CHAPTER II

REVIEW OF RELATED LITERATURE

2.0 INTRODUCTION

A literature review is a text written by someone to consider the critical points of current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources, it enable the researcher to know the amount of work done in the concerned area and have knowledge of unknown and unexplored areas. The researcher must be aware of the knowledge generated and the ongoing process of knowledge generation for better clarity of the problem and an insight into its methodological issue. A careful review of research journals, Books, dissertations, thesis, and other sources of information on the problem to investigate is one of the important steps in the planning of any research study. The final and important aspect of reviewing related literature is to find the research gaps where the researcher can make some attempt to bridge them to some extent. In this chapter, a review of related literature is to find the gap (Biswal and Das, 2016).

Review-related study is one of the very necessary aspects of the research field. A review of the study gives the direction to the researcher on which type of study had been done and which type of study should be adopted for further study. Based on the review researcher will decide to make a background for the study. Each new generation of human beings makes use of accumulated knowledge as a foundation for building up further knowledge. For any kind of research work, there is a need to find the literature available in the related areas of research. A very effective research for specialised knowledge will be possible only with the help of related literature and one cannot develop an insight into a problem unless and until one has learnt what others have done and what remains to be done in a particular area. Thus the review of related literature forms the foundation upon which all work is built. The final and important in the planning of the reviewing of related literature is to find the research gaps where the researcher can make some attempts to bridge them to some extent. In this chapter, a review of related literature is presented in two sections. The first section deals with the review of related research conducted on intervention on children with autism spectrum disorder, intervention on parents who have children with autism spectrum disorder, survey study of parents with children with autism

spectrum disorder, Demographic study of parents with children with autism spectrum disorder, survey study of children with autism spectrum disorder, satisfaction and problems of special teachers. Researchers reviewed research in India and abroad from 1997 to 2023.

2.1 STUDIES CONDUCTED IN INDIA AND ABROAD

The study reviewed by the researcher has been presented by dividing it into two parts. The first part of the studies deals with studies in India and the second part study in abroad. The researchers came across the following literature on children with autism spectrum disorder-related studies which are presented as follows.

2.1.1 STUDIES CONDUCTED IN INDIA

The following literature conducted in India related to autism is presented as follows:

Bhargava (1997), Shaymsundar (2002), Ray (2008), Bineesh (2008), Ray (2009), Nandi (2010), Santha (2010), Alli (2011), Bali (2012), Patil (2012), Reddy (2013), Shetty (2014), Prabha (2014), Sunayan (2014), Chaturvedy (2014), Naniwadekar (2015), Chacko (2015), Sasikumar (2016), Khan and Humtsoe (2016), Parmar (2016), Kumar (2017), Singh (2017), Mishra and Sreedevi (2017), Jegan (2018), Kalaivnai and kalimo (2018), Arun and Chavan (2018), Dey (2018), Hussain and Balaramulu (2019), Moneta and Anthi (2019), Duggal and Dua et al. (2020), Mayur and Suhas et al. (2021), Kaur (2023).

Bhargva (1997) conducted a study on the autistic process: a study of its individual and social characteristics. The objectives of the study were (i) to study the autistic process in a sample of scientists and doctors and, through that study the importance and occurrence of such process in society, (ii) to further examine empirically the proposition that normality abnormality constitutes

a continuum rather than clear cut division that behaviour considered abnormal can vary much be normal and vice versa in many societies. By studying autistics a sample of normal doctors and scientists, processes which are pathological are explored. Also how certain psychological pathologies have been accepted as a part of our everyday life, (iii) To further study whether people who are autistic go to certain professions or certain professions induce autism-like traits in the individual through a sample of structured isolated institutes of scientific research and medical schools, (iv) To study the effect of cultures or social groups and individual on each other and how they change each other. The case history approach was used by the researcher. The sample size of the study was 35 medical doctors and the same number of nuclear and defence scientists. Case history and questionnaires were used for data collection. The following findings were drawn from the study. (i) Autism-like processes are a type of defence to deal with the massive sought of information by perceptual filtering and lack of communication so that the world instead of being unpredictable, controllable word. It is a response and structuring dedicated to the inner needs and the external reality. The term autism, used here does not imply a full-blown syndrome but is rather an extension of a metaphor. (ii) The accelerated rate of change in a modern technologically advanced society places a considerable amount of stress on people's adaptability requiring new skills and modes consistently to master the environment. The results are that many defences are being incorporated as patterns of everyday behaviour for survival, and some behaviours earlier considered pathological are becoming to some extent a part of the new normalities. (iii) Both doctors and scientists are esteemed members and major agents of social change and their study revealed that scientific training and inculcation of scientific attitudes do involve inducing autistic traits to adapt and be useful, productive members of the discipline. Autism-like traits described in the present study are more an induced mass response to a social phenomenon rather than an individual reaction. (iv) The study highlights the personality changes an individual undergoes as a part of the training imposed on him by the organisation.

Shyamsundar (2002) conducted a study on the profile of children and adolescents with autism and parental experiences and expectations about the service offered. The objectives of the study were to focus on the experiences and expectations of the parents of children and adolescents with autism –their view on services given or denied to them as service users and raise awareness of

their needs among service providers, to give an objective oriented thrust to government, voluntary and private sectors to provide with appropriate services to give a better quality of life the person with autism. The research methodology was a survey method. Sample sizes, 130 persons with autism were selected from special schools which cater to the children and adolescents with autism in five cities of Tamil Nadu namely Chennai, Trichy, Coimbatore Madurai, and Tirunelveli through purposive sampling technique. Tools were used (i) the first questionnaire on "Profile of the persons with autism". (ii) The second questionnaire on "Programs and services offered in special schools". Major findings of the study were (i) among the selected samples of children and adolescents with autism, males were more predominant than females, (ii) the majority of children and adolescents with autism surveyed came from higher income groups as per the classification of Chennai Metropolitan Development Agency (1997) whose parental annual income ranged between Rs.6000-9000/month, (iii) most of the children and adolescents with autism were found to be firstborn and the majority of the mothers reported about complications during post-natal period, (iv) apart from an inordinate delay in diagnosis of the children with autism parents had to run from post to pillar in getting admission in special schools, (v) parents could hardly think of anything to choose, as far as the schooling of their children, due to the non-availability of different services in such schools, (vi) nearly all of the children adolescents with autism surveyed in the study had sleeping problems at some point in their lives. Besides that these children also exhibited a wide diversity of challenging behaviours like destructiveness, self-injurious behaviour, hyperactivity and problems in elimination, (vii) only a small percentage of children and adolescents with autism were able to exploit their self-help skills independently. For the majority of the parents in the survey group, adolescence was the most difficult age to manage, (viii) there was reduced social interaction and recreation and increased parental tension among the families having children and adolescents with autism, which inevitably affected the siblings, (ix) parents expect the government and voluntary agencies and the special educators to create societal awareness, mobilize funds and come out with uninterrupted special education programmes, living facilities like respite care services, residential programmes, group homes and community-based sheltered workshops for their wards and ultimately help them in normal social integration, (x) there were neither transitional services nor vocational services for transitioning adolescents with autism to adulthood in most of the special schools surveyed. The resultant effect was that the children with autism notwithstanding

their potential for transitioning to adulthood as well as for vocational services, which paved the way to merge with society, were denied the much-desired opportunities. This is indeed a gross violation of the much-desired opportunities. This is indeed a gross violation of the provisions of the Constitution of India.

Ray (2008) investigated the effect of structured play on autism. The objectives of the study were (i) to construct a standardized problem Behaviour Checklist for children with autism. (ii) To see the effect of different stages of structured play on (a) cognition (b) Socialization (c) Communication & problem behaviour. (iii) Thereby to infer the efficacy of Structured Play on their global development. An experimental research methodology was adopted in the study. Sample size, 80 autistic children were included in the study through the Random sampling technique. Tools were used (i) Portage Early Education Programme (PEEP) (ii) Problem Behaviour Childhood Autism Rating Scale (CARS) Checklist (PBC). Following were the major findings of the study. (i) Cognition of autistic children improved after interventions in the form of structured play, as a whole, especially Constructive play and Functional play had a major impact on it. (ii) Socialization improved due to the effect of all the stages, independently, devoid of other general interventions mostly due to pretend and functional play. (iii) Improvement in communication was also evident as a result of this intervention. Functional and pretend were mostly contributively in this regard. (iv) Problem behaviour could not be reduced completely even after the interventions but a trend of improvement in this sphere was noticed.

Bineesh (2008) a study conducted entitled Autism: Cognitive and Behavioural Analysis in relation to intervention strategies. Following were the objectives (i) to assess the cognitive functions in relation to the different levels of autism. (ii) To explore the behavioural pattern in relation to different levels of autism. (iii) To explore the role of age and gender on cognitive functions and behavioural patterns among children with autism. (iv) To evaluate the usefulness and efficacy of parental training intervention on skill improvement and reduction of problem behaviour among selected children with autism. The method in present study two types of research designs, descriptive exploratory design and pre/post-test between-group design with

follow-up were used (Asher, 1994). Sample size, 60 children with Autism including both boys and girls, in the age range of 3-12 years consisted in the study through purposive sampling method. Tools (i) Socio-demographic Data Sheet, (ii) Childhood Autism Rating Scale (CARS).(iii) Gilliam Autism Rating Scale (GARS), (iv) Vineland Adaptive Behaviour Scale-Survey Edition (VABS), (v) Behavioural Assessment Scale for Indian Children with Mental Retardation (BASIC-MR). The major findings of the study were (i) the children with autism have more skills in receptive language and the problem exists in the sphere of expressive communication. (ii) The written communication is very poor in children with autism and great variability in communication skills. (iii) Children with autism develop the number concept very poorly with more individual variability. (iv) Children with autism show more disruptive behaviours. (v) Domestic, community and coping skills are poor in children with autism. (vi) Parental training intervention is effective for improving the cognitive and behavioural skills of children with autism.

