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Effectiveness of Amla Juice with Honey on Moderate Anemia Among Adolescent Girls

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Abstract

Anemia in adolescent girls, attributes to future in high maternal, perinatal mortality and incidence of low-birth-weight babies. This study intended to evaluate the effectiveness of amla juice with honey in improvement of hemoglobin level among adolescent girls. The pre-experimental one group pre-posttest design was adopted. The 30 adolescent girls with moderate anemia were selected through purposive sampling technique. In pretest, the mean & SD value was 9.56 ± 0.66 whereas in posttest 10.37 ± 0.70 respectively. The calculated paired 't' value of 20.36* was statistically significant at $p < 0.05$. i.e., after one month of administration of amla juice with honey 27% samples were changed to moderate to mild anemia. The findings of the study showed that amla juice with honey supplementation can significantly improve hemoglobin levels of adolescent girls and thereby prevent mortality and morbidity rates due to anemia of adolescents.

Keywords: Effectiveness; Amla juice; Honey; Anemia and Adolescent girls.

Introduction

Adolescents (10-19 years) in India, accounts for one-fifth of total world's population and are significant human resource that needs to be given an opportunity for holistic development towards achieving their full potential. Adolescence is a period of hasty physical growth and activities.¹ Anemia makes several physical, physiological, and behavioral changes in all the people especially in adolescent girls. The

physical changes such as tiredness, pallor in nail beds, palm & conjunctiva, physiological changes such as tachycardia, feeling of palpitation, bounding pulse, low blood pressure & low immunity as well as behavioral changes such as tiredness, lethargic, lack of concentration & irritability.²

In developing countries, the projected prevalence of anemia is 39% in children below 5 years, 48% in children between 5 to 14 years, 42% in women 15-59

years, 30% in men 15-59 years and 45% in adults more than 60 years of age group.³ According to World Health Organization (WHO), Universal 1.62 billion people (95% CI: 1.50-1.74 billion) affected with anemia, which resembles to 24.8% of the population (95% CI: 22.9-26.7%). Among this, the greatest number of individuals i.e., 468.4 million (95% CI: 446.2-490.6) adolescent girls affected by anemia.⁴

India has the world's highest prevalence of iron deficiency anemia among the women. According to National Family Health Survey (NFHS -2016) has reported, the prevalence anemia among adolescent girls were 56% and this accounts to an average 64 million girls at any point in time; 54.7% of pregnant women aged 15-49 years and 53.2% of all adolescent girls aged 13-19 years are anemic i.e., every 55 out of 100 women in Tamil Nadu are anemic.⁵

Need for the study

Anemia is a universal public health problem distressing both developing and developed countries with foremost consequences for human health as well as social and economic development. The nutritional anemia continues to be a key public health problem in worldwide, particularly among growing children, females of reproductive age and elderly people, especially in the developing countries.⁶ In worldwide, India has one of the fastest rising youth population with a projected 190 million of which 22% are girls. According to WHO, in India there are 2 billion people affected with anemia, i.e., approximately 43,904,406 people are affected. The adolescents constitute > 21% of our population in India and 50% suffer from Iron deficiency anemia; both urban and rural and being more in girls than boys.⁷

Anemia in adolescent girls, attributes to future in high maternal, perinatal mortality and incidence of low birth weight babies. The various reasons for the anemic are poor economic status, faulty dietary pattern, lack of awareness and education, urbanization, prevalence of malaria, hookworm and other infestations, repeated bacterial infection also influence the incidence and nature of Anemia among growing children and adolescents but most common form anemia is due to malnutrition. There are numerous types of treatment for anemia, depending on the severity and primary causes.⁸ In evidence-based practice, the moderate to severe anemia iron supplements may be given with the recommended doses along with vitamin C in order to increase the efficacy of iron absorption.⁹ Hence the researcher realized the need to assess the effectiveness of amla juice with honey have significant improvement in treating with moderate anemia among the adolescent

girls.

Materials and Methods

The necessary ethical and administrative permission was obtained. The one group pretest- posttest research design was carried out in Arun Educational trust at Vellore. Based on inclusion criteria, the non-randomized purposive sampling technique was used to select 30 adolescents with moderate anemia in the age group of 18 and 19 years. The informed consent was obtained from adolescents before proceeding the study.

