A Study to Assess the Clinical Symptoms of School Children in the Age Group of (9-12years) at Government Middle School, Meethikudi, Chidambaram, Cuddalore District, Tamilnadu, India

Dr. R. KALAI *

*Lecturer in Nutrition, Rani Meyyammai College of Nursing, Annamalai University,

Chidambaram-608002, Cuddalore district, Tamilnadu E-mail: proffkalaivt@gmail.com

ABSTRACT

Physical examination includes a complete head to toe- examination, which is the most common method to see clinical signs of nutritional deficiency. General clinical examination with special attention to body parts like hair, ankles of the mouth, gums, eyes, tongue, nails, muscles and skeletal system are observed. The descriptive study was conducted at Government Middle School, Meethikudi, Chidambaram, Cuddalore district, Tamilnadu, India. The school children, both boys and girls in the age group between 9 to 12 years, were chosen and observed the clinical symptoms. A self-administered questionnaire was developed and used to examine the clinical symptoms to assess the present clinical status of the children. The data collected from the subjects was compiled and analyzed using descriptive statistics. The data revealed that the general appearance of the school children was noticed. Among 39 school children, 27(69.2%) were normally built, 11(28.2%) were thin built and 1(2.6%) were sickly. The hair changes in the form of sparse hair or depigmented or lusterless hair was seen in 19 (3.5%), which included 12 boys and 7 girls and, was more in the age group 9-10 years (6.7%). In regard to the eyes of the school children,   29[74.4%] were normal conjunctiva, 1[25.6%] was pale conjunctiva and no one child noticed dry and wrinkled conjunctiva. This concluded that school children of both boys and girls at different age groups have different clinical symptoms. From this, we concluded that to fulfil their nutritional needs and overcome the further consequences of the symptoms.

Keywords: School Children, Clinical Assessment, Clinical Symptoms And Nutritional Deficiency.

INTRODUCTION

"One child, one teacher, one pen and one book can change the world."

– MalalaYousafzai

A comprehensive clinical examination provides an opportunity for the healthcare professional to obtain baseline information about the person for further use, and to establish a relationship with the present condition before problems arise. It provides an opportunity to answer questions and teach good health practices. Detecting a problem in its early stages can have good long-term results.

A physical examination is an evaluation of the body and its functions using inspection, palpation (feeling with the hands), percussion (tapping with the fingers), and auscultation (listening). A complete physical examination usually starts at the head and proceeds all the way to the toes. However, the exact procedure will vary according to the needs of the individual and the preferences of the examiner. An average examination takes about 30 minutes. General clinical examination with special attention to body parts like hair, ankles of the mouth, gums, eyes, tongue, nails, muscles and skeletal system are observed.

Physical examination includes a complete head to toe – examination. This is the most common method to see clinical signs of nutritional deficiency. Detectable clinical signs of nutritional deficiency start with an inadequate supply of one or more nutrients, the reason for which could be either through

an inadequate diet or failure of nutrient utilization, gradual tissue depletion and finally altered biochemical parameters leading to clinical symptoms (Ruma singh,2012).

Based on the above facts, the objective of the present study is as follows:

- To assess the clinical symptoms of school children in the age group of (9-12 years)

Methodology

The descriptive study was conducted in Government Middle School, Meethikudi, Chidambaram, Cuddalore district, Tamilnadu, India. The target population of this study was school children in the age group between 9 to 12 years. For this study, school children in the age group of 9-12 years of both male and female studying 4th, 5th, 6th, 7th and 8th were selected. The research tool was developed based on the objectives of the study, after reviewing literature in various aspects of nutritional status and various methods for assessing nutritional status from standard procedures available in text books and journals.

Clinical assessment

It is through inspection or a detailed study of the entire body or some part of the body to determine the general physical or mental condition of the body, by using inspection, palpation, percussion and auscultation methods to be used to assess the clinical symptoms of a child, including, general appearance, body build, head, face, eyes, neck, skin, bones & joint and genitalia etc(Ahmed,et.al.,2012)

In this study, general appearance, brain, face, eyes, cornea, nose, mouth and lips, tongue, teeth, gums, skin, nails, glands and skeletal system were examined. The important signs looked for during clinical examination are pallor, hair changes (sparse hair/depigmentation of hair), eye changes (conjunctivalxerosis, bitot's spots, corneal xerosis, corneal ulceration, keratomalacia), Cheilosis/angular stomatitis, Teeth changes (enamel mottling, caries, delayed eruption), Skeletal changes, Goiter, Skin changes(dry skin, flaky paint dermatosis, crazy pavement dermatosis) and Koilonychia.

