Summary and Conclusion
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The present investigation titled, “Promoting Nutritional Status and Behaviour Pattern of the Autistic Children through Dietary Intervention” aimed at studying the food habits, nutritional status, behaviour and cognition of the children after supplementation with specially developed foods and imparting nutrition education. For this purpose, a total of 400 autistic children were selected from 20 intervention centres from Trichy, Chennai, Coimbatore and Neyveli cities of Tamil Nadu State and their background details regarding demographic status, dietary habits, nutritional status and prenatal history of the mothers were collected. Two types of supplementary foods were developed for feeding the autistic children. A value added biscuit and a pulse probiotic were specially formulated using the functional food components namely brown rice flour, roasted Bengal gram flour, roasted ground flax seed, palm oil, date syrup and honey. Two types of pulse probiotic prepared using curd/commercial lactobacilli were evaluated for their safety and suitability for feeding.

Out of the 400 children studied 60 autistic children were selected and divided into three groups of 20 children each for supplementation study for six months duration. The experimental group I received 50g of the biscuits per day along with nutrition education, the experimental group II received the same biscuit with an additional 1g of the pulse probiotic (prepared using lactobacilli) along with nutrition education and the control group was given nutrition education alone. About 200 parents including those of the study group were given nutrition education on the various nutritional aspects related to autism. The parent’s awareness on the above aspects was assessed pre and post nutrition education. The parameters used to evaluate the impact of the intervention were the changes in anthropometric measurements, biochemical parameters namely blood haemoglobin, immunoglobulin G, A and E levels, clinical picture and the dietary intake of the subjects. The general behaviours of the autistic children were assessed using the Autism Behaviour Checklist before and after the supplementation period, their food behaviours were also studied with respect to their food selectivity, food choice and specific food related activities. The functional skills of the autistic children were assessed based
on the 18 skills as outlined by the Madras Development Programming Scale before and after supplementation. The results of the study revealed the following:

**Demographic profile**

♠ Out of the 400 autistic children selected for the study 70.8 per cent were males indicating a male predominance. Majority of the children (82.5%) were Hindus and 76.8 per cent belonged to the Backward Caste. Ninety one per cent of the children resided in the urban areas and 84 per cent of the autistic children belonged to nuclear families.

♠ Adult population was the highest among the family members comprising of 28.2 per cent males and 30.7 per cent females. Majority (24.4%) of the family members were graduates and the rate of illiteracy was 1.8 per cent. Occupation details of the head of the family revealed that 35.3 per cent were working as professionals, 22 per cent were businessmen, 15.5 per cent were employed in government jobs and the rest were working in private concerns and as labourers. A majority (61.5%) of the children were from the high income group.

♠ More than 25 per cent of the households monthly income was spent on food by 83.4 per cent of the families. The expenses towards education were more than 11 per cent of the monthly income by 60 per cent of the households and the expenditure on medicines was between 16 to 35 per cent of the monthly income by 38.7 per cent of the families. It was encouraging to find that about 75 per cent of the families did not have any remittances but 34 per cent of the families did not have any savings.

**Food habits of the autistic children**

♠ Among the 400 children surveyed 75.3 per cent were found to be non vegetarians, 5.7 per cent were ova – vegetarians and 19.0 per cent were vegetarians. The common staple rice was used by 99.3 per cent of the autistic children. Wheat and wheat products were included by 96.7 per cent of the samples and only 1.3 per cent of the mothers were aware that wheat and wheat products were allergic to the children. Ninety per cent of the samples included millets in their diet. About 90 per cent of the children with autism consumed a variety of dhals, 95 per cent of them relished beans and dhals. Peas, beans and dhal were consumed by 96.7 per cent of the children. Nuts and oilseed
consumption was lesser due to chewing difficulty. About 88 per cent of the children consumed gingelly seeds and cashew nuts and 87.3 per cent of the children consumed ground nuts.

 USART Green leafy vegetables were consumed occasionally by 96.3 per cent of the autistic children. All the roots and tubers were included in the diet of 97.3 per cent of the children. A majority (97.3%) of the children consumed all the other vegetables; 2.7 per cent of them avoided brinjal and bitter gourd. Fruits such as banana, grapes and pomegranate were consumed by 95.3, 92.0 and 94.0 per cent of the children respectively and 96.8 per cent of the children liked all the fruit juices.