Description of Instrument

The structured interview questionnaire was prepared, based on the extensive review of literatures, the experts' opinions and the investigators personal experiences. The Performa has II sections. They are, **Section I:** It consists of demographic variables such as age, education, type of family, residential area, occupation of parents, family Income & religion, and background variables of diet consuming pattern type of food and menstrual history.

Section II: It consists of the biophysiological variables, the investigator checks the level of anemia by using the Sahli's Hemometer and categorizes the anemia as mild (10-10.9gm/dl), moderate (8-10.8gm/dl) and severe (Less than 7gm/dl) and the hemoglobin value of 11 - 13 gm/dl considered as healthy.

Data collection procedure

The formal permission for data collection was attained from the director of Arun Educational trust, Vellore. Through purposive sampling technique, 30 adolescent girls with moderate anemia were selected by with Sahli's Hemometer. All the adolescents made to drink the amla juice in an empty stomach every day morning. It is prepared by grinding chopped amla in the mixer and blend it for 5 minutes and add 100ml of water then strain the liquid and add one teaspoon of honey and makes a juice and administered to the adolescent girls of 100ml per day before breakfast for one month. The posttest was estimated by using the same Sahli's Hemometer.

Results and Discussion

The collected data were analyzed by using descriptive and inferential statistics and based on the objectives, the results were discussed below. Regarding the demographic and background variables of adolescents Out of the 30 samples, 53% were in the age group of 18 years, nearly half of samples i.e., 43% of them were DGNM I Year and 57% belongs to

nuclear type of family. In relation to residential area of the adolescent girls similarly 40% are residing in Urban and semi urban area and majority 80 % were Hindus. Considering with occupation and income, 60% of the adolescents' parents were cooley and nearly half of samples i.e., 57% had monthly income upto Rs. 5000. Regarding the background variables, majority 83% consuming the food three times a day and 87% were non-vegetarian. All the participants had irregular menstrual history with minimum of 75 -90 days cycle.

To assess the level of anemia among adolescent girls before and after the giving of Amla juice with honey.

In post-test, after giving of Amla juice with honey 27 % adolescents were improved from moderate to mild level of anemia. Hence the Null hypothesis H1 stated that, "There will be no significant difference between pre and posttest hemoglobin level among adolescents" was rejected. The figure 1 shows, the level of anemia among adolescent girls before and after intervention. The study findings were supported by similar study conducted in Bangalore by Joy J(2018) et al., revealed that among 25 samples, the pretest score in experimental group, 72% of adolescent girls were mild anemic, 28% were moderate anemic and no one in severe anemic status. After consumption of amla juice with honey for 21 days, the post test score in experimental group 92% of adolescent girls were mild anemic and 8% were only moderate anemic.¹⁰

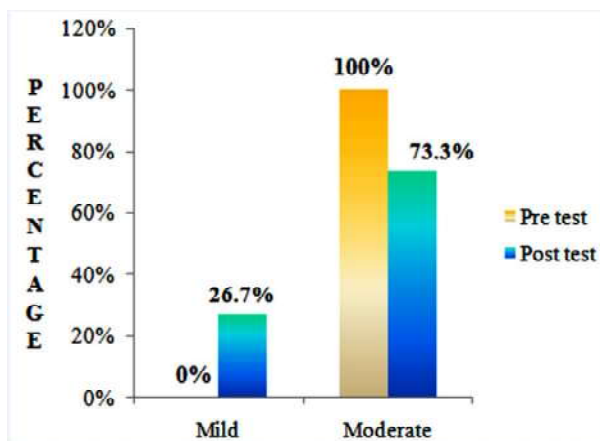


Fig. 1: Shows the level of anemia among adolescent girls before and after the giving of Amla juice with honey.

To assess the effectiveness of amla juice with honey in improvement of hemoglobin level among adolescent girls. When comparing the hemoglobin level, the table 1 revealed that the pretest mean value was ± 9.56 with standard deviation of 0.66 and the posttest mean value was ± 10.37 with standard deviation of 0.70.

The calculated paired 't' value was 20.36* was found to be statistically significant at $p < 0.05$. It significantly indicates that, amla juice with honey was effective in improving the hemoglobin level among adolescent girls.