Ray (2009) conducted a study on the role of sex education In autism psycho-bio-social approach. Objectives of the study were (i) to develop an odd sexual behaviour checklist to assess the odd sexual behaviour of the person with autism, (ii) to develop a sex and health education curriculum for the person with autism, (iii) to develop a parental acceptance checklist, (iv) to find out the effect of sex education on reducing odd sexual behaviour, (v) to find out the effect of sex education on reducing of other problem behaviour, (vi) to find out the effect of sex education on the level of parental acceptance, (vii) to see the effect of difference levels and mode of training on the behaviour of person with autism and their parents. The objectives were specified further in the following way: (a) To see the effect of part education along with parental involvement on the dependent variables, viz.,(i) Odd sexual behaviour (ii) Problem behaviour (iii) Parental acceptance (b) To see the effect of whole education along with parental involvement on the dependent variables, viz., (i) Odd sexual behaviour (ii) Problem behaviour (iii) Parental acceptance (c) To see the effect of parental teaching (by only parents) on the dependent variables, (i) Odd sexual behaviour (ii) Problem behaviour (iii) Parental acceptance. The experimental method was used in the study. The researcher had taken 45 people with autism from different special schools of Kolkatta and the sample technique was purposive. Tools were

used in the study (i) parental acceptance checklist, odd sexual behaviour checklist and the problem behaviour checklist and sex & health education curriculum used as well. Major findings were (i) the odd sexual behaviour checklist (OSBCL) was prepared which successfully extracted the odd sexual behaviour of autistic person, (ii) the first comprehensive curriculum for sex education in India was constructed which claim to successfully reduces the sexual behaviour and problem behaviour of autistic persons, (iii) a parental acceptance checklist (PACL) was developed which perfectly measures the level of parental acceptance of their disabled words, (iv) sex education as a comprehensive curriculum was very much effective to change odd sexual behaviour and problem behaviour significantly but this curriculum was partially effective to change significantly parental acceptance level of disability, (v) when only sex issues were taught then sex education showed minimum effect on parental acceptability, (vi) the efficiency of the therapist as well as social support is needed for any type of intervention even if the issue is private, (vii) the essence of whole curriculum as well as trained supervision to reduce odd sexual behaviour and problem behaviour on one hand and accelerates the parental acceptability on the other hand was established, (viii) both part and whole education had significant positive effect on odd sexual behaviour and problem behaviour of autistic person.

Nandi (2010) conducted a study on Music: as an intervention procedure in autism with the objective, (i) to identify appropriate Hindustani raga to be used for therapeutic purposes for persons with autism, (ii) to determine the effect of the musical intervention provided upon some function of person with autism, (iii) to determine the effect of specific Hindustani raga for the improvement of some function of persons with autism, (iv) to determine the effect of western music appropriate for improvement of some function of person with autism, (v) to compare the effect of western and Indian music on some function of person with autism, (vi) to determine the effect of music upon some functions of person with autism of different age groups, (vii) to determine the effect of music therapy upon the severity of autism as revealed through some function of the person with autism, (viii) to determine the effect of music therapy upon the person with autism and with ought epilepsy. The improvements were studied in terms of (a) reduction of problem behaviour, (b) improvement in communication and (c) improvement in socialization. The study was experimental. 90 autistic children were selected through the help of

the Childhood Autism Rating Scale (CARS), Portage Early Education Programme (PEEP), and Problem Behaviour Checklist (PBC) these tools were used. The intervention was implemented on a regular basis. The major findings of the study were as follows. (i) The children have gained significantly in socialization post-therapy. The difference has not been seen in the control group so it can be attributed to the musical intervention. (ii) The Indian ragas have lived up to its claim. The children have gained socialization post-exposure to Eastern music. (iii) The exposure to Pilu raga can reduce problem behaviour in the children. Efforts to do the same with different raga are going all over India. (iv)Western music here also has reduced problem behaviour significantly as well as celebrated Mozart effect has once again achieved a feat. (v) Both groups have gained significantly from the therapeutic programme provided but there is no significant difference between the two groups. The gain from Western sessions was higher. The results show both the groups have gained through the musical intervention provided. However, the epileptic group has experienced more reduction in problem behaviour. (vi) Music developed in the children the precondition essential for learning skills for more mature socialization and communication. It also made behaviour therapy easier and made them more receptive to the learning situation in the institution.

Santha (2010) conducted a study entitled Integrated Approach to Yoga Therapy and autism spectrum disorder. Following were the objectives of the study (i) to cull out the reference to ASD & related conditions in ancient Indian scriptures. (ii) To study the efficacy of yoga practice through a control design in (a) Increasing sitting tolerance, (b) Improving imitation skills, (c) Reducing hyperactivity and (d) Reducing repetitive/ stereotyped behaviour. The study was experimental in nature. In this study, the researcher selected 12 children with autism and their parents and their teachers through a purposive sampling method. Tools used in the study (interview, observation, questionnaire and tests). These were, (i) the modified form of Autism Research Institutes' form E-2 checklist (checklist– 1), (ii) Imitation Test Battery (ITB) (checklist 2), (iii) Repetitive Stereotyped Behaviour Test Battery (RSBTB) (checklist 3) (iv) Check the list of special educators' observation and parents' interviews. Major findings of the study were (i) The intervention consisted of a twenty-month intensive yoga program comprising warm-up practices, loosening practices, strengthening Asanas, calming Asanas, yogic Breathing practices

and chanting. The non-yoga group received traditional ABA-based training in a special school. In the yoga group there was a significant improvement in the mid-session (200thsession) followed further by a significant improvement in most of the parameters by the end of the yoga intervention (390th session). There was no significant change in any of the parameters in the non-yoga group. (ii) A study conducted with ASD children along with their parents compared to reports which showed better results in changing ASD behaviour. The duration of yoga practices in the present study was 1 hour per day for five days. The integrated yoga module used in this study included mind management techniques like OM meditation, cyclic meditation, deeper relaxation technique, mind sound resonance technique, yogic hymns, yogic counselling and devotional sessions to the parents of the ASD children who participated in the study. (iii) Improvement in autistic behaviour of ASD children after the practice of yoga resulting in better quality of life for parents. (iv) Increase in imitation behaviour. (v) Decreased repetitive stereotyped behaviour. (vi) Overall, this study revealed significant positive changes in overall participant scores in all ASD behaviours. It is difficult to say with any certainty that changes in ASD symptoms were due to the yoga intervention only. Yoga allows for simple Asana to be used in class as part of the curriculum. However, the benefits of yoga are that it not only uses simple Asanas as a way to release excess energy, but it also teaches participants how to focus their energy and concentration through deep breathing and relaxation techniques. Further, research has shown that meditative deep breathing exercises have a calming and focusing effect and relaxation exercises have shown positive effects on reduced hyperactivity, increased imitation and decreased repetitive stereotyped behaviour.

Alli (2011) conducted a study entitled Promoting Nutritional Status and Behaviour Patterns of autistic children through dietary intervention. Objectives of the study are the food habits, nutritional status, behaviour and cognition of the children after supplementation with specially developed foods and imparting nutrition education. The study was experimental in nature. The sample consisted of 400 autistic children and 200 parents of autistic children through a random sampling method. Tools, interview schedule & observation were used- (i) schedule to collect background details (ii) Autism awareness schedule (iii) food behaviour schedule. Following were the major findings of the study on the basis of the results it is evident that dietary intervention on

autistic children results in tangible improvement in their nutritional status, behavioural patterns and a sense of well-being which is obvious to the parents. The biochemical parameters such as blood haemoglobin, and mean immunoglobulin A and G improved after dietary supplementation containing autism-friendly nutrients while immunoglobulin E declined indicating the reduced allergens in the blood. The improvement was more pronounced in the experimental group II children who received the probiotic supplement. There was a marked reduction in the atypical behaviours of the children in both the experimental groups when compared with that of the control group children. The decline in the atypical behaviours was more evident in the group receiving the probiotic supplement. However, the supplement did not result in any remarkable change in the food behaviours of the autistic children. The experimental group children outperformed the control group children in their functional skills. There was a good response to the nutrition education given to the parents since they were not aware of the scientific basis behind the elimination or inclusion of specific foods or nutrients. The biscuits which were allergen-free and additive were liked by the children and the parents. The parents expressed their concern about the non-availability of such alternative foods in the market and wished that many such foods should be developed in the future for the benefit of autistic children. They were satisfied with the gradual improvement in the behaviour and functional skills of their child. The outcome of this research throws light on the path of this difficult subject towards undertaking more such relevant studies in future to explore the hither to unknown obstacles in understanding the problem. Such efforts will leave an impact at the national and global level in tackling the problem of autistic children.

Bali (2012) investigated the effectiveness of HolisticApproach to Neuro-Development and Learning Efficiency and skill intervention techniques on the perceptual-cognitive & behavioural skills of children with autism spectrum disorder. The following were the objectives of the study. (i) To study the effect of the HANDLE intervention programme on the development of perceptual cognitive and behavioural skills in children with ASD. (ii) To compare the effect of the HANDLE intervention programme on perceptual-cognitive and behavioural skills between the treatment group and control group. (iii) To correlate the mean gain scores of POS and SPCBS in children with ASD. The study was experimental. In this study, the researcher selected 50 autistic children through the random sampling method by the use of the Scale for Perceptual

Cognitive and Behavioural Skills in Children with ASD (SPCBS) and then divided them into two groups 25 in the experimental group and another 25 in the control group. The major findings of the study were (i) the HANDLE intervention programme was effective in the development of perceptual-cognitive and behavioural patterns skills in children with ASD, (ii) children with ASD who received the HANDLE intervention programme improved significantly in perceptual-cognitive skills in comparison to those who did not receive it. Children with ASD who received the HANDLE intervention programme improved significantly in manifesting positive behaviours in comparison to those who did not receive it; (iii) parents of children who received the HANDLE intervention programme had a positive experience of the programme.