 USART Around 93 per cent of the children consumed milk, 7 per cent of the autistic children were not provided milk because it altered their behaviour and 4.5 per cent of the mothers reported that their child did not like milk. Curd was withheld by 12 per cent of the autistic children. Tea and coffee were consumed by 28.5 per cent of the children. About 73.3 per cent of the samples liked the chicken and mutton preparations, 76.7 per cent of them incorporated fish in their diet and 76.3 per cent of them included egg containing the complete protein.

 USART About 87.5 per cent of the children consumed sugar and sweet preparations, 12.5 per cent of the children avoided sweets since it was believed to increase hyperactivity. Fats and oils were incorporated in the diet of all the children.

 USART A majority (71.3%) of the autistic children consumed squashes of different varieties especially during summer. Pickles were used as an accompaniment to food occasionally by 71.3 per cent of the samples and 72 per cent of the samples liked jam as an accompaniment to bread and breakfast items. Pappads and chips were relished by 72.5 per cent of the children. Ready – to – eat foods were widely used by 62.5 per cent of the households. Soft drinks were avoided by 28.8 per cent of the autistic children since it was unhealthy.

 USART Around 54 per cent of the families did not have any kind of food beliefs while 3.7, 10.2, 6.8 and 0.2 per cent of the mothers opined that mango, pineapple, chicken and papaya respectively to be hot foods causing gastrointestinal distress. Certain foods such as grapes, green leafy vegetables, curd, ice-
creams, tender coconut and left over rice were believed to be cold foods by 6.3, 1.5, 10.3, 12.3, 0.8 and 1.3 per cent respectively. Potato, green plantain and beans were avoided by 17.8, 9.5 and 2.8 per cent of the children respectively since they were believed to cause flatulence and stomach ache. The bile producing foods that were avoided by the autistic children were coffee, tea, cluster beans and groundnut which produced vomiting and giddiness and 12, 3.5 and 1.8 per cent of the children avoided brinjal, dry fish and yam respectively since they produced skin diseases and caused allergy. Spicy foods and drumstick leaves were believed to cause colic pain in 3.8 and 1.5 per cent of the autistic children respectively.

**Morbidity pattern**

♦ Fifty two per cent of the children had suffered from common cold in the past six months and 48.3 per cent had received allopathic treatment. Around 31 per cent of them had suffered from cough, 4.9 per cent had suffered from sore throat and 42 per cent had contacted fevers and most of them under took allopathic treatment. Vomiting and diarrhoea had occurred in 9.5 per cent of the children and 6.8 per cent of them suffered from stomach ache. It was recorded that 38.3 per cent of the children were healthy in the past six months.

♦ About 42.7 per cent of the mothers had identified the problem of their child between 2 and 4 years of age and 10.3 per cent of the children were identified to have autism only after 4 yrs of age.

♦ The problem which led to the identification of autism varied. Around 34.7 per cent of the mothers reported developmental delay, there was lack of speech among 31.5 per cent of the children, 10.5 per cent of the parents reported hyperactivity and inappropriate behaviour was reported by 8.3 per cent of the parents. Seven per cent of these children had seizures, 4.8 per cent did not respond to the environment appropriately and 3 per cent did not make eye contact with the mother.

♦ Around 73 per cent of the children received medical therapies to treat autism and 27 per cent did not receive medical treatment. As many as 42.2 per cent of the children received behaviour therapy in early intervention centers and only 8.5 per cent of the children received nutritional therapies.
Disregarding the controversies surrounding vaccination for autistic children 99.2 per cent of the children were immunized against contagious diseases.

**Prenatal and postnatal factors leading to autism**

About 2.2 percent of the mothers reported that their weight gain was less than 10 kg during the gestational period. Around 60.3 per cent of the mothers had normal delivery, 31.5 per cent underwent caesarean delivery and 8.3 per cent of them underwent instrumental delivery.

Complications during pregnancy may result in giving birth to autism children. In the present study, problems like anaemia (9%), hypertension (7.5%), respiratory infection (1.8%), gastrointestinal infection (1.3%), allergy (4.8%), fungal infection (1.0%), diabetes mellitus (2.0%) and hypothyroidism (3.0%) were reported by the mothers during pregnancy.