The students were comfortable and treated with respect throughout the examination. Before the clinical examination proceeds, the researcher explained about the purpose of the examination and further follow up to each and every one of the students.

Data Collection procedure

A self-administered questionnaire was developed and used to examine the clinical symptoms to assess the present clinical status of the children in the Government Middle school, Meethikudi, Chidambaram Cuddalore district. Written permission was obtained from the institution, Principal of the researcher and Head master of government middle school, meethikudi, Chidambaram. The teachers and students were awarded the nature of the study and assured that the study observation would not affect their daily routine. Students fulfilling inclusion criteria were selected by the purposive sampling technique. The investigator introduced her and obtained written consent from the children at the selected school. The researchers used information given by the participant's confidentiality of them.

Plan for data analysis

The data collected from the subjects was compiled and analyzed using descriptive statistics. The statistical method applied for analysis methods were, frequency and percentage for clinical symptoms assessment of the selected male and female children.

TABLE-1   FREQUENCY DISTRIBUTION OF CLINICAL ASSESSMENT

N=39

S.NO	CLINICAL ASSESSMENT	FREQUENCY	PERCENTAGE
1	**General appearance**		
	Nomal built	27	69.2%
	Thin built	11	28.2%
	Sickly	1	2.6%
	Obese	-	-
2	**Hair**		
	Normal	33	84.6%
	Thin&sparse	4	10.3%
	Dispigmented	-	--
	Thick&rough	2	5.1%
3	**Face (moon face)**		
	Normal	38	97.4%
	Diffuse dispigmentation	1	2.6%
4	**Eyes conjunctiva**		
	Normal	29	74.4%
	Pale conjunctiva	10	25.6%
	Dry&wrinkled	-	-
5	**Cornea**		
	Opaque	38	97.4%
	Bitot spot	1	2.6%
6	**Nose**		
	Normal	34	87.2%
	Deviated nasal septum	-	-
	Rhinitis	5	12.8%
7	**Mouth&lips**		
	Normal	39	100%
	Angular stomatitis	-	-
	Cheliosis	-	-
8	**Tonguecolour&surface**		
	Normal	35	89.7%
	Red&raw	4	10.3%%
	Fissured ulcers	-	--
9	**Teeth**		
	Normal	28	71.8%
	Mottled teeth	2	5.1%
	Dental carries	9	23.1%
10	**Gums**		