Patil (2012) conducted a study on comparative study of stress coping mechanisms and psychological well-being among parents of children with autism, mental retardation and normal children. The objectives of the study were (i) to find out the differences in terms of stress, coping and psychological well-being among parents of children with Autism, mental retardation and normal children, (ii) to find out the gender difference in terms of stress for parents of children with autism, mental retardation and normal children, (iii) to find out the gender difference in terms of coping mechanism for parents of children with autism, mental retardation and normal children, and (iv) to find out the gender differences in terms of psychological well-being for parents of children with autism, mental retardation and normal children. A descriptive survey method was used and through stratified random sampling, a sample had been taken of 240 parents of children with autism and mental retardation children and normal children. Data was collected through the help of these tools-(i) the Parents Stress Scale by Berry and John (1995) was used to assess parenting stress of parents of children with autism, mental retardation and normal children, (ii) two domains of Coping namely, emotion-focused coping and problem-focused coping, were measured with the help of Ways of Coping Questionnaire, developed by Lazarus and Folkman (1988), (iii) psychological well-being was measured by General well-being Test developed by Verma, Dubey, and Gupta (1983), (iv) personal data sheet consists of the demographical details of participants. Major findings of the study were (i) parenting stress was higher among parents of children with autism compared to both parents of children with mental retardation and parents of normal children, (ii) use of emotion focused coping was higher among parents of children with autism than parents of children with mental retardation and normal

children, (iii) parents of children with autism used less problem–focused coping than parents of children with mental retardation and normal children, (iv) Psychological well-being of parents of children with autism was poor than parents of children with mental retardation and normal children, (v) parenting stress was higher in mothers of children with autism and mental retardation compare to their fathers, (vi) fathers of normal children compared to mothers had higher parenting stress, (vii) mothers of children with autism, mental retardation and normal children used more emotion focused coping than their fathers, (viii) fathers of children with autism, mental retardation and normal children used more problem focused coping than their mothers, (ix) fathers of children with autism, mental retardation and normal children had better psychological well-being in comparison to their mothers.

Reddy (2013) studied psycho-educational intervention for children having mental retardation with autism spectrum disorder. The major objectives of the study were (i) to assess the prevalence of mental retardation (MR) autism in a sample of community-dwelling children, (ii) to plan and execute psycho-educational intervention on a select sample of children with MR having autism, (iii) to examine the efficacy of psycho-educational intervention on ISAA across personal data variables in a select sample of children with MR having autism and (iv) to examine the efficacy of psycho-educational intervention in various subgroup of personal data variable of the sample. The experimental method was used in the study. The sample size was 500 MR children, after which 35 autistic children were selected through the purposive sampling technique with the tool of Developmental Screening Test (DST), Vineland Social Maturity Scale (VSMS), BinetKamat test of Intelligence (BKI) and Indian Scale for Assessment of Autism (ISAA). Following were the findings of the study. (i) The result on age showed that the age group of 6-9 years has shown more improvement after intervention than the age group of 9-12 years. (ii) The result on gender showed that males have shown more improvement after intervention than females, the reason could be less female ratio. (iii) The results showed that children with mild autism showed better improvement than children with moderate autism. (iv) Results of the study revealed that there was an increase in the score in the personal and academic domain of FACP after intervention which was found highly statistically significant. (v) The age, gender, and severity levels influenced the effectiveness of psycho-educational intervention. (vi) Certain

parental variables like the age of the mother, the age of the father, educational level (higher education) of parents influenced the effectiveness of the intervention thus the result of the present study showed the efficacy of the psycho-educational intervention for children with mental retardation having autism.

Shetty (2014) conducted a study entitled Language and Communication Analysis in children with verbal autism. The purpose of the study was (i) to analyse the language of the verbal autistic children (clinical group) with 4-5 years of mental age at morphemic, phonemic, syntactic, semantic and pragmatic levels. (ii) Comparing the language performance of subjects with autism (clinical group) with that of mental age-matched normal subjects (reference group). (iii) Demonstrating that the description of language skills will provide initial guidelines for better intervention programmes. The methodology was qualitative analytical the study obtained a natural conversation sample of 10 typically developing children (reference group) of 4-5 years of age with MA-matched thirty verbal autistic subjects. The video and audio samples were transcribed and analyzed in terms of phonology, syntax, semantic and pragmatic aspects. The selection structure for the analysis of Kannada was based on various sources, Subba Rao (1995); Karanth (1985); Schiffman (1979); Carrow - Woolfolk and Lynch (1982); and Coupe et. al., (1988). All the subjects spoke Kannada as their major language and were from a middle socioeconomic status in and around the Mangalore and Bangalore areas. The conversational sample from all the subjects was video and audio recorded during interaction in a play situation using a similar sequence of games and free conversation for about 30 minutes. The sample obtained was transcribed and subjected to analysis based on the general guidelines provided by Subba Rao (1995) which was developed based on LARSP (Crystal et. al. 1979 and 1989). A total of 18 scans were made for transcription to obtain quantitative and qualitative data. The quantitative data included three measures, total number of sentences, mean number of sentences per turn and mean sentence length. The qualitative information included phonetic aspects (vowels and consonants) of Kannada; morphological aspects, syntactic aspects-plurals, tenses, PNG markers, case markers, transitive, intransitive and causatives, sentence types, conditional clauses, predicates, participle constructions, conjunctions, comparatives and quotative, semantic aspects (semantic intentions and semantic relations) and pragmatic aspects. For each aspect, the

presence or absence of the structures was noted. Measures of the number of subjects showing the presence of each of the structures were calculated. Major findings were as follows (i) the verbal autistic subjects showed a different pattern of using pragmatic skills compared to the reference group subjects. For example, the comparable skills were - response to labelling and requests for objects. Aspects of smiling, gaze exchange and eye contact were expectedly low. More frequent use of response to labelling and joint attention in verbal autistics could be due to the nature of training in speech-language therapy. It does appear that the verbal autistic subjects do not present a complete. Deviant language, however, the differences reported point to the important role of training. Speech-language pathologists will need to engage in detailed language sampling and transcription analysis to support effective planning of language intervention targets across sphonology, syntax, semantic and pragmatic aspects.

Prabha (2014) conducted a study entitled Efficacy of Behaviour Technology in the Management of Socialization, communication and Reduction of Self-injurious Behaviours among autistic children in groups. Objectives of the study were (i) to find the effectiveness of group training for heterogeneous autistic children joining the training at any stage not necessarily the early stages. (ii) To chart program based on the application of reinforcement to achieve adaptive skill, communication skill and socialization skills, to provide sensory needs, and to reduce anxiety and self-injurious behaviours. (iii) To find out the level of adaptive skills, communication and social skills the children achieve in a group intervention. (iv) To find out how they can generalize their learnt behaviour. The methodology used a Qualitative, descriptive, multiple case study research design, using a direct observation method research design adopted and 30 children participants were selected using a non-probability sampling technique namely purposive sampling technique and as a tools behaviour modification training programme. Major findings were as follows (i) The children were able to function independently in the class without the support of the caretaker after training. (ii) The classroom arrangement and the schedule helped the children adjust to school as novel situations make autistic children tensed and stressed. (iii) The program helped to develop compliance, sitting behaviour, eye contact and attention. Their joint attention also improved which helped them in looking and learning the objects taught to them. (iv) Children before training were sitting in chairs restricted with trays to restrict their movement as they were very hyperactive and it was difficult to make them sit in a place. But after training, they are able

to sit on benches without running around and pushing each other. (v) The training has helped them to express their needs meaningfully through gestures for non-verbal children. (vi) Functional communication has improved for these children. Joint attention and learning to point have helped them in improving both expressive and receptive communication. (vii) The target skill was taught till the children were able to perform the task independently. If the children were still able to perform the task it was considered generalized. That is the children have learnt the task meaningfully and without confusion.

Sunayan (2014) studied the families of children with autism: selected contextual variables. Following were the purpose of the study (i) to study the socio-demographic profile of families with autistic children. (ii) To study the impact of autism on the families of autistic children. (iii) To evaluate the quality of life among parents of autistic children. (iv) To examine the needs of families of autistic children. (v) To study the stress among the parents with autistic children in the family. (vi) To study the family functioning (cohesion and adaptability) of families with autistic children. A cross-sectional survey method was used. The sample was 100 mothers, 60 fathers and 100 children selected through the purposive technique with the help of General Information Blank (GIB) prepared by the researcher another tool was used also which one was the Indian Scale for Assessment of Autism (ISAA) was developed by the National Institute of Mentally Handicapped (NIMH), Secundrabad. and the Impact on Family Scale and Family Needs of Questionnaire was developed by Siklos and Kerns (2006) as well as The parenting stress index (PSI) was developed by R. Abidin (1980). World Health Organisation-Quality of Life (WHOQOL-BREF) was developed by Alison Harper on the account of the WHOQOL group. The Family Cohesion and Adaptability Evaluation Scale (FACES-III) was developed by Olson D. H., Portner J., and Lavee Y. in the year of (1985). Family Crisis Oriented Personal Evaluation Scale (F-COPES) was developed by Mc Cubbin in the year (1982). Perceived Social Support-Friends and Family (PSS-Fr and PSS-Fa) were developed by Mary E. Procidano and Kenneth Heller in the year (1983). The major findings of the study were as follows (i) There was no significant relationship between the age of parents, educational qualification, and type of family and socioeconomic status with the child's autism. (ii) The result showed a significant difference in the number of boys and girls. It implied that more boys were found autistic in comparison to girls. (iii) The result revealed that the impact of autism was found to be significant

on mothers and fathers having a child with autism. (iv) The results revealed that there exists a significant association between the child's autism and the quality of life of mothers and fathers. The quality of life of mothers is higher than that of fathers. (v) All the fathers with children having autism expressed the need for continued therapies not only at times of crisis. They also expressed the need for occupational therapies and behavioural therapies. (vi) The result revealed that there was a significant relationship between a child's autism and stress among parents. It implies that mothers and fathers having a child with autism experience stress. Mothers experienced more stress than fathers of children with autism. (vii) The result revealed that mothers' families are best at handling daily stressors and the relational strain of change in the family over time. (ix) The results revealed that mothers experience more social support from friends and family than fathers.