Table 1: Effectiveness of amla juice with honey in improvement of hemoglobin level among adolescent girls. N=30

Haemoglobin level	Mean	SD	“t” value	
			Calculated value	Table value
Pre test	9.56	0.66	20.36*	2.05
Post test	10.37	0.70		

$P < 0.05$ *= statistically significant

The study findings were congruent with another study conducted by Kumar S et al., (2019) in Madurai identified that, the mean pre-test score was improved from 9.35 to 10.11, the t-value of 6.05 was significant at 0.001. He concluded that, amla juice with elemental iron was effective in rising the hemoglobin level among adolescents' girls.¹¹ In another comparative study conducted by Akilaooran A et al., (2019) concluded that eating amla with honey can increase the Hb levels within a short period of time rather than dates and also improve the overall body mechanism.¹²

To find the association between the post test hemoglobin level of adolescent girls with their selected demographic variables.

There was no association between the demographic and background variables of posttest hemoglobin level of adolescent girls. Hence the Null hypothesis is H_0 , stated that "There will be no significant association between the posttest hemoglobin level among adolescent girls with their selected demographic and background variables." was accepted. In contrast view, the socio-demographic variables analyzed in experimental group, father's educational status (9.008*), mother's educational status (7.176*) were found significant with post test scores at 5% level.¹⁰ The present study findings revealed that, the adolescent girls needed help in increasing their hemoglobin level by dietary counselling and supplementation. The researcher also found that, the review of literature and the statistical findings of the study revealed that amla juice with honey was an effective intervention in improving the hemoglobin level among adolescents' girls.

Recommendations

1. A descriptive study can be conducted to find the causes for anemia among college

students.

2. The longitudinal study can be conducted with a larger sample size in covering many areas in the state as well as in the country.
3. A comparative study can be conducted among urban and rural adolescents.
4. A comparative study can be done on nurses' knowledge and attitude regarding anemia who are working in adolescents' clinic.
5. A comparative study can be done involving the pharmacological and non-pharmacological methods of management especially dietary supplementation and counselling.

Conclusion

Adolescent is the period, when the individual can be molded and shaped into great adult psychologically. In the adolescence stage, starts progress towards young adulthood; moved from dependency to the beginning of the independence and metamorphically change their behaviors. The present study significantly proved that, amla juice with honey was an effective intervention to improve the hemoglobin level among adolescents' girls. Amla juice with honey are found to have no side effects when compared with other pharmacological treatment. Hence, the knowledge regarding the dietary modification and counselling to be needed to impart among the adolescents as behavior modifications aids to prevent mortality and morbidity rates due to anemia of adolescents.

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A Quasi Experimental Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Prevention of Child Abuse Among Mothers in Urban Area of Sangrur District Punjab

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Abstract

Child abuse is child maltreatment as any act or series of acts of commission or omission by a parent or other caregiver that results in harm, potential for harm, or threat of harm to a child. So this research focuses the research design was quasi experimental under nonrandomized control group design. The study was conducted in selected urban areas of district Sangrur, Punjab. The sample size was 60 comprises of 30 sample experimental group and 30 sample control group. On randomized sampling technique under purposive sampling technique was used. The tool consists of Structured Knowledge questionnaire was used to assess the knowledge regarding prevention of child abuse among mothers. Data was collected to assess Pre-interventional level of knowledge was assessed by structured knowledge questionnaire. The investigator was implemented structured teaching programme then. Post interventional level of knowledge was assessed. This study result shows experimental group the mean of pre interventional level of knowledge score is 11.67 and mean of post interventional 25.13. The t test value is 19.035 and the table value is <0.001. So, it was significant. On the other hand in control group the mean of pre interventional level of knowledge score is 11.333 and the mean of post interventional 11.20. t test value is 0.185 and the table value is 0.854 So, it was not significant. The study concluded that, structured teaching programme has positive effect on Knowledge regarding prevention of child abuse among mothers.

Keywords: Child abuse; Structured Teaching Programme; Knowledge; Mothers.

Introduction

Child abuses are any threatening or violent interaction of physical, psychological or sexual nature, which may cause physical or psychological harm to the child. This include neglect and with holding essential aid, medical care and education.