The age at conception revealed that 10.8 per cent of the mothers were less than 20 years of age, 2.0 per cent of the mothers were above the age of 36 years and 1.8 per cent of the fathers were found to be older i.e., above the age of 41 years which may pose a risk for the infant to develop autism.

Around 8.5 per cent of the children were born between 37 and 40 weeks and 2.5 per cent of them were born before 37 weeks of gestation increasing the risk of autism.

The birth weight of the child indicated that 10.3 per cent of the children had a low birth weight of less than 2.5 kg body weight and 24.3 per cent had a higher birth weight. It was found that 22.2 per cent of the mothers had breast fed upto 18 months and 6.2 per cent of the mothers had not breast fed their child.

Exposure to environmental toxins i.e. chemicals in industrial area during pregnancy increased the risk for autism in 2.3 per cent of the mothers and exposure to pesticides was recorded among 0.54 per cent of mothers.

Consanguineous marriages were found in 27 per cent of the families, which is an established risk factor for the occurrence of autism, cent per cent of the mothers had received vaccinations during pregnancy and ‘Rh’ incompatibility
was found in 6.5 per cent of the mothers and foetuses which is a risk factor for autism.

Around 10.2 per cent of the autistic children had experienced hypoxia at birth leading to neuropsychological disturbances.

Nutrient content of the biscuits and evaluation of the pulse probiotic

100 g of the biscuits contained 3.24 g moisture, 1.66 g ash, 8.71 g protein, 4.17 g crude fiber and 59.39 g carbohydrate. The micronutrients present were sodium 66 mg, potassium 429 mg, calcium 86 mg, magnesium 103 mg, iron 2.7 mg zinc 1.9 mg, copper 0.4 mg, manganese 0.8 mg and 1.8 g of omega 3 fatty acids.

Bacterial resistance of the pulse probiotic to the gastrointestinal stress revealed that the total number of colonies in the 2 per cent commercial lactic acid bacillus treated pulse flour was $47 \times 10^6$ cfu/g and the number of colonies was lesser ($35 \times 10^6$ cfu/g) in the 20 per cent curd treated pulse flour. Hence the use of commercial lactic acid bacillus was preferred for further evaluation.

The viability of the *Lactobacilli* at neutral pH was $80 \times 10^6$ cfu, which increased to $290 \times 10^6$ cfu at a pH of 4. Even at a pH of 2, the count was $33 \times 10^6$ cfu indicating that the *Lactobacilli* would resist the acidic environment of the stomach.

At the bile acid concentrations of 0.0 and 0.3 per cent, the colonies were too numerous to count, at 0.5 per cent level there were $289 \times 10^6$ cfu and at 1.0 per cent level there were $68 \times 10^6$ cfu, indicating that the *Lactobacilli* was viable even at a high bile acid concentration.

The zone of inhibition was greater for *E. coli* and it is comparable to that of the standard antibiotic streptomycin. The zone of inhibition produced by the *Lactobacilli* against *Staphylococcus aureus* was $7 \pm 0.02$ as compared to the standard antibiotic, which was $12 \pm 40.4$. The zone of inhibition using *Lactobacilli* against *Candida albicans* was $8 \pm 0.03$ and it was $14 \pm 0.02$ for the standard drug amphoterecin B, which revealed that the probiotic mixture had considerable antimicrobial activity.
The microbial count of the probiotic mixture, stored in the freezer showed a slight variation in the cfu i.e., \(164 \times 10^5\) on day 1, \(168 \times 10^5\) on day 7 and \(175 \times 10^5\) on day 15, whereas in the product stored at room temperature it was \(178 \times 10^5\) on day 1, \(212 \times 10^5\) on day 7 and too numerous to count on the day 15. The result indicated that both the products were suitable for consumption upto a week.

**Impact of intervention programme**

Nutrition awareness of the parents increased markedly after imparting nutrition education. Initially 45 parents received low scores (6 - 10), 70 received medium scores (11 - 15) and 85 obtained high scores (16 – 20). After the nutrition education programme there was complete absence of low scorers, and 20 members received medium scores and 180 received high scores out of the 200 parents.