Chaturvedy (2014) conducted a study entitled Effect of Therapeutic Intervention on Psychological Problems of Mothers of Children with autism spectrum disorders. Objectives of the study were (i) to assess the relation that exists between demographic variables such as age, education, occupation and socio-economic status and stress, depression, and coping behaviour in mothers of autistic children. (ii) To assess the effect of intervention on managing the psychological problems in mothers of children with autism spectrum disorders. The nature of the method was experimental. 68 mothers of children with autistic disorders were selected through the random sampling method. Tools were used in the study (i) Interviews (ii) Socio-demographic data sheet (iii) Childhood Autism Rating Scale (CARS) (iv) Hamilton Rating Scale for Depression (HARS) (v) Family Interview for Stress and Coping in Mental Retardation (FISC) (vi) Brief Symptom Inventory (BSI) (vii) Parenting Stress Index (PSI). Major findings were as follows (i) Mothers of children with autism have personal distress, and due to special children unable to spare leisure time and also neglect other family members. They also have altered social life, feel social embarrassment and interpersonal problems. (ii) There is a poor coping skill in mothers of children with autism; they have a negative attitude towards management and a negative attitude towards the child as a person. There are faulty rearing practices and have lack of awareness about the child's condition as well as inadequate expectations & misconceptions. (iii) The result also indicates that subjects show anxiety, depression, somatisation and interpersonal sensitivity. (iv) Mothers of children with autism have parental distress and high

parent-child dysfunctional interaction. They feel their child is difficult to manage. (v) It was also found that there were significant symptoms on sub-scales of the Hamilton Rating Scale such as depressed mood, feelings of guilt, insomnia, and anxiety, somatic symptoms general and gastro-intestinal among mothers of children with autism. (vi) There was a significant positive change regarding attitude towards the management of their child, and attitude towards the child as a person after intervention. There was also a change in rearing practice in general and in specific. A significant improvement occurred in the coping skills of the mothers of children with autism after intervention. There was a significant improvement in depressed mood, insomnia, somatic anxiety, and somatic symptoms in general and a decrease in feelings of guilt after attending therapeutic intervention in mothers of children with autism. (vii) Housewives had more depression as compared to working women. (viii) The low socio-economic status had the most unfavourable coping behaviour as compared to middle and high subgroups.

Naniwadekar (2015) conducted a study entitled Effect of Customised Behavioural Intervention on Problem Behaviours as distinguished from Skill Deficits in children with Autism. The study was conducted with the following objectives (i) to identify, list and record as baseline different types and specific instances of problem behaviours as distinct from deficits in their skill behaviour for children diagnosed with autism. (ii) To carry out an individualized case-by-case topological mapping of situations, triggers, antecedents, and functions maintaining aspects and consequences for the identified problem behaviour as observed in home or school settings for the children diagnosed with autism. (iii) To evolve an individualized and or small group-based behavioural intervention strategy based on the identified problem behaviours in home or school settings for the children diagnosed with autism. (iv) To implement the evolved individualised and/or small group-based behavioural intervention strategy on the target children with autism for the specified time frame and/or envisaged sessions in the home or school setting. (v) To undertake a terminal evaluation of the different types and specific instances of problem behaviours in home or school settings for children diagnosed with autism. The experimental method was used in the study. 60 children were taken through a random sampling technique with the help of an Activity checklist for preschool children with developmental disability (ACPC-DD), a Problem Behaviour Survey Schedule (PBSS), and Demographic data sheet and open open-ended interview probe. The study came out with the following findings (i) There was

substantial gain/ improvement in the skilled behaviour of children in both the groups, although the gain was much higher for the group receiving the therapy. This difference in the level of improvement could be attributed to tailor-made/ customised behavioural intervention. (ii) With an increase in skill behaviour there was a consequent decrease in the problem behaviour as well in the children from both the groups. But again it was seen that the group receiving CBI has improved more than the more than the group not receiving the same. (iii) There was a significant decrease in the intensity of problem behaviour while the frequency of the same was reduced marginally. (iv) At terminal evaluation, after the CBI, all respondents agreed that there were decrements in frequency as well as intensity of problem behaviour in their child with autism. (v) When analysed separately, it was found that the therapist estimated a significant decrease in the intensity of problem behaviour after CBI, followed by teachers and the therapists for the experimental group (vi) Similar trend of therapists estimating little gains/decrease in problem behaviour scores for children with autism, rather than teacher and parents. (vii) In the case of skill behaviour, there were significant gains in pre-academics and self-help domains, followed by play and cognitive in the experimental group, reiterating the fact that our society/ parents still give more importance to academics than any other skill for their child. (viii) Talking about problem behaviour intensity there was more decrease in Violent and Destructive Behaviour followed by Odd Behaviour, Hyperactivity, and Repetitive Behaviour, while in frequency score more decrease was observed in Violent and Destructive Behaviour followed again by Odd Behaviour, Self-Injurious Behaviour for experimental group.

Chacko (2015) studied on satisfaction and problems of special teachers in teaching children with autism, mental retardation and multiple disabilities with the following objectives (i) To find out the satisfaction and problems of special teachers in conducting special education assessments for children with autism, mental retardation and multiple disabilities. (ii) To find out the satisfaction and problems of special teachers in the selection of appropriate skills for children with autism, mental retardation and multiple disabilities. (iii) To find out the satisfaction and problems of special teachers in planning the teaching procedures for children with autism, mental retardation and multiple disabilities. (iv) To find out the satisfaction and problems of special teachers in planning and using appropriate motivation strategies for children with autism, mental retardation and multiple disabilities. (v) To find out the satisfaction and problems of special teachers in the

selection and preparation of appropriate teaching materials for children with autism, mental retardation and multiple disabilities. A descriptive survey method was adopted for the study. The sample of the study consisted of 651 special teachers working with children with Mental Retardation, Autism and Multiple Disabilities. A random sampling method was employed for the selection of the sample. The self-developed tools were used for measuring the level of teaching problems, reinforcement problems and level of satisfaction in teaching. Data was collected with the help of the following tools (i) Personal Data Sheet (ii) Satisfaction Inventory for Special Teachers (iii) Problem Inventory for Special Teachers (iv) Reinforcement-related Problem Inventory for Special Teachers. The following statistical tests were employed for the analysis (i) Descriptive statistics (ii) Student's t-test (iii) ANOVA (iv) Scheffe test for pairwise comparison (v) Karl Pearson's Product Moment correlation coefficient. Major findings were as (i) Number of teachers in the school emerged as a significant influencing factor of problems of teachers in teaching children with mental retardation, autism and multiple disabilities. Teachers working in schools with 5 to 10 teachers were found to have significantly higher problems than those in schools with 20 or more teachers. (ii) Type of school, age of teachers, experience of teachers, educational qualification of teachers, class level, type of disability, religion of teachers, locality of residence, monthly income, marital status, and gender of teachers, were not found to be significantly influencing the problems of special teachers. (iii) Teachers with up to eight children in the class were found to experience significantly more problems than teachers with more than eight children in the class. (iv) Significant differences in the satisfaction of teachers were noted with respect to the level of their problems in teaching. As the level of problem increases the satisfaction was found to decrease. (v) Type of disability emerged as a significant influencing factor of problems in using reinforcement strategies in teaching children with autism, mental retardation and multiple disabilities. Teachers of children with autism have significantly more problems in using reinforcement strategies than that of mental retardation and multiple disabilities.

Sasikumar (2016) investigated and analysed the effect of psychological signals repose in children with autism with the following objectives (i) to identify the autism severity index using screening questionnaires. (ii) To analyse the performance between autistic and control children during the mental task. (iii) To monitor the psychological signal variation between autism and the

control group. (iv) To develop a webcam-based interactive learning and monitoring assistive device for autistic children. The method used in the study was experimental. The researcher took 65 autistic children as a sample by using Gilliam Autism Rating Scale, and Questionnaire as well as three main sub-scale divisions like stereotype behaviours, communication and social intervention. The following findings were drawn from the study. (i) Teaching methods might play a crucial role in social interaction and behaviour for autistic children. (ii) Mental task performance was poor for the autism group as compared to the control group children. (iii) This thesis addresses the physiological signal variation in autistic children and control children. The heart rate of the autism group was higher as compared to the control group due to the higher stress level. The amplitude of the Ectoderm activity-GSR was high for autistic subjects due to more autonomic nervous system activity. (iv) Web camera-based systems will provide better learning and monitoring mechanisms for autistic children.

Khan &Humtsoe (2016) conducted a study on the quality of life experienced by parents having children with ASD and LD. A total of 60 mother participants were purposively selected for the study and assessed on their well-being. Results showed that both the groups differed significantly on all four domains of quality of life such that mothers of children diagnosed with ASD had significantly lower levels of scores on all four domains–physical, psychological, social relationships and environment as compared to the mothers of children diagnosed with LD.

Parmar (2016) a study conducted on the knowledge, attitudes and practices of parents of autistic children. Objective of the study (i) to study the attitude of parents towards Autistic children. (ii) To study parent's practices in dealing with autistic children. Explorative cum descriptive research methodology was used for the study. 155 parents of autistic children were selected as a sample through the snowball sampling method. The following findings were drawn (i) family plays a prominent role in the child's socialization. (ii) There is not much influence of Age in the case of Attitude of Parents towards their autistic child. (iii) There is a significant association between the Education and Attitude of Parents of autistic children. (iv) Education has much influence on the Attitude of Parents towards autistic children. (v) The study revealed that some parents had also experienced negative thoughts and suicidal thoughts and restricted themselves or made themselves aloof from society. (vi) It is also found that parents also believe in receiving the

proper guidance and knowledge about the various government programmes or benefits for autistic children as well and they also want to update and make themselves aware of the legislation for autism. (vii) There is much influence of Age in the case of practices of parents of autistic children.

Kumar (2017) studied the efficacy of structured yoga intervention for Children with autism spectrum disorder (ASD): an exploratory study. Objectives of the study were (i) To prepare a structured Yoga intervention program using the Integrated Approach of Yoga Intervention (IAYT) developed and used successfully by Arogya Dharma in S-VYASA University for different ailments like Anxiety Depression, sleep problems, and Gastrointestinal disorders. Asana was selected from IAYT modules suitable for three problem areas of ASD children to be used in special schools. (ii) To assess the severity of autism symptoms in children. (iii) To test the efficacy of the structured Yoga intervention program to check improvement in the following areas. (a) Sleep disorder (b) Gastrointestinal disorder (digestion-related problems and food habits) (c) Behavioural problems. The nature of the study was Experimental and the sample was selected through the convenient sampling technique, 64 children with ASD were selected for the study. In the study interview schedule was used by the teacher to collect data from parents under the supervision of the researcher. Major findings were in the study (i) In this study was proved that combined yoga intervention to address different problematic areas of ASD children can be a successful intervention. (ii) This study also proved that Yoga intervention improves sensory integration of ASD children when compiling pre and post-data of the Yoga group. But control group did not show any improvement in this skill. Sensory integration like seeing, hearing, tasting and certain movement coordination according to the situation is essential for everyone. ASD children who are lacking in this; show significant improvement in post-intervention Behaviour problems are considered the core symptoms of ASD children until recently, but in this study, it was proved that combined Yoga intervention to address different problematic areas of ASD children can be a successful intervention (iii) This study has found Yoga was a most effective change in ASD children all areas of problems like sleep, gastrointestinal and behaviour problems. Yoga cannot be considered as a kind of treatment, but a way of life. Yoga should be made routine activity for ASD children to keep the overall development and to lead an independent life with little support.