‘Child Abuse’ as a violation of basic human rights of a child, constituting all forms of physical, emotional ill treatment, sexual harm, neglect or negligent treatment, commercial or other exploitation, resulting in actual harm or potential harm to the child’s health, survival, development or dignity in the context of a

relationship of responsibility, trust or power, child neglect and physical abuse incidents per 100,000 children aged 0-5, 6-12, and 13-17 years.¹

Child abuse can result in physical, verbal, or sexual harm. While child abuse is often seen as taking action, there are also examples of inaction that cause harm, such as neglect. Families where participants suffer from alcoholism, substance abuse problems show higher rates of child abuse compared to non-income families. The effects of child abuse can lead to short-term and long-term harm, even death. Some children may not even realize that they are victims of child abuse. Child abuse is also widespread which can occur in any cultural, racial, or ethnic group.²

Physical abuse hurts a child physically. These may include, heat, punching, shaking, kicking, hitting, or otherwise injuring a child. The parent or guardian may not have intended to harm the child; injury is not an accident. Sexual abuse is sexual misconduct with a child. It includes masturbating a child, making a child fall in love with an adult's genitals, having sex, having sex with a relative, rape, discrimination against women, sexual harassment and sexual exploitation. Emotional trauma (also known as: verbal abuse, psychological abuse, and psychological abuse) includes the actions or failure of parents or caregivers to cause or cause, serious behavioral, cognitive, emotional or psychological disturbances.³

Child abuse is a major problem that has a long-term impact on individuals, families and communities. Awareness and understanding of child abuse is an important first step in addressing this issue. Originally the term child abuse was terminated from childhood abuse but has now been extended to a deliberate act of physical, sexual, and emotional abuse or neglect of children by parents, guardians or others. Child abuse is a social problem and unless the community is aware of the issue, the magnitude of the problem and their role in preventing and preventing child abuse, more children, families and communities will suffer.⁴

According to the WHO an estimated 40 million children between the ages of 0-14 worldwide are being abused and neglected and in need of health and social care.⁵ Child abuse and neglect are common. At least 1 in 7 children has experienced child abuse and / or neglect in the past year, and this is likely to be underestimated.¹ In 2019, 1,840 children were killed in child abuse and neglect in the United States.² Children living in poverty are more likely to be abused and neglected. Dealing with poverty can put great strain on families, which can increase the risk of child abuse and neglect. Child abuse and neglect rates are

five times higher among children in low-income households compared to children in low-income and economically disadvantaged families.⁶

In this systematic review, we searched for electronic information (Pub Med, POPLINE, and Psyc INFO) to find articles published in English on child sexual abuse in India on January 1, 2006 and January 1, 2016 using 55 search terms. The data are published in articles published only in India's national census which has found the total employment of children, aged 5-14, to reach 4.35 million. In 2011, 33098 reported sexual assault, 7112 cases of child rape in India were reported.⁷

Child Protection Centers across the country employ approximately 295,000 child victims of abuse, providing victims' support and support for these children and their families. In 2014, this number was over 315,000. Rajasthan accounts for about 10% of total child labor in the country and Jaipur alone has more than 50,000 children aged 5-14. Rajasthan has the second highest rate of child labor (8.5%) in the 2011 census. In Jaipur, 192 rape cases were reported in 2013. In 2014, 60 897 children reported physical abuse at the age of 10-14.⁸

Child abuse is a public health problem and toxic stress affecting at least one in eight children aged 18. Abuse can take the form of physical and sexual abuse, neglect, and emotional abuse.⁹

The extensive review of literature has been done and it is organized according to the following subheading.

1. Review of literature related to child abuse.
2. Review of literature related to knowledge on child abuse.
3. Review of literature related to effectiveness of structured teaching programme on prevention of child abuse.

Materials and Methods

Research Design

The research design selected for the present study was a quasi-experimental Research Design (non randomized control group).

Research Setting

The study was conducted at selected urban areas of district Sangrur, Punjab.

Target Population

The target populations were mothers in selected urban areas of district Sangrur, Punjab.

Sample Size

The sample size of the study comprises of mothers 30 sample experimental and 30 sample control group in selected urban areas of district Sangrur, Punjab.

Sampling Technique

In this study convenience sampling technique was used to select the study subjects.