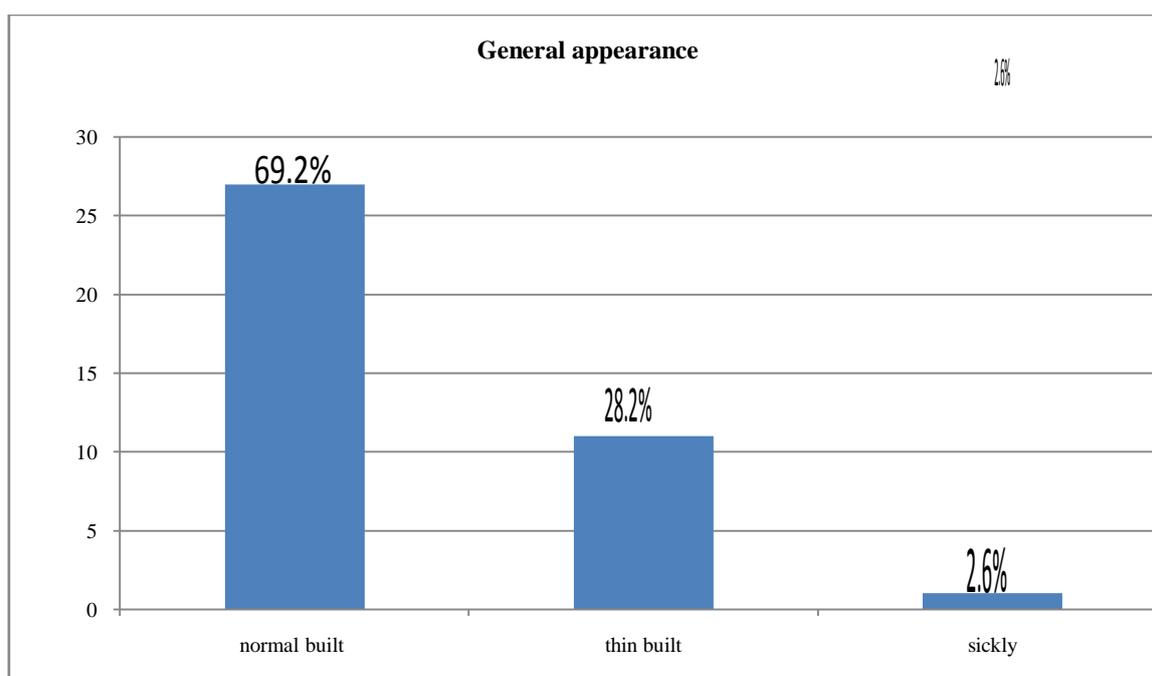|		Normal	37	94.9%
		Spongy	-	-
		Bleedind gums	2	5.1%
11	**Skin**			
		Normal	38	100%
		Dry&rough	-	--
		Phrynoderma	-	-
12	**Nail**			
		Normal	38	97.4%
		Koilonychias	1	2.6%
		Bittled nails	-	-
13	**Glands**			
		Normal	39	100%
		Thyroid gland enlargement	-	--
		Parotid gland enlargement	-	-
14	**Skeletal system**			
		Normal	38	97.4%
		Skeletal deformities	1	2.6%
		Knock knee or bow legs	-	-
		Beading of ribs	-	-

CLINICAL ASSESSMENT

Fig 1- Frequency and percentage distribution of clinical assessment with regard to the general appearance
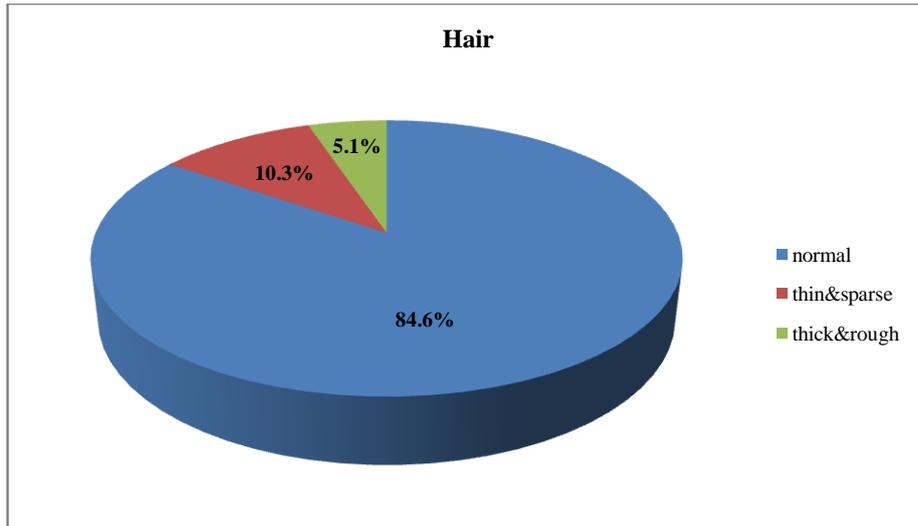
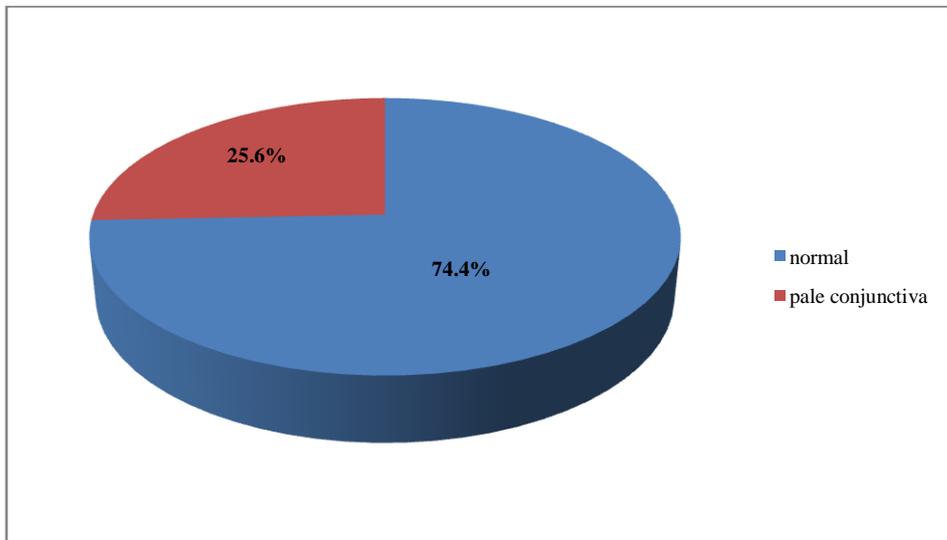Fig-2 Frequency and percentage distribution of clinical assessment with regard hair