Singh (2017) conducted a study on verbal expression and comprehension in Hindi-speaking autistic children. Objectives of the study were (i) an attempt to investigate the level of impairment in the language of CWA. (ii) The present study tries to investigate the language skills of Hindi-speaking CWA. (iii) The study also focuses on the comprehension skills of these children. (iv) The study also investigates the difference between the language and comprehension skills of mild and moderate CWA. A qualitative method was used in the study. The sample size was 60 children with autism and their parents. The samples were selected through the purposive sampling technique. A self-administered questionnaire was used. The questionnaire (Bryman, 2009) for parents and the second set of questionnaires had some general questions like birthdays, festivals and likes and dislikes of CWA. The language sample from the subjects was collected through-(a) flash Cards (colours, animals, food, fruits, vegetables, vehicles, stationeries) and objects (b) direct interaction with the child (c) classroom observation. The researcher used other tools for data collection from CWA: The speech was recorded with the help of a Sony IC audio Recorder (Model no. ICD-UX71F). The data were then transferred into the laptop and transcribed. The major findings of the study were (i) Two or three-word utterances were common in CWA. Both Mild and Moderate Children responded to most of the questions in two to three words. A prompt was needed in most of the cases to sustain the conversation in order to get more language samples. (ii) The rate of production and comprehension of Mild CWA was better than that of Moderate CWA at all levels. (iii) The most frequently used category was that of verbs (action words) which were followed by Nouns, adjectives and adverbs. The same was the result of comprehension too. CWA gave positive results in the recognition of action words. (iv) Connecting words were rarely used. The only used conjunction in the speech of some CWA was "and" i.e. "aur" in Hindi. Other conjunctions were not used at all although the comprehension of these words was present. (v) The overall language skills of Mild CWA were better than moderate CWA. (vi) All the children produced and comprehended simple sentences. Compound sentences were rare and complex sentences were absent at both levels. Most of the CWA used possessive sentences. More than 50 per cent of the CWA produced and comprehended negative sentences. (vii) Pronoun reversal was found only in 40 per cent of the children and the incidences of reversal were rare. (viii) Echolalia was common. Immediate Echolalia was there in almost all CWA and Delayed Echolalia was present in few participants. (ix) More than 80 per cent of the

children had the habit of hand flapping and clapping and laughing in the middle of the conversation. (x) The development of age does not show any rise in the development of MLU of CWA. The result of the present study shows that the MLU of 6 to 16-year-old CWA ranged between 2-4.5, which is quite low from the MLU of typically developing children. (xi) The reading and writing skills of these children were very poor. The researcher observed that most of the children were learning to write two-letter words. As compared to Hindi, the reading and writing skills of these children were better in English. The reason behind it could be that children are taught to read and write English language before Hindi in the Schools.

Mishra and Sreedevi (2017) studied an analysis of the reports of parents on alarming signs of autism in children. The ex-post–facto method was used for the study. The snowball sampling technique was used to select a sample size of 60 parents of children with autism or with ought associative conditions. A face-to-face interview was conducted to collect the information related to the study. Major findings of the study revealed that the majority of the parents observed signs and symptoms in their autistic children like unable to follow instructions (88%), poor attention span (83%), and inability to communicate needs and requirements (82%). Other common symptoms included poor eye contact (77%), peculiar behaviours (72%), unable to get along with peer group (55%), inability to sit in one place (51%), followed by developmental delays (42%) in language, social and motor skills.

Jagan (2018) conducted a study on the experiences of raising children with autism: father perspective. The study was conducted with the following objectives (i) to understand how fathers raise a child with autism and face the challenges during this process, (ii) to understand how father balance their lives. A qualitative method was used in the study. In the study, 13 fathers of children with autism were taken through purposive sampling for the in-depth interview. A general health questionnaire (GHQ-12) was used for screening common mental disorders and It was used to assess the overall psychological well-being. Kuppuswami's Socio-Economic Status Scale (KSESS) (2015) is commonly used to determine the Socio-Economic status of urban families was used as well. The following findings were drawn from the study-Six master themes with sub theme emerged from the analysis of the semi structured interviews: (a) Making sense of early warning signs - (i) Understanding the atypical behaviours (ii) Speech delay and social

difficulties (iii) Identifying similarity between child and self (iv) Neutralising effects of the family (v) Relying on professionals contentment vs. discontentment (vi) Orienting towards autism (b) The impact of diagnosis - (i) Devastated by the new understanding (ii) Losing the golden period-delay in seeking a Diagnosis (iii) Diagnosis as a pathway to intervention and knowledge (iv) Relocating to care for the child needs (v) Reluctance for a second child (vi) Future concerns (vii) Why me-The cycle of karma (c) Negotiating the social world- (i) Feeling judged (ii) Questioning parenting skills (iii) Social restrictions and distancing (iv) Negative labelling (v) Peer group exclusion (d) Accepting an accommodating autism - (i) Progress as a motivator (ii) Accepting the shortcomings (iii) Inclusion and integration (iv) Adjusting expectations (v) Sibling as the future guardian (vi) Reorganising lifestyle (e) Personal transformations - (i) Connecting with disability (ii) Personal growth and maturity (iii) Positive perceptions of care giving (iv) Acquiring a new role (v) Loss of self-time (vi) Religion- a source of strength vs. loss of trust (F) Bonding with the child-(i) Syncing into the child's world (ii) Shared activities (iii) Rewarding moments (iv) Expanding fatherhood role.

Kalaivnai and Kalimo (2018) conducted a study on Psychological Problems Faced by the Parents of Children with Autism. Objectives of the study were (i) to analyze the problems faced by parents of autistic children, (ii) to assess the level of stress faced by the parents of autistic children, and (iii) to assess the level of adjustment among the parents of autistic children. The sample size was 50 parents (18 fathers and 32 mothers of autistic Children) drawn from Mind Matters in Vilankurichi and AIM in New Siddhapudhur, Coimbatore District, Tamil Nadu. Simple random sampling techniques were used to select the sample for the study. 32 per cent of parents had a score of less than 48 (low level of stress), about 44 per cent had a score between 48 and 57 (moderate level of stress), and the left 24 per cent had a score of greater than 57 (high level of stress). The major finding was done the range of scores indicates that both mothers and fathers were facing a moderate level of stress due to their autistic children. It was concluded that the parent's ability and confidence in their competence in parenting a child in challenging situations may reduce their stress to a limited extent.

Arun and Chavan (2018) conducted a study with the main aim of estimating the prevalence of ASD in the Union Territory of Chandigarh, India. The objective of the study was to estimate the

prevalence, the Union Territory of Chandigarh having a population of 1055450 was divided into urban sectors, urban slums, and villages, using the population proposition to size technique. A population of 100359 was covered in a community-based survey. Individual households were connected in a pre-defined pattern: for urban sectors and villages, house numbers were used, while for urban slums all households were contacted from the centre of the slum to the peripheral areas using maps available with local municipal authorities from this area 26,848 houses were visited. Children between ages 1 and a half to 10 years (N=8438) were screened using the Chandigarh Autism Screening Instrument (CASI). Thirty-two children scored above cut off on CASI, 2 had shifted to other places and 30 were assessed in detail. Nineteen were diagnosed with ASD. The diagnosis was made according to DSM-5 and a detailed assessment was done using the Autism Diagnostic Interview-Revised and Childhood Autism Rating Scale. The study found that the prevalence of ASD was found to be 2.25 per 1000 children in Chandigarh.

Dey (2018) conducted a study on evolving an intervention programme on the affective component of the theory of mind and its relationship with language in individuals with autism spectrum disorder. following Objectives were (i) to find out whether recognition of the emotional expression of the participants with ASD varies across genders (ii) to find out whether the intervention improves recognition of emotional expressions of the participants with ASD (iii) to find out whether the intervention improves emotional responsiveness of the participants with ASD. The experimental method was used in the study. Twenty-six (26) participants with Autism Spectrum Disorder (ASD) were selected as participants using purposive sampling techniques for the study. Only verbal individuals with ASD were selected. Tools were used in the research (i) emotion recognition videos (iii) emotion responsive checklist (iv) autism diagnostic checklist (ADCL) (vii) developmental screening test (1977). The following findings were drawn from the study. (i) Both male and female participants' ability to recognize the same gender and cross-gender expressions is equal. (ii) this intervention is found to be very effective in improving recognition of emotion and Understanding the causes of emotion in the case of individuals with ASD. (iii) The result also shows that these participants' emotional responsiveness improves after intervention as perceived by their parents.

Hussain and Balaramulu (2019) conducted a study on the perceived burden on special educators dealing with autistic children and intellectually impaired children. The following objectives were in the study (i) to study the socio-demographic characteristics of the respondents, (ii) to study the burden on special educators who are teaching autistic children and intellectually disabled children, (iii) to study and compare the burden of special educators who are less than thirty-six years and above (iv) to study and compare the burden of special educators based on their gender. A descriptive survey method was used for the study. The sample size was 15 special educators who teach autistic children and 15 special educators who teach intellectually disabled children. Tools were used Special Performa designed for the study to get socio–demographic details about the subject, the Care-giver burden scale which was developed by Zariat et al. (1980). Data analysis using the SPSS (16) version and the statistic was used analysis of variance (ANOVA), and Chi-square test were used in the study. Major findings were (i) Most of the special educators feel moderate to severe burden in dealing with intellectually disabled children as well autistic children (ii) Most of the special educators, who are less than thirty-six years of age, feel mild to moderate burden in dealing with special children whereas most of the special educators who are thirty-six years or more, feel moderate to severe burden in dealing with special children (iii) Most of the male special educators feel mild to moderate burden in dealing with special children whereas most of the female special educators feel moderate to severe burden in dealing with special children.

Maneta and Anthi (2019) studied Autism Spectrum Disorder: A Case Study on Students Attainments. This study aims to explore the level of linguistic skills of a preschool child with a disorder of the Autistic Spectrum. This was a qualitative study. The child was evaluated through certain linguistic tests whose organization is based on the existing international research. The findings of the research lead to the conclusion that the linguistic characteristics of speech (phonological, morphological, and semantic) of children with Disorders of Autistic Spectrum Disorder are significantly inferior compared to the expected developmental course.