Description of tool:

Section A: It consists of selected demographic variables. It includes age, type of family, number of children, educational status, occupation, Religion, and previous knowledge.

Section B: Structured Knowledge questionnaire was used to assess the knowledge of mothers regarding prevention of child abuse. It consists of 35 multiple choice questions regarding prevention of child abuse. Each correct answer awarded 1 mark and incorrect answer was awarded 0 marks.

Result

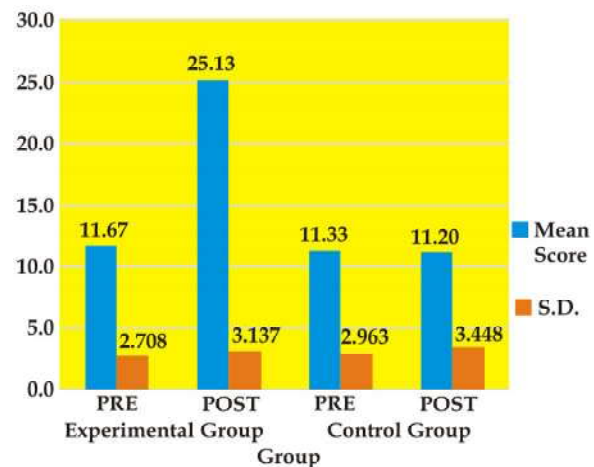
Compare the pre and post interventional knowledge regarding prevention of child abuse among mothers of experimental and control group in selected urban areas of district Sangrur, Punjab.

Knowledge Score							
Experimental Group (N=30)							
	Mean	Mean	SD	df	T-test	Table	Table
		difference				value	value
Preinte- rventional	11.67	13.46	2.708	29	19.035	<0.001	Significant
Post interv- entional	25.13		3.137				
ControlGroup(N=30)							
	Mean	Mean	SD	df	T-test	Table	Table
		difference				value	value
Preinte- reventional	11.333	0.133	2.963	29	0.185	0.8544	Non Significant
Post inter- ventional	11.20		3.448				

Experimental group the mean of pre interventional level of knowledge score is 11.67 and mean of post interventional 25.13. The mean difference of knowledge score is 13.46. the standard deviation of pre interventional 2.708 and post interventional 3.137. The df is 29 and the t test value is 19.035 and the table value is <0.001 so, it was significant and it shows that structured teaching programme is effective to enhance the knowledge score among mothers of experimental group. On the other hand in control group the mean of pre interventional level of

knowledge score is 11.333 and mean of post interventional 11.20. The mean difference of knowledge is 0.133. The standard deviation of pre interventional is 2.963 and post interventional is 3.448. The df is 29 and the t test value is 0.185 and the table value is 0.854 So, it was not significant and it shows that without administration of structured teaching programme there was no gain to enhance the knowledge score among mothers of control group.

Diagram showing Knowledge Mean and SD Score



Discussion

The findings of the study had been discussed in accordance with the objectives of the study. Majority of mothers in maximum no. of 30 in experimental group is 12(40.00%) samples and maximum 30 in control group 11(36.7%) samples belongs to 30-35 years. Majority of mothers in experimental and control group 22(73.3%) samples belong to nuclear family, 05(16.7%) samples belong to joint family, 03(10.00%) samples belongs to extended family. Mothers in experimental group 19(63.3%) samples have a one child, 09(30.0%) have two children, and in Control group 13 (43.3%) samples have a one child, 15(50.0%) have two children. Majority of mothers in experimental group 10(33.3%) subjects had secondary education, and in control group 13(43.3%) subjects had under graduate. Majority of mothers in experimental group 12(40.0%) samples belong to house maker and in control group 11(36.7%) samples belongs to non-government employee. Majority of sample in experimental group 17(56.7%) and in Control group 18(60.0%) samples belongs to Sikh religion. Majority of subjects in previous knowledge in experimental group 10(33.3%) samples and in Control group 11(36.7%) samples belongs to television.

The Majority of subjects maximum number in pre

interventional level of knowledge score of Experimental group 29(69.7%) had poor knowledge score and control group 29(96.7%) had poor knowledge score. Majority of subjects maximum number in post interventional level of knowledge score of experimental group 15(50.0%) had good knowledge score and control group 28(93.3%) had poor knowledge score.