Fig 4 Frequency&percentage distribuion of clinical assessment withregard the teeth
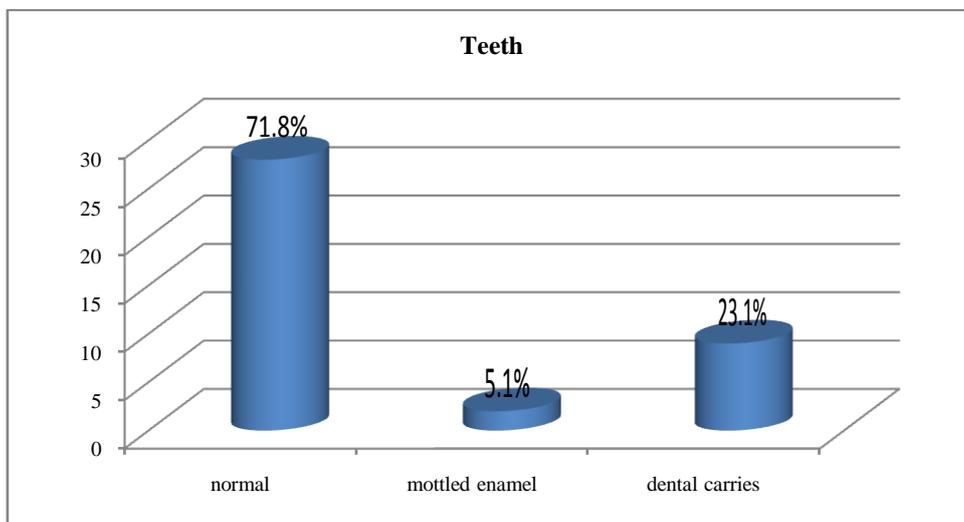

Fig 3 Frequency &percentage distribution of clinical assessment with eyes&conjunctiva

RESULTS AND DISCUSSION

The general appearance of schoolchildren is depicted in Table 1. 27 [69.2 percent] of the 39 pupils were of average build, 11 [28.2 percent] were of thin build, 1 [2.6 percent] were unwell, and no one was obese.

In terms of schoolchildren's hair, 33[84.6 percent] had normal hair, 4[10.3 percent] had thin and sparse hair, 2[5.1 percent] had thick and rough hair, and no one had dispigmented hair.

In terms of schoolchildren's faces, 38 [97.4 percent] were normal, whereas one [2.6 percent] had diffuse depigmentation. There were 29[74.4 percent] normal conjunctiva in the eyes of the schoolchildren, 1[25.6 percent] pale conjunctiva, and no one youngster noted dry and wrinkled conjunctiva. In the case of schoolchildren's corneas, 38 [97.4 percent] were opaque, with one [2.6 percent] having a bitot spot.

The nutritional health of Jenukuruba tribal children in Mysore District, Karnataka, was studied by Prabhakar et al., who found that the majority of the children's hair lacked luster (94.1%), sparseness (94.1%), and straightness (83%).

Conjunctivalxerosis was observed in 100 (20.7%) of the children (58 boys and 42 girls), as well as bitot spots in 10 (2.1%) of the children (seven boys and three girls). Hair alterations, such as scant hair, dispigmentation, or lusterlessness, were observed in 19 (3.5%) of the participants, including 12 boys and 7 girls, and were more prevalent in the 9-10 year age group (6.7 percent). Hair alterations in the form of scant hair, depigmented or lusterless hair were observed in 19 (3.9%) of the participants, including 12 boys and 7 girls, and were more prevalent in the 9-10 year age group (6.7 percent).