Dua et al. (2020) conducted a study on what works and how: Adult learner perspectives on an autism intervention training program in India. Objectives were used to capture the perspectives of trainees on the effectiveness of andragogycal approaches adopted in the autism intervention training program and the impact of this training on their work. Qualitative research methodology

was used in the study. A purposive sampling technique was used for this study, in this 11 in-service professionals from seven cities of India completed the three on-site teaching modules and all supervision sessions of the AITP were selected. The tools of the study were open-ended questionnaires and in-depth interviews. Major findings were (i) the impact of the program was perceived through an increase in trainees' knowledge and skills, impact on their organizations, and positive outcomes for children with autism spectrum disorder and their families. (ii) There is a need to develop and document comprehensive, contextualized, and evidence-based training programs for autism spectrum disorder professionals in low and middle-income countries. Focusing on andragogy cal frameworks while conceptualizing and delivering these training programs is underscored, as approaches that promote self-efficacy in learners and enable transformative learning can lead to a cascading impact in resource-constrained settings.

Mayur and Suhas et al. (2021) conducted a study on coping with autism during the lockdown period of the COVID-19 pandemic: A cross-sectional survey. Objective was used to understand the magnitude of the impact of lockdown, and its effect on the health and behaviour of individuals with ASD and their families. Survey methodology was used in the study; the sample size was used for the survey 153 families. Tools were used for the survey questionnaire on the basis of socio-demography. The findings were in the study, 85% reported benefits of the online therapy. Out of the 153 families 55% total completed the survey. Out of the 153 families, nearly half of the individuals with ASD had an inadequate understanding of lockdown, 54% had increased screen reported decreased interest and pleasure in doing daily activities and 43% felt depressed and hopeless. About 80% of families reported short–term positive changes such as improved speech, language skills, and participation in household chores.

Kaur (2023) investigated on impact of Mind Games on Executive Function and Social Skills of Autism Spectrum Disorder Children: A Triangulation Study. The following objectives were (i) to develop computerized and task-oriented mind games for autism spectrum disorder children. (ii) To study the effect of mind games on the executive function of autism spectrum disorder children. (iii) To compare the effect of computerized and task-oriented mind games on the executive function of autism spectrum disorder children. (iv)To study the effect of mind games on the social skills of autism spectrum disorder children. (v) To compare the effect of

computerized and task-oriented mind games on the social skills of autism spectrum disorder children. (vi) To compare the effect of task-oriented and computerized mind games on the retention of variable executive function among autism spectrum disorder children. (vii) To compare the effect of task-oriented and computerized mind games on the retention of variable social skills among autism spectrum disorder children. (viii) To study the mind games effect on retention of executive function among autism spectrum disorder children. (ix) To examine the mind games' effect on retention of social skills among autism spectrum disorder children. (x) To explore the effect of computerized and task-oriented mind games on the executive function and social skills of autism spectrum disorder children. (xi) To explore the lifestyle of autism spectrum disorder children and their reaction towards mind games through qualitative analysis. The experimental method was used for the study. A purposive sampling technique was used in the study; the sample size was 15 children with autism. Tools were used (i) Executive function performance-based test. (ii) Observation schedules on social skills for an investigator, teacher, and parents. (iii) Video recording of the social skills of ASD children. Interventions implemented: Task-Oriented Game and Computerised Mind Game. Major findings were (i) Mind games have no significant effect on children with autism spectrum disorder's executive function. (ii) There is a significant improvement in the executive function of children with autism spectrum disorder when exposed to computerized and task-oriented games. In comparison, task-oriented games have more impact on executive function as compared to computerized mind games. (iii) Mind games significantly affect the social skills of children with an autism spectrum disorder. (iv) The task-oriented mind games have a more significant effect on social skills than the computerized mind games. (v) The children with ASD showed significantly better retention in task-oriented games as compared to computerized mind games on the variables of executive function. (vi) The children with ASD showed almost the same level of retention in social skills when exposed to task-oriented and computerized mind games. (vii) The children with ASD showed significant executive function retention due to their exposure to mind games. (viii) The children with ASD showed significant social skills retention due to their exposure to mind games.

2.1.2 STUDIES CONDUCTED IN ABROAD

The following literature, studies conducted Abroad related to autism and mental retarded are presented as follows:

Rincover et al. (1978), Sigman et al. (1992), Konstantareas and Homatidis (1992), Knott et al. (1995), Micheli (1999), Sullivan and Caterino (2008), Gaitonde (2010), Rahman et al. (2011), Brown (2012), Bark and Fearon (2012), Allen et al.(2013), Janes (2015), Kahane and El-Tahir (2015), Johansson (2015), Pearce and Berney (2016), Mandhar et al. (2017), Tarek et al. (2018), Katsarou (2018), Kocabryik et al. (2018).

Rincover et al. (1978) conducted a study on the analysis of some recent behavioural research on the education of autistic children. This study discussed several behavioural research issues concerned with educating children within existing family and community resources. The literature review was done in two major areas: (i) advances in parent and teacher training, and (ii) issues pertaining to classroom instruction, including group instruction, individualized instruction, motivation, and the generalization and maintenance of treatment gains. Major findings were (i) educating autistic children is viewed as an ever-changing process, rather than a single, circumscribed program, educational techniques evolved the results of research and will continue to be revised as a function of new research findings, (ii) sufficient data were now available, reporting several benefits for teachers, and students, to encourage the use of these behaviour modification techniques the treatment of autistic children.

Sigman et al. (1992) conducted a study on the responses to the negative emotions of others by Autistic, Mentally Retarded, and Normal Children. The aim of the study was to investigate the responses of young autistic children to negative emotions shown by others and to contrast these reactions with those shown by normal children of the same developmental level and with those shown by mentally retarded children of the same developmental and chronological age. The experimental method was used in three different groups. Sample in the study were taken purposively with 30 autistic children, 30 normal children, and 30 mentally retarded children. Each child was seen in two sessions spaced over a 1-2 week interval. Children were also evaluated with either the Cattell Development Scale (CDS) of the Standard-Binet Intelligence Test (SBIT) as well as Reynell Language Scale (RLS). The following major findings were drawn from the study. In every situation, autistic children fail to look very much at an adult showing

some form of negative emotion. In contrast, the normal and mentally retarded children were very attentive to adults showing distress, fear and discomfort. Furthermore, in the distress situation, the play of the normal and mentally retarded children with a toy seemed to be inhibited when they appeared hurt. Not only did the autistic children ignore or not notice the distressed adult, but they also played with the toy more and appeared less concerned than the other children. In the fear and discomfort situations, while the autistic children were less attentive to the adult than the other children, differences in behaviour between the groups were less pronounced. During the fear situation, the autistic children were less hesitant and play with the robot more than the mentally retarded children, but neither group was significantly different from the normal children. The fact that the autistic children were as hesitant in approaching and playing with a robot as the normal children raises the possibility that their behaviour may have been influenced by the demonstration of fear even if they did not attend visually to these demonstrations.

Konstantareas and Homatidis (1992) conducted a study on the mothers' and Fathers Self-Report of Involvement with Autistic, Mentally Delayed, and Normal Children with the following questions (1) Whether mothers and fathers of autistic and mentally delayed children were more or less actively involved with these demanding and poorly responding youngsters compared to parents of non-handicapped children. (2) Whether inter-parental differences exist across groups. Are mothers more involved with childrearing than fathers and, if so, what type of activities (enjoyable or not so enjoyable) are more likely to fall in the workloads of mothers versus those of fathers? Moreover, would any such differences between mothers and fathers be comparable in all groups? (3)Whether parental involvement could be best predicted by (a) child characteristics (age, sex, clinical status, and birth order), (b) parent characteristics (education and age), and (c) social-familial variables (mother employment status and family size). (4) For the children with autism, whether their presenting characteristics and other symptoms would be systematically related to parental input and interaction. The experimental method was used. The sample consisted of mothers and fathers of 16 autistic children, 16 mentally delayed children, 16 non-handicapped children and a total of 96 parents in all participated in the study. Parental involvement was assessed through log-keeping in the home. Each parent was asked to in-dependently report, in total minutes, his/her direct involvement with the child on two separate days, in which both parents were at home, usually the weekend. Parents were provided with

standard forms to record their child-related activities in six categories Following findings were drawn from the study. Parents of normal and mentally delayed children reported greater involvement than parents of children with autism. Across groups, mothers reported longer involvement than fathers, with mothers of autistic children reporting less contact than mothers of the mentally delayed. Fathers of autistic children were also less involved than fathers of mentally delayed children. The best predictors of low involvement for fathers were having an autistic and a first-born or only child. For mothers, a large family size, having an autistic child, and an older child predicted lower involvement. Parents of normal children were the most likely to report contact with their child as being fun.

Knott et al. (1995) conducted a study to test two potentially contrasting hypotheses relating to sibling interaction involving children with autism and Down syndrome. These hypotheses were that learning-disabled children would assume responsive roles in sibling interaction and that autistic children's interaction would be impoverished out of the chosen sample of 30 sibling dyads that contained one child with Down syndrome and one developmentally normal child. All learning-disabled children often interacted with their siblings, usually under sibling directions. Autistic children reciprocated their siblings' initiations but engaged in fewer bouts of interaction and emulated less than children with Down syndrome. It is concluded that interaction with siblings affords learning-disabled children a unique opportunity to learn about social relationships.

Micheli (1999) investigated a training group for parents of autistic children. The experimental method was used in the study. The sample size was 38 diagnosed as autistic through the revised Psycho-Educational Profile (PEP) a Behavioural Assessment, and the Leiter Performance Scale. In addition to the diagnosis, evaluation, and communication with and explanations to families, a contract was drawn up for some sort of intervention: direct educational work within the unit, educational planning and counselling in school, and/or similar activity at home. The study revealed that the homework also bore witness to considerable progress in (i) proving the home environment from the child's perspective, (ii) observing and evaluating the child's behaviour and learning how best to manage that behaviour and to give appropriate rewards, (iii) solving problems by step, (iv) setting priorities based on family needs, and (v) selecting and striving

toward specific goals. The direct feedback from the students showed that the group sessions had provided very positive experiences. Parent's comments indicated that the training had given them a new view of their environment and in many instances had contributed to their cognitive development.