The mean increment in height of the experimental group I ranged from 2.5 to 3.0 cm among the boys and 1.0 to 3.1 cm in the girls and it was 2.8 to 3.5 cm in boys and 1.0 to 3.0 cm in girls belonging to the experimental group II. The mean increment in the height of the control group ranged from 2.6 to 3.3 cm in boys and 0.5 to 3.0 cm in girls.

The mean weight increment in the experimental group I ranged from 1.3 to 2.7 kg among the boys and it was 1.0 to 1.7 kg in girls, the mean weight increment in the experimental group II ranged from 1.4 to 2.8 kg in boys and 1.0 to 2.3 kg in girls. But the weight increment recorded in the control group was 1.1 to 2.6 kg in boys and 0.5 to 1.7 kg in girls.

There were 3 under weight children in groups I and II after intervention. Three children each in group I and the control group and 6 children in group II were at-risk-for-overweight (85th-95th percentile). The number of overweight (>95th percentile) children was 9, 5 and 10 in groups I, II and the control group respectively, due to lesser structured physical activities.

The 5-11 yrs old children recorded an increment of 0.58 g/dl of haemoglobin in the experimental group I, 1.07 g/dl in the experimental group II and 0.12 g/dl in the control group. The 12-16 yrs old group recorded an increment of 1.30 g/dl in
the experimental group I, 1.43 g/dl in the experimental group II and 0.37 g/dl in the control group. The higher increment in the first two groups could be due to the effect of supplementation. The experimental groups I and II recorded a significant increase (p<0.05) in the harmoglobin level over the control group.

 Moderate anaemia was found in three children of the experimental group II which reduced to 1 after intervention, mild anaemia was present in 12, 8 and 4 children in experimental groups I, II and control respectively and this dropped to 7 and 4 in experimental groups I and II and unaltered in control.

 The IgG was found to increase (52 mg/dl) in the experimental group I, the mean increase in the IgG levels was 259 mg/dl in the experimental group II. Whereas the IgG levels was reduced (-66.3 mg/dl) in the control group. Inclusion of probiotic in the supplement resulted in the best outcome.

 The mean increment in the IgA levels of the experimental groups I, II and control group were 63.6 mg/dl, 87.4 mg/dl and 27.2 mg/dl respectively. The mean reduction in the IgE levels of the experimental group I, was found to be 77.9 mg/dl and the reduction in the experimental group II was 199.9 mg/dl whereas in the control group an increase in the IgE level was recorded.

 Angular scars, xerosis, flaky paint dermatosis and beading of ribs were observed in a few children of all the three groups indicating nutritional deficiencies. These clinical manifestations persisted even after intervention.

 Cereal consumption was found to be deficient in 5 - 6 yrs and 7 - 9 yrs and was slightly in excess in 10 - 16 yrs group (1 - 6.1%). The pulse intake was deficient in all the 3 groups. All the samples belonging to the three groups consumed less than half the dietary requirement of green leafy vegetables, roots and tubers. Other vegetables and fruits. The milk intake was also deficient which ranged from 3.8-14.0%. Fat and sugar consumption was more than the suggested levels by the ICMR.

 Energy and protein intake was less than the RDA requirement in all the three groups of children while the fat intake was in excess ranging from 9.5 - 18.0 per cent. Calcium and iron intake were found to be deficient in all the three groups. β - carotene consumed by the children was also less (9.1 – 16.5%). All the
children recorded a deficient intake of the Vitamin B, Thiamine, Niacin and Riboflavin. Vitamin C intake was also found to be deficient (24.8-46.5%).

**Food behaviour of the autistic children**

- Food allergies were found among seven children. Twenty two parents of the study group believed that their child’s behaviour was associated with the type of food they consumed. About half of the autistic children consumed only the foods they liked and this attribute decreased after intervention.

- Three parents from the experimental group I and four parents from experimental group II opined that the allergic foods altered their physical well being and aggravated their abnormal behaviours.

- Picky eating was found in 17, 15 and 18 children belonging to the experimental groups I, II and the control group respectively. This behaviour did not change to any notable extent after the intervention.