No one noticed a deviated nasal septum while the patient had rhinitis. In the case of schoolchildren, 39[100%] had normal lips, and no one had angular stomatitis or cheilosis. In a study of schoolchildren's tongue color and surface, 35[89.7%] had normal tongue color and surface, while 4[10.3%] had red and raw tongue color and surface.

Schoolchildren's teeth consisted of 28[71 percent] regular teeth and 2[5.1 percent] mottled enamel. In a study of schoolchildren's gums, 37[94.9 percent] had normal gums, while 2[5.1 percent] had bleeding gums. The skin of the schoolchildren was found to be normal in 39 cases (100%). There were 38 [97.4 percent] normal nails and one [2.6 percent] kolinonychia nails among the schoolchildren's nails. Examine the glands of the students in school. 39[100%] of the glands were normal. In terms of schoolchildren's skeletal systems, 38 [97.4 percent] had normal skeletal systems, while one [2.6 percent] had skeletal abnormalities.

The Vitamin A deficiency condition spectrum holds the distinction of being one of the most common causes of 'Preventable blindness' in the world, and xerophthalmia is still an issue in poorer countries. Conjunctivalxerosis was found in 100 (20.7%) of the boys and 42 percent of the girls in our study, while bitot's spots were found in 10 (2.1%) of the boys and three percent of the females. Bitots spots were more common in the age group 9-10 years (36.1%) and conjunctivalxerosis in the age group 8-9 years (36.1%). (4.4 percent).

Vitamin A deficiency was the most frequent ocular morbidity (33.8 percent), manifesting as bitot spots and conjunctivalxerosis, according to Prasanna et al., who evaluated the incidence of ocular morbidity among school-aged children (6-15 years) in the Kolar area of Karnataka. Vitamin A deficiency was found to be 25.58 percent in a study conducted by Jayant D and Malathi in rural north Mahrashtra. Dental caries prevalence varies by age, gender, socioeconomic position, race, geographic location, eating habits, and oral hygiene practices. Dental caries was found in 137 (28.3%) of the participants, including 71 boys and 66 girls, and enamel mottling was seen in 19 (3.9%) of the participants, including 8 boys and 11 girls. Enamel mottling was most common in the age range 9 10 years, while dental caries was most common in the age group 6 7 years (46.2 percent) (8.9 percent).

Dental caries was found to be prevalent in 44.4 percent of 5 year olds and 22.3 percent of 12 year olds, according to Saravanan S et al. from Pondicherry.

Skeletal alterations were observed in 17 children (1.4%), including 4 males and 3 girls, with the majority of the changes occurring in the 6 to 7 year old age range. In India, seemingly healthy schoolchildren have a high frequency of subclinical and biochemical hypovitaminosis D.

The vitamin D and bone mineral density status of healthy school children in north India was evaluated by Raman et al., and clinical evidence of vitamin D deficiency was found in 10.8% of the children.

18 A healthy mind can only exist in a healthy body. Dental caries prevalence varies by age, gender, socioeconomic position, race, geographic location, eating habits, and oral hygiene practices. Dental caries was found in 137 (28.3%), which comprised 71 boys and 66 girls, while enamel mottling was seen in 19 (3.9%), which included 8 boys and 11 girls.

Skeletal alterations were found in 7 (1.4%) of the children, with 4 boys and 3 girls aged 9 to 12. In India, there is a high prevalence of subclinical and biochemical hypervitaminosis among seemingly healthy schoolchildren. Our research findings back up these conclusions.

Discussion

The study's goal was to evaluate the children's clinical assessments. Table 1 shows that out of 39 school children, 27 (69.2%) had a normal build, 11 (28.2%) had a thin build, and 1 (2.6%) had a sickly appearance.In a clinical assessment, Shivaprakash and Joseph (2014) looked at the nutritional status of children.Pallor was found in 123 (25.4 percent) of the 484 children studied, including 59 boys and 64 girls, and was more common in the age group 10-12 years (42 percent).Flat nails, also known as koilonychias, were found in 11 (57 percent) of the youngsters, 25 boys and 32 females.It was more common in the 6-7 year old age group.Hair alterations, such as scant hair, depigmentation, or lusterlessness, were observed in 19 (3.5%) of the children, including 12 males and 7 girls, and were more prevalent in the age range 9-10 years (6.7 percent).Conjuctivalxerosis was observed in 100 (20.7%) of the boys and girls (58 boys and 42 girls), and bitot spots were observed in 10 (2.1%) of the boys and girls (seven boys and three females).