Sullivan and Caterino (2008) conducted a study on addressing the sexuality and sex education of individuals with autism spectrum disorders. On the basis of the analysis of the available literature on the topic, the researchers suggested a few points related to sexuality and needed sex education for people with ASD. Sexual knowledge and behaviour are highly dependent on socialization and social interactions, from which people with ASD are frequently, excluded because of their social and communication deficits. Appropriate behaviour is largely governed by informal learning processes that take place within typically developing peer groups, in which such individuals are generally not included. Given the high frequency of sexual behaviours among this population, caregivers and staff must be prepared to facilitate appropriate sexual expression. Access to developmentally appropriate comprehensive sex education is critical to the development of healthy and appropriate sexual behaviours. The need for specialized sex education programs for individuals with autism spectrum disorders cannot be ignored. The features central to these disorders necessitate curricula and instruction that adequately address social deficits and other developmental delays. The specific content should be individualized according to the needs of the individual and their families. Whether instruction is embedded in a larger social skills curriculum or presented independently, the techniques that have been shown to be effective in teaching social skills sexuality, sex education, and autism to individuals with ASD should also be employed when addressing sexuality education because of its highly social nature. While sexuality and sexuality education is a highly emotional and moralistic matter for most, it is also a matter of psychological well-being and healthy living. If adolescents with ASD are to develop healthy behaviours and gain some understanding of the physical and emotional changes they encounter in adolescence and adulthood, specialized sexuality education is needed.

Gaitonde (2010) conducted a study on the factors related to stress in parents of children with autism spectrum disorders. Following were the objectives of the study (i) To study factors predicting parenting stress, (ii) To study factors predicting general stress. A survey method was

used for the study. 147 parents were selected as the sample. Data were collected with the help of tools like a demographic questionnaire, early Autism experience survey, Parental Autism stress scale (PASS), Perceived stress scale (PSS), The general functioning sub-scale of the family assessment device, Social functioning questionnaire, the Parenting Sense of Competence Scale, Gillian Autism Rating Scale (GARS), and Parents Perception of the Diagnosis Questionnaire. The following major findings were drawn from the study. (i) Parenting stress and general stress were significantly correlated with family functioning, marital functioning, social functioning, parenting sense of competence, and perceptions of diagnosis and severity of diagnosis. (ii) Parents experienced stress in the parenting role, their general stress was similar to people who do not have children with disabilities. (iii) The parenting sense of competence, social functioning and perception of diagnosis significantly predicted parent stress; general stress was significantly predicted by parenting sense of competence and social functioning. Parenting sense of competence was the best predictor of parenting as well as general stress. (iv) Diagnostic groups differed significantly based on the age of diagnosis; they did not differ based on the severity of the perceptions of diagnosis.

Rahman et al. (2011) conducted a study on the speech development of autistic children by interactive computer games, Interactive Technology and Smart Education. The purpose of this study was to investigate the impact of computer-based interactive games along with traditional therapies on the speech disorder of autistic children. The study was experimental in nature. The experiment was conducted with 10 autistic children at the Autism Welfare Foundation in Dhaka. The following findings were in the study (i) The level-wise experiment (from mono-syllable words to di or tri-syllable words) was found very effective for those autistic children who made unintelligible sounds. (ii) If we can encourage vocalization at the age of 3, a pivotal age for children with ASD, this could lead to an increased communicative ability, which makes not only the child's life easier, but also increases their chances of functioning in the world around them.

Brown (2012) a study conducted on the institutional practices that support students with autism spectrum disorders in a postsecondary educational setting. The objective of the study was to provide information regarding institutional practices within the Offices of Disability Services that support students with ASD in postsecondary educational settings. A mixed method was used

in the study. The sample size was 1245 Institutions consisted as a sample. The sample was collected through the stratified random sampling technique. Tools used in their model are particularly useful as they performed a web-based search to identify the appropriate institutional participant to complete their survey as well as interviews conducted with staff members. The following findings were in the study (i) the individual student level, existing literature has demonstrated that mentoring programs have positive outcomes for students with disabilities. Mentor programs have been shown to enhance general self-efficacy, learning strategies, and study skills such as the use of a planner. (ii) Institutions with the knowledge, staff, and financial resources to invest in mentoring programs for students with disabilities would be more likely to invest in specific programs for students with ASD. (iii) Positive relationship between the number of students with ASD and the use of workshops to educate faculty. (iv) A small positive relationship existed between the number of students with ASD and the use of new faculty/staff in-service. (v) Existing literature does not provide comparative information for factors that predict the type of education provided to faculty members regarding students with disabilities in general, or students with ASD specifically.

Brak and Fearon's (2012) study was conducted entitled Self-Advocacy Skills as a Predictor of Student IEP Participation among Adolescents with Autism. The objective of the study was to examine those variables that predicted student IEP participation among adolescents with autism spectrum disorder as compared to adolescents without autism spectrum disorder but with other disabilities requiring special education services. The methodology of the study was a descriptive survey. The sample size was children with autism 531, and other children with other disabilities 5,232. The age of both children was 15 years. The sampling technique was purposive in the study. The following findings were the studies (i) stronger relationship between student IEP participation and a student's reported communication skills among adolescents with disabilities other than autism spectrum disorder as compared to adolescents with autism spectrum disorders. (ii) There was a statistically non-significant relationship between student IEP participation and self-advocacy skills among adolescents with disabilities other than autism spectrum disorders. (iii) There were no differences in self-advocacy skill scores among adolescents with autism spectrum disorders and those adolescents with disabilities other than autism spectrum disorder. (iv) Significant association between having autism spectrum disorders and being reported as

having lower levels of communication skills, the coefficient value indicates a small to medium association.

Allen et Al. (2013) studied the perceived stress in fathers and mothers of children with ASD about the deficits displayed by the child namely speech, sociability, sensory perception, cognitive awareness, health and physical behaviour. The survey method was used in the study. The sample size was 23 males and 101 females. As a tool questionnaire and Autism Treatment Evaluation Checklist were used for collecting data. Major findings were (i) Deficits in social skills and behaviour problems caused higher stress in mothers. (ii) Fathers were more stressed due to the child's deficits in sensory and cognitive awareness. (iii) Speech, health, and physical behaviours were not found to be predictors of stress, and parents can rationalize these behaviours, especially in younger children.

Janes (2015) conducted a study entitled Autism in Early Childhood Education Montessori Environments: Parents and Teachers Perspectives. The survey method was used in the study. Six participants were taken for the study. An interview was used for collecting data. Following findings were drawn from the study, (i) teachers also had experience in both a Montessori and a mainstream environment. This provided a balanced perspective on the benefits and challenges existing in each classroom. (ii) The autistic child's fascination and obsessions with specific items can interrupt and distract the child, and other neuro-typical children from learning. Their sensory need to touch, rub and feel objects and people presents another challenge in the classroom, incorporating a balance between tolerating and strengthening a child's interests in an appropriate mode, while respecting both the individual and others whom their behaviour may affect. (iii) All agreed that the innate structure of the Montessori classroom played a large part in complementing children with Autism. This is in contrast to mainstream early childhood education where children are allowed to play freely in an unstructured environment. Montessori philosophy also allows for the flexibility of curriculum to assist children with Autism and the accommodation of individual needs. Flexibility is given through hands-on materials and individual assessment methods where children work through a progression of tasks independently and at their own pace. Freedom in a structured environment is one of the fundamental characteristics of Montessori education. (iv) There were still many opportunities to

develop communication skills, social competence and self-care despite learning difficulties or sensory issues as the Montessori programme incorporates lessons on social graces and basic skills such as washing hands and dressing oneself. These skills are taught and practised often, allowing children to explore them autonomously or alongside others. (v) The consistency of Montessori education, the activities on the shelves, the planning, and the flexibility of meeting children's individual needs are attributes that are considered for children with Autism. Creating learning processes that complement children with varying learning styles is another perspective that contributes to healthy development in early childhood education. Listening to parents and communicating regularly ensures valid measures are being put in place to assist children with Autism.

Kahane and El-Tahir (2015) did a systematic review of the studies conducted to understand attachment behaviour in children with Autistic Spectrum Disorders. A systematic review was searched for in different databases to establish the necessity and relevance of the current paper. The following findings were derived from the systematic review. Attachment is present among children with ASD, however not prevalent as in normally developing children. The security and organization of attachment behaviour are affected by the severity of the diagnosis of Autism and the co-morbidities associated. Maternal sensitivity and insightfulness support the development of secure attachment in children with ASD while impairments in joint attention and symbolic play proved to be risk factors for insecurity and disorganization of attachment. The review contributes to the relatively understudied topic of attachment behaviour in ASD focusing on the influence brought to the bonding connection by different influencing factors like mothers' sensitivity, insightfulness and attachment style, parenting styles and symbolic play level.

Johansson (2015) conducted a study on the investigation of schooling of children with a diagnosis of autism in urban India with the following research questions in mind. How are schools in urban India responding to the education of children with autism? How do teachers understand and respond to the needs of the child with autism in their class? What are the parents' views and experiences with mainstream schools for their child with autism ?, How is inclusive education conceptualised within these schools in the existing socio-political context? The researcher adopted an ethnographic mode of enquiry and relied on qualitative tools to gather

contextual in-depth insights into the field. The data consists of observations in classrooms, interviews with stakeholders and government policy documents. The study was conducted in the city of Calcutta. The findings were the main contribution to the theoretical debates on the schooling of children with disabilities. Despite developments in policy, growth in scholarship as well as media, the collective findings from this study show that negotiating access to a school still remains a concern. Even more significantly who is responsible for the learning of children with disabilities continues to be a contested area. This study shows that negotiating access to a school still remains a concern. Even more significantly who is responsible for the learning of children with disabilities continues to be a contested area.

Pearce and Berney (2016) conducted a narrative review of the literature on Autism and offending behaviour: needs and services. The purpose of this paper is to review some of the salient issues and their remedies. The methodology used a narrative review based on the literature and the clinical experience of the authors. The paper came out with the following conclusion. ASD has such a varied presentation and is associated with so many disabilities and disorders that it is difficult to generalise about it, a difficulty which is multiplied by the heterogeneity of offending. At a clinical level, each individual must be seen in their own right. Usually unrecognised, ASD has a major effect on the way the individual experiences and responds to the world and its rules. The law, which has grasped the concept of intellectual disability, now has to accommodate other mental concepts such as differences in thinking style, communication, memory and the way the world is experienced and perceived. These are dimensional characteristics which clinicians have to translate into descriptive categories for them to be accommodated by the legal process (which involves determining the threshold for abnormality). In a field founded on concepts, this much-criticised process of translation is an important driver of their clinical and legal evolution.