- Fourteen children belonging to the experimental groups I and II and 18 children belonging to the control group had a strong inclination to the taste of the food which was unaltered after the study period. Smelling the food was present among four children in group I, two children in group II and unchanged in the control group after intervention.

- Health problems affected the food intake of 11, 15 and 10 children of experimental groups I, II and control respectively. Health problems reduced in the experimental group II and was unaltered in group I and the control group.

- Seizures altered the eating habits of 3,7 and 2 children belonging to the experimental groups I, II and the control group respectively before the initiation of the study and this reduced to 2 each in the experimental groups after dietary intervention.

- The habit of insisting on rituals of food behaviour declined in the experimental groups I and II at the end of the study period and the decline was found to be significant in experimental group II (p<0.05).

- About 14, 12 and 11 children from the experimental groups I, II and control group respectively were in the habit of swallowing the food initially and this
number got significantly reduced (p<0.05) to 3, 10 and 8 at the end of intervention.

Around 2, 8 and 4 children belonging to experimental groups I, II and control group respectively held the food in the mouth for a prolonged period of time without chewing and this reduced to 1 and 7 in experimental group I and II and it was unaltered in the control group.

Initially nine children each from experimental groups I and II and 7 children of the control group threw away the food and this habit was totally absent in both the experimental groups at the end of the study period.

The habit of eating non-edibles did not change in the experimental group I and control but there was a slight decline in the experimental group II after intervention.

Since the autistic children do not adapt easily to change in place of eating about 11, 10 and 6 children ate in specific places. This habit changed in experimental group I and II at the end of supplementation and this was significant at 5 per cent level.

New foods were resisted by 8, 11 and 12 children before the intervention and it was unaltered in the experimental group I and the control group while it reduced to 7 in the experimental group II who consumed the probiotic supplement.

Behaviour of the autistic children

The behaviour of the autistic children was assessed before and after intervention and it was found that in the sensory domain the mean reduction in score in the experimental groups I and II (-8.00, -7.25) were more than that of the control group (-1.15), which indicates a reduction in the abnormal behaviours. The changes in the sensory domain scores after intervention was found to be significant (p<0.01) for the experimental groups I and II and it was not significant in the control group.

In the relating domain the mean decline in scores recorded in the experimental groups I and II (-15.60, -16.90) were greater than that of the control group (-0.90), due to the consumption of supplementary foods.
The behaviour associated with the body / object use domain revealed that the reduction in scores was more pronounced in the experimental groups I and II (-11.45 and -13.05) than the control (-1.70) owing to the intake of autism friendly nutrients. The changes in the body/ object use domain scores after intervention was found to be significant (p<0.01) for the experimental groups I and II and it was not significant in the control group.

Among the language and social domains, the reduction in the mean scores of the children belonging to the experimental groups I and II were greater (-10.95 and -11.45) than that of the control group (-1.95), which is a desirable one. The changes in the language and social domain scores after intervention was found to be significant (p<0.01) for the experimental groups I and II and it was not significant in the control group.

The self-help domain also recorded a reduction in the abnormal behaviours. The decrease in scores observed in the experimental groups I and II were greater (-9.25 and -9.55) than that of the control group (-2.75) who did not receive the special supplementary foods. The changes in the self-help domain scores after intervention was found to be significant (p<0.01) for the experimental groups I and II and it was not significant in the control group.

Functional skills

The functional skills of the autistic children were evaluated before and after the intervention period of six months for the various activities as outlined by the Madras Developmental Programming Scale. The mean increment in the scores were 1.75, 1.90 and 0.80 for the experimental groups I, II and the control group respectively for the gross motor activities. The mean increment recorded for fine motor activities was 2.00, 1.75 and 1.10 for the experimental groups I, II and the control group respectively. Both the gross motor and the fine motor activities were greatly improved in the experimental groups (p<0.01) due to the regular intake of the supplementary foods.