In experimental group the mean of pre interventional level of knowledge score is 11.67 and mean of post interventional 25.13. The mean difference of knowledge score is 13.46. The standard deviation of pre interventional 2.708 and post interventional 3.137. It reflects that structured educational programme was effective. In control group the mean of pre interventional level of knowledge score is 11.333 and mean of post interventional 11.20. The mean difference of knowledge is 0.133. It reflects that structured educational programme was not effective.

There is no significant association between Pretest and Posttest knowledge score of mothers with selected socio-bio-demographic characteristics of mother in selected urban areas of district Sangrur, Punjab in experimental group control group.

Conclusion:

Child abuse and neglect are serious public health problems and adverse childhood experiences (ACEs) that can have long-term impact on health, opportunity, and wellbeing. This issue includes all types of abuse and neglect against a child under the age of 18 by a parent, caregiver, or another person in a custodial role (such as a religious leader, a coach, a teacher) that results in harm, potential for harm, or threat of harm to a child.10 Child abuse is child maltreatment as any act or series of acts of commission or omission by a parent or other caregiver that results in harm, potential for harm, or threat of harm to a child. Most child abuse occurs in a child's home, with a smaller amount occurring in the organizations, schools or communities. So mother knowledge need regarding Child abuse .in this study conclude based on analysis there is effectiveness of structured teaching programme on knowledge regarding prevention of child abuse among mothers in urban area of Sangrur

district Punjab.so same as different strategies through we should make continues awareness regarding child abuse in this society.

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A Study to Assess Suicidal Ideation Among Secondary School going Adolescents in Selected Schools at Bharuch

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Abstract

Today, Suicide becomes a major problem in the world. Adolescence is a period in which teens have lack of maturity, they are dealing many changes and challenges during adolescence phase. Due to this; they have suicidal ideation. The aim of the study was to assess the suicidal ideation among secondary school going adolescents in selected schools at Bharuch. The quantitative descriptive approach was adopted in this study. Total five schools were selected with convenient sampling technique and in stage two simple random sampling techniques were used to select 532 students as sample in this study. Modified scale for suicidal ideation (MSSI) was used. The MSSI scale has given by Ivan w. miller, William H. Norman, Stephan B. Bishop, Michael G. Dow. Reliability of the scale was 0.94. Descriptive and inferential analysis was used. The result shows that 45.67% adolescents are having mild suicidal ideation, 10.52% adolescents are having moderate suicidal ideation and 0.93% adolescents are having severe suicidal ideation. There was significant association between suicidal ideation with age, sex, BMI, income, attendance of prayer, substance use, type of family, residence, performance of friend and school performance.

Keywords: Suicide; Suicidal ideation; Secondary school going Adolescents.

Introduction

"Just when the caterpillar thought the world was over, It became a butterfly. The moment you're ready to quit is usually the moment right before a miracle happens. Don't give up.

Suicide is an intentional act of taking one's own life. It is the major problem in the world today. It affects families, communities, and countries. Nearly 800000 people were dying due to suicide every year which is one person every 40 seconds. WHO (2016)

Suicide can be due to many reasons including depression, schizophrenia, hopelessness, alcoholism, family influence, illness, losses. Suicide has seen in all age groups including children, adult and old.

Suicide behavior has different stages such as suicidal ideation, suicide planning and attempting suicide. Ideation means that formatting ideas or concepts. Suicidal ideation is a suicidal thought, thinking and making planning of suicide. Suicidal ideation is ranging from short period of time or longer

and also includes detailed planning. Individual who is having suicidal thought does not mean that they will attempt the suicide, but it can mean that individual having the risk to attempt suicide. An estimated 2.2 million people in the U.S reported that they are having made suicide plans in 2014, among adults aged > 18. Crosby, Alex, Beth, Han (2015)

Suicide and suicidal ideation are commonly seen in school going adolescents. Adolescents is a transitional stage from childhood to adulthood and during this period adolescents experiences many changes, which include physical growth, new social relations and also emotional adjustment. These new responsibilities were put pressure & stress on them which can lead to risk of suicide.

