tool were re-administered from the respondents of both the experimental and control groups. This was done to assess the impact of intervention program in the functional skills of children with autism as well as parent's awareness and knowledge.

Further, the data obtained was scored, tabulated and analysed using 't'-test. Findings of the study are interpreted under results and discussion:

3. RESULTS AND DISCUSSION

The socio-demographic information of the respondents and their children is discussed below. Majority (38 per cent) of the children from the experimental group were between the ages 5 and 6 years. Most of the parents from the experimental and control groups (52 per cent and 62 per cent were graduates. With regard to the occupation of the respondents, most of the mothers from both the experimental and control groups (53 per cent and 55 per cent) were home makers. The data also revealed that majority of the families from both the groups (52 per cent and 45 per cent) earned between Rs. 30,001/- and Rs. 50,000/- per month. The pre-post tests of functional skills of children with autism for experimental and control groups are given in table 2 and table 3.

Table 2: Pre-Post Tests of Functional Skills of Children with Autism ((Experimental and Control Group)

Dimensions of functional skills	Experimental Group			Control Group		
	Pre-Test (60)	Post-Test (60)	Significance of t value	Pre-Test (60)	Post-Test (60)	Significance of t value
Self-care skills	19.42 ± 6.85	27.53 ± 6.65	6.5838**	21.35 ± 7.10	24.58 ± 6.45	2.6096**

Functional academic skills	9.42 ± 5.76	13.28 ± 6.13	3.5566**	11.23 ± 7.65	12.52 ± 6.94	0.9679^{NS}
Pre vocational skills	6.07 ± 3.29	8.85 ± 3.20	4.6943**	6.77 ± 3.78	7.98 ± 3.10	1.9185^{NS}

Dimensions	**Experimental Group**			**Control Group**		
	Pre-Test	**Post-Test**	**Significance of t value**	**Pre-Test**	**Post-Test**	**Significance of t value**
Awareness	4.10 ± 1.34	6.01 ± 1.17	8.3588**	4.55 ± 1.34	5.36 ± 1.22	3.4808**
Knowledge	4.90 ± 1.48	6.30 ± 0.78	11.1731**	5.33 ± 1.13	5.63 ± 1.10	1.4814^{NS}
Overall	9.00 ± 2.41	12.31 ± 1.53	9.0289**	9.88 ± 1.96	11.00 ± 1.88	3.2110**
Social skills	8.40 ± 3.26	11.37 ± 3.60	4.7398**	8.88 ± 3.83	9.68 ± 3.48	1.1981^{NS}
Community skills	5.55 ± 2.83	8.22 ± 3.13	4.9044**	6.18 ± 2.97	6.40 ± 2.48	0.4407^{NS}
Overall	48.85 ± 17.78	69.25 ± 17.87	6.2717**	54.42 ± 19.87	61.17 ± 17.81	1.9604*

**** Significant at 1% level * Significant at 5% level NS Not significant**

It is discerned from **Table 2** that during pre-test, children with autism from both the experimental and control groups had low scores for the all the five dimensions of functional skills i.e. 'self-care skills, functional academic skills, pre vocational skills, social skills and community skills'. Research conducted by Jasmin, Couture, McKinley, Fombonne, & Gise, (2009) also found that children with autism have poor functional skills.

After the intervention program was given, the post-test scores revealed that children with autism from the experiment group had improved in their functional skills in all the dimensions. A highly significant difference between pre and post tests for all the dimensions of functional skills of their children with autism was observed. Such an increase in the functional skills of children with autism from the experimental group can be attributed to the effectiveness of the intervention program. However, the post-test scores of children with autism from the control group showed that there was a significant improvement in the self-care skills for children with autism at 1 % level. Nominal improvement was observed in the remaining four dimensions of functional skills. There were no significant difference in the pre-post-tests scores of functional academic skills, pre-vocational skills, social skills and community skills of children with autism for the control group.

Table 3: Pre- Post-Tests of Awareness and Knowledge of Parents of Children with Autism (Experimental and Control Groups)

**** Significant at 1% level * Significant at 5% level NS Not significant**

It can be observed from **Table 3** that at the time of pre-test, parents of children with autism from the experimental and control groups had medium level of awareness and knowledge about autism and the importance of functional skills. This can be attributed due to the fact that when a child has received diagnosis for autism, their parents tend to acquire some information about autism from the doctors like the meaning of autism, whether it is a disease or disorder, its signs and symptoms, whether autism is curable or not, can the child avail referral services etc.

While, the post-test data showed that parents from the experimental group had increased in both their awareness and knowledge with the 't' values being highly significant (8.3588**and 11.1731**). Such an improvement in the awareness and knowledge of parents showed the effectiveness of the intervention program. A study by Luthra and Perry (2011) suggested that having sufficient knowledge about autism helps in the overall outcome for parents. The post test scores for the awareness and knowledge of parents from the control group, indicated a very minimal improvement. Although the change in mean scores is very marginal for the awareness, the 't' value was highly significant (3.4808**). Whereas, for the knowledge of parents, it was not significant (1.4814$^{NS)}$. However, there is no real improvement in the awareness and knowledge for parents of the control group.

4. CONCLUSION

Thus, it can be concluded that parents of children with autism requires training to improve their awareness and knowledge about autism and the importance of functional skills in order to better understand their child's current conditions as well as to effectively teach functional skills to their autistic children. When parents have sufficient awareness and knowledge about autism and importance of functional skills, their parental stress and caregiving strain will be lessened. They will also be able to handle the common behavioural problems of their autistic child at home. Further, it will help the child become more independent thereby reducing their problematic behaviours. In addition, this will also make the child become self-reliant and help them to mainstream into the society.

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