Manandhar et al. (2017) conducted a study on the Understanding of parents' and professionals' knowledge and awareness of autism in Nepal. The study used focus groups and semi-structured interviews with parents of autistic and non-autistic children and education and health professionals from urban and rural settings (106). The study found a striking lack of awareness of autism by parents and professionals alike.

Tarek et al. (2018) studied on Challenges and adjustments of mothers having children with ASD. This study aimed to assess the challenges and adjustments of mothers having children with autism. The sample of the study was 76 mothers who have children with autism. They were selected from the Neurological Outpatient Clinic of Alexandria University Specialized Children's Hospital in Smouha, Egypt. Three tools were used to collect the data (i) Mothers' Socio-demographic Data Interview Schedule, (ii) Stressors of Mothers who have Children with Autism Interview Schedule, (iii) Parent and Family Adjustment Scale. The finding of the study was that overall, 71.4% of the mothers who were in the age group 40 to 50 years had moderate stressors per cent score. More than half of mothers sometimes had feelings of anger and nervousness. Furthermore, they had anhedonia and were unable to do anything alone. There was a statistically significant difference between mothers' total per cent score of stressors and their adjustment regarding psychological, social, and management-related stressors.

Katsarou (2018) conducted a study on Emotional state differences of parents with children diagnosed with Autism. This study examined whether there are any differences in emotional state as far as parents of children with autism categorized in severity level 1 (Requiring Support) and parents of children with autism categorized in severity level 3 (Requiring very substantial support) concerns. For this study, a qualitative method of analysis was applied, using semi-structured interviews in order to get some aspects of parental everyday living with their children with autism state to have emerged and to be realistically reflected upon in these interviews. The results revealed that both parents of the two groups experienced a similar level of stress and grief.

Kocabıyık et al. (2018) studied Life stories of parents with autistic children. This study aimed to determine how children diagnosed with autism shape their parent's lives by specifying parents' life stories. The study follows phenomenology which is one of the qualitative research models. It consisted of 10 parents who have children with autism. Parents who participated in the study were determined through a preliminary interview before the study and in-depth interviews were conducted with volunteer parents. The study found that parents with autistic children undergo a

wide variety of emotions, challenges, and difficulties during their daily lives and also that good coping skill is the key to normal functioning within the family which had an autistic child.

2.2 IMPLICATIONS OF THE REVIEW OF RELATED LITERATURE

A total of 51 studies were reviewed, out of which 32 studies were Indian and 19 studies were from abroad. Studies were found conducted in the discipline of medicine (eleven), bioscience and technology (two), psychology (twelve), social science (three), social work (one) education (seventeen) home science (two), yoga (two), linguistic (one).

Methodologically, (Seventeen) studies were found in experimental in nature (Sigman et al., 1992; Konstantareas and Homatidis, 1992; Micheli, 1999; Ray, 2008; Ray, 2009; Nandi, 2010; Santha, 2010; Alli, 2011; Rahman et al., 2011, Bali, 2012; Reddy, 2013; Chaturvedy, 2014; Naniwadekar, 2015; Sasikumar, 2016; Kumar, 2017; Dey, 2018, Kaur 2023), Seventeen studies were found descriptive survey type (Knott et al., 1995; Gaitonde, 2010; Shyamsundar, 2002; Bineesh, 2008; Patil, 2012; Beark and Fearon, 2012; Allen et al., 2013; Sunayan, 2014; Chacko, 2015; Parmar, 2015; Khan and Humatse, 2016; Manandhar, 2017; Arun&Chavan, 2018; Tarek et al., 2018; Kalaivnai and Kalimo, 2018, Hussain and Balarmula, 2019, Mayur et al., 2021), Seven studies were found qualitative type (Bhargva, 1997; Shetty, 2014; Singh, 2017; Jegan, 2018; Kocabiyik, 2018; Katsarou, 2018; Duggal and Dua et al., 2020), One study was found Case study (Moneta &Anthi, 2019), One study was found ethnographic type (Johansson, 2015), two studies were found Mixed method type (Brown, 2012; Prabha, 2014), five studies were found narrative analysis of review (Rincover et al.,1978; Sullivan and Caterino, 2008; Kahane and El- Tahir, 2015; Jenes, 2015; Pearce and Barney, 2016) and one was ex-post facto research type (Mishra and Sreedevi, 2017).

The intervention programme enabled parents to identify the needs of their children in various areas. (Bineesh; 2008) The intervention programme was found effective in the development of cognitive and behavioural patterns in skill & the social skills of children with autism (Rincover et al.,1978; Ray 2008; Santha, 2010; Bali, 2012; Reddy, 2013; Naniwadekar, 2015; Sasikumar, 2016, Kumar, 2017; Kaur, 2023). (Kahane and–E- tahir, 2015) showed the security and organisation of attachment behaviour are affected by the severity of the diagnosis of autism and the co-morbidities associated. Intervention programmes bring more positive changes if the

parents continue to do so and create a conducive and pleasant environment for learning (Santha, 2010; Bali, 2012). Parenting stress was higher among parents of children with autism compared to both parents of children with mental retardation and parents of normal children (Gaitonde, 2010; Patil, 2012; Sunayan, 2014) while (Gaitonde, 2010) found that parents experienced stress in the parenting role, their general stress was similar to people who do not have children with disabilities. (Chaturvedy, 2014) There was significant parental stress among mothers of children with autism. (Allen et al., 2013) showed that deficits in social skill and behaviour problems caused higher stress in mothers whereas not significantly associated with parental stress. (Shyamsundar, 2002) parents could hardly think of anything to choose, as far as the schooling of their children, due to the non-availability of different services in such schools. (Chturvedy, 2014) mothers of children with autism have parental distress and high parent-child dysfunctional interaction; they feel their child is difficult to manage. Yoga intervention-related studies showed positive improvement in the abnormal behaviour of children with autism spectrum disorder (Santha, 2010; Kumar, 2017). Problem behaviour could not be reduced completely even after the interventions but a trend of improvement in this sphere was noticed (Ray, 2008).) Parental training intervention is effective in improving the cognitive and behavioural skills of children with autism (Bineesh, 2008). Improvement in the autistic behaviour of ASD children after the practice of yoga resulted in a better quality of life for parents (Santha, 2010). Exposure to classical music reduced problem behaviour in children with autism (Nandi, 2010).

Sex education as a comprehensive curriculum was very effective in changing odd sexual behaviour and problem behaviour significantly (Ray, 2009 & Sullivan and Caterino, 2008). Mothers' families were found more cohesive and adaptable than fathers' families; mothers experience more social support from friends and family than fathers (Konstantareas and Homatidis, 1992 &Sunayan, 2014). Negotiating access to schools still remains a concern for autistic children even in urban areas (Johansson, 2015). Computer Games were found effective in improving communication among autistic children. Further, it was suggested that individualised games as per the nature of individual autistic children for better results. (Rahman et al., 2011; Kaur, 2023). The majority of the parents observed signs and symptoms in their autistic children like unable to follow inability to communicate needs and requirements, poor eye contact, and delay in language, social and moral skills (Bhargava, 1997; Khane and El-tahir, 2015; Mishra and Sreedevi, 2017, Jagan, 2018). (Parmar, 2016) showed that good education

emphasises on good parenting system. (Rincover et al., 1978) educating autistic children is viewed as an ever-changing process, rather than a single circumscribed program, educational techniques evolved as the result of research and will continue to be revised as a function of new research findings. (Chacko, 2015) showed that there were no significant differences among the three groups of teachers in their satisfaction with planning the teaching procedures this reveals that these three groups of teachers have similar satisfaction in planning the teaching procedures. The ethnographic study on autistic children in the metropolitan city of Kolkata conducted by (Johansson, 2015) showed the poor condition and the concern the schooling, education, and coordination between the policy makers and the practitioners. (Shetty, 2014) showed that the verbal autistic subjects produced a statistically significant lower number of sentences per turn and mean sentence length. (Singh, 2017) studies also showed that overall language skills of mild CWA were better than moderate CWA. (Chacko, 2015) Special teachers were found to have only a moderate level of satisfaction in teaching children with autism. (Rehman et al., 2011) suggested that if we can encourage vocalization at the age of 3 a pivotal age for children with ASD this could be increased communicative ability. (Bineesh, 2008) Expressive language and overall communication ability significantly differ in children with average and above-average children with autism. (Micheli, 1999) studies showed observing and evaluating the child's behaviour and learning how best to manage that behaviour and to give appropriate rewards. (Sasikumar, 2016) studies showed web web-based systems will provide better learning and monitoring mechanisms for autistic children. (Prabha, 2014) the training has helped them to express their needs meaningfully through gestures for nonverbal children, The intervention given is found to be effective as results showed that the behaviour technology applied was statistically significant. (Sullivan and Caterino, 2008) studies showed that the specific content should be individualized according to the needs of the individual and their families. (Janes, 2015) studies showed that the Montessori philosophy also allows for the flexibility of curriculum to assist children with autism and accommodation of individual needs. Studies were conducted in the disciplines of psychology, education, special education, sociology, yoga, home science, bio-science technology and medicine. Most of the Indian intervention studies were based on the needs identified for the foreign children with autism mostly in American and European countries. No studies were reported in India related to the identification of the educational needs of autistic children in India perceived by the experts, counsellors, teachers, parents and caretakers. Most of

the studies reviewed in India in another discipline rather than education were on interventions for the improvement of autistic children and many studies were found effective. As autism is a comparatively new area of research in education discipline, the inclusion of autism in the RPWD Act 2016 and National Education Policy 2020, for the success of RTE (2009) and the increase in the number of children with autism (more than 10 million), there is a need to conduct more research on the children with autism. Even, there is a need to conduct more studies in the area of the education of autistic children. It is also needed to identify the educational needs of autistic children based on which research on the intervention programmes could be conducted for the improvement of these children and no study was found in this area. Hence the present study is an attempt in this direction to identify the educational needs of autistic children.