Dental caries prevalence varies by age, gender, socioeconomic position, race, geographic location, eating habits, and oral hygiene practices. Dental caries was found in 137 (28.3%) of the participants, including 71 boys and 66 girls, and enamel mottling was seen in 19 (3.9%) of the participants, including 8 boys and 11 girls. Enamel mottling was most common in the age range 9 10 years, while dental caries was most common in the age group 6 7 years (46.2 percent) (8.9 percent). Dental caries was found to be prevalent in 44.4 percent of 5 year olds and 22.3 percent of 12 year olds, according to Saravanan S et al. from Pondicherry. 17 Skeletal alterations were observed in 7 (1.4%) of the children, 4 boys and 3 girls, and were more prevalent in

the 6 to 7-year-old age group. In India, seemingly healthy schoolchildren have a high frequency of subclinical and biochemical hypovitaminosis D. The vitamin D and bone mineral density status of healthy school children in northern India was evaluated by Raman et al, and clinical evidence of vitamin D deficiency was found in 10.8% of the children.Skeletal alterations were found in 7 (1.4%) of the children, with 4 boys and 3 girls aged 9 to 12. In India, apparently healthy schoolchildren have a high prevalence of subclinical and biochemical hyperventilosis. These findings corroborated our findings.

Conclusion

The rural schoolchildren in Mandya district are malnourished in various degrees. These children's mothers should be educated on the necessity of a well-balanced diet. Cereals, pulses, green leafy vegetables, roots and tubers, sugar and jaggery, fats and oil, milk and milk products, fruits, and other foods should all be encouraged (Bhargavi, et.al.,2015) Governments should implement economical yet nutritious food awareness programs including community engagement, NGOs, and other sectors. The findings of this study suggest that people can incorporate a balanced diet into their daily routines to help children's clinical symptoms be reduced.

References

1. Ahmed, T., Hossain, M. and Sanin K.I. (2012) Global burden of maternal and child under-nutrition and micronutrient deficiencies. Ann Nutr Metab,61:8–17.

2. Bhargavi, R and Sri Devi, D. (2015). A Pilot Study on the Assessment of Nutritional Status In The School Going Children (6-11 Years) In Rural Areas of Coonoor, Nilgiris District. International Journal of Science and Research (IJSR) : 4 (4): 2867- 2869.

3. DeshpandeJayant, D., Malathi, K., National Journal of Community Medicine. 2011;2: 249-254. 17.

4. Prabhakar SC, Gangadhar MR. Nutritional Status of Jenukuruba Tribal Children in Mysore District, Karnataka. Anthropologist. 2009;11 (2): 83-88.

5. PrasannaKamath B.T, B.S.Guru Prasad, R.Deepthi, C.Muninrayana. 2012, Prevalence of ocular morbidity among school going children (6-15years) in rural area of Karnataka, South India Int J Pharm Biomed Res. 3(4), 209-212

6. Raman K Marwaha, Nikhil Tandon, Devi Reddy HK Reddy, RashmiAggarwal, Rajvir Singh, Ramesh C Sawhney, Bobbin Saluja, M Ashraf Ganie, Satveer Singh. 2005. Vitamin D and bone mineral density status of healthy schoolchildren in northern India .*The American Journal of Clinical Nutrition*, Volume 82, Issue 2, August 2005, Pages 477–482,

7. Rumasingh, 2012. Food & Nutrition for Nurses (BSc Nursing). Jaypee brothers medical publishers(p), LTD, Newdelhi, pg.196-198.

8. Saravanan S, Anuradha KP, Bhaskar DJ. Prevalence of dental caries and treatment needs among school going children of Pondicherry, India. J Indian SocPedodPrev Dent. 2003; 21 (1):1-12.

9. Shivaprakash N C ,Ranjit Baby Joseph Nutritional Status of Rural School-Going Children (6-12 Years) of Mandya District, Karnataka 2International Journal of Scientific Study | May 2014 | Vol 2 | Issue 2. Pg.39-43.