The activities of the daily living were evaluated for the children. The increment in the mean scores obtained for the meal time activities was 2.15, 2.20 and 1.20 for the experimental groups I, II and the control group respectively. Similarly the mean increment in scores for the dressing skills was 1.85, 2.05
and 1.00 for the experimental groups I, II and the control group respectively, the increment in the experimental groups were more pronounced. The increment in the mean scores for the grooming skills in the experimental group I was 1.80, in experimental group II was 2.15 and the control group was 0.85. One of the most difficult areas of training in the autistic children was with respect to the toileting skill. The increment in the mean scores obtained were 2.05, 2.00 and 0.70 in the experimental groups I, II and the control group respectively. The activities of daily living skills recorded a progression in the experimental groups (p<0.01) due to the intake of nutrients such as ω-3 fatty acids and dimethylglycine and was non significant in the control group.

♠ The language skill assessed for the autistic children revealed that the mean increment scores were 2.00, 1.90 and 0.80 for the experimental groups I, II and the control group respectively for the receptive language. There was a similar improvement found in the expressive language. The increment in the mean scores obtained for the experimental group I was 1.80, experimental group II was 2.00 and it was 0.25 for the control group. The language skills were greatly improved (p<0.01) in the experimental groups I and II when compared to that of the control group.

♠ The increments in the mean scores for the social interaction were found to be 1.90 in experimental groups I and II and 0.30 in the control group. The increment found in the mean scores of the community orientation skills were 2.05, 2.15 and 0.65 for the experimental groups I, II and the control group respectively showing the positive impact of dietary intervention. The changes in social skills and the community orientation skills were significant (p<0.01) for the experimental groups I and II after the intervention period and it was not significant in the control group.

♠ Autistic children always lag behind in the academic skills. The reading skills assessed before and after intervention revealed a mean increment of 1.80 scores in experimental group I, 2.15 in experimental group II and 0.45 in the control group. The increase in the mean scores for the writing skills were 2.00, 2.45 and 0.50 for the experimental groups I, II and the control group.
respectively. The experimental groups out performed (p<0.01) the control group children.

The skills associated with handling money were evaluated and the mean increase in the scores was found to be 2.15, 2.10 and 0.50 for the experimental groups I, II and the control group respectively. The vocational skills are important to lead an independent life for the autistic individuals. The mean increment recorded was 2.10 in experimental group I, 2.05 in experimental group II and 1.05 in the control group. Both the experimental groups recorded a significant improvement (p<0.01) at the end of the study period when compared to the control group.

The mean increase in the scores obtained for the numeric skills were 1.85, 1.95 and 0.85 for the experimental groups I, II and the control group respectively. The skills based on time also recorded an increase after dietary intervention. The mean incremental scores obtained were 2.45, 2.15 and 0.50 for the experimental groups I, II and the control group respectively. The skills seemed to improve (p<0.01) in the experimental groups I and II and was not significant in the control group.

The autistic children were trained to carry out certain essential domestic activities. The mean increase in the scores after intervention was found to be 2.00 in experimental group I, 2.25 in experimental group II and 0.60 in the control group. The mean incremental scores obtained for the leisure time activities were found to be 2.05, 2.00 and 1.30 for the experimental group I, II and the control group respectively. The progression in the skill performance was more in the experimental groups I and II (P<0.01) when compared with the control group.

From the above results it is evident that dietary intervention on autistic children results in tangible improvement in their nutritional status, behavioural pattern and also a sense of well being which is obvious to the parents. The biochemical parameters such as blood haemoglobin, 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 free 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 the autistic children. They were satisfied about 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 national and global level in tackling the problem of the autistic children.

LIMITATIONS OF THE STUDY
1. Specific urinary peptide tests which identify the excess opioid derived from gluten and casein could not be carried out due to lack of technological support available in the Indian laboratories.
2. A median assessment could not be carried out during the intervention period because it was very difficult to draw blood from the autistic children.
3. Parents were overanxious and expected an improvement in their child within a few days of supplementation.
4. Many parents who were given dietary counseling did not make an effort to alter the foods fed to their children at home.
SUGGESTIONS FOR FUTURE STUDIES

1. Impact of elimination diets such as GFCF diets with suitable supplements need to be carried out to study the impact on the behaviour of the child.

2. Different kinds of dairy free probiotic food as well as special food supplements suitable for the autistic children need to be developed tested and efforts are to be taken to make such foods available in the market.

3. Food allergens that alter the behaviour of the autistic child need to be identified.

4. IEC materials on dietary management of autistic children should be developed for the use of parents and the teachers of the special schools.