Most common physical problems have seen in adolescents are acne, trauma, menstrual abnormalities, Iron deficiency, accidents, obesity and malnutrition. Most common mental problems are eating disorder, smoking, drug addiction, violent behavior, personality disorder, mobile addiction, alcoholism, suicide and suicide ideation.

From this all, accident is the first leading cause of death and suicide is the second leading cause of death in adolescents. WHO (13 Dec 2018)

Many factors can lead an adolescent to suicidal behavior and it can be divided in two type: 1. Psychological problems, 2. Social environmental. Psychological problems are loneliness, worry, hopelessness, anxiety, and depression. Social environmental problems are low or lack of parental or peer support, alcohol, drug use, smoking, being bullied, sexually abused, social isolation.

Adolescents of both genders who had suicide ideation are significantly more likely to commit suicide than those without such ideation and attempts. Groleger U (2003)

Now days, Mental health issues has been rise in this world since beginning. These facts are possibly considered that suicide become second leading cause of death in adolescents.

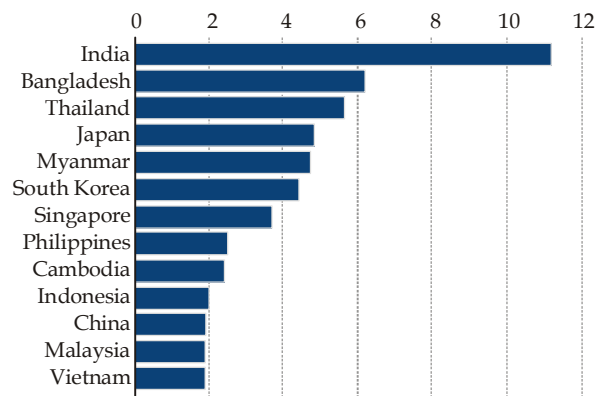
Statistical Report about Suicide

Worldwide 6.9% per 100000 population suicidal ideation recognized. Each year approximately 800,000 people die worldwide by suicide.

In Asia: 10.17% adolescents having suicidal ideation, 2017.

Table 1: Suicide rate of adolescents in Asia, 2016.

Teebage suicide rates in Asia (deaths per 100,000 in 2016)



Source: World Health Organization

In India: Annual suicide rate is 10.5 per 100,000, while the suicide rate for the world is 11.6% per 100,000. In India 2016, the number of suicides had increased to 230,314. It was the most common cause of death in all age.

In Gujarat: Gujrat recorded a 6.7% increase in the number of suicide cases in 2016-7,735 cases against 7,246 in 2015.

Table 2: Overall statistical report of suicide.

Place	Gujarat	India	Asia	Worldwide
Suicidal ideation	6.7% in 2016	11.6% in 2016	19.3 per 100,000 about 30% higher than global rate of 16.0 per 100,000 in 2016	6.9% per 100,000 population

Due to this statistic report we are focusing on suicidal ideation. The current study aims to investigate the level of suicidal ideation it will leads to increase severity of level of suicidal ideation among secondary school going adolescents.

Statement of problem

A descriptive study to assess the suicidal ideation among secondary school going adolescents in selected schools at Bharuch.

Objectives

1. To assess suicidal ideation among secondary school going adolescents in selected school at Bharuch.
2. To associate suicidal ideation with social demographical variable among secondary school going adolescents in selected school at Bharuch.

Hypothesis

H1: There is a significant association between suicidal ideation and selected demographic variables among adolescents in selected schools at Bharuch.

H0: There is no significant association between suicidal ideation and selected demographic variables among adolescents in selected schools at Bharuch.

Projected outcome

Suicidal ideation is having significant association with all selected demographic variables.

Methodology:

Research approach: In this study the quantitative approach was considered.

Research design: In this study Descriptive research design was utilized to achieve the objectives of the study.

Variables:

Research variables: In this study, research variables are refer to the suicidal ideation among secondary school going adolescent in selected school at Bharuch.

Demographic variables: In this study demographic variables which are: Age, Sex, BMI, Economical status, Attendance of religious prayer, Substance use, type of family, Residence, Performance of friends, School performance.

Setting: The setting is the location, where the study was conducted. The study was conducted at Dayadra High school, St. Xavier's school, Anjuman E Talim high school, M A M high school Sitpon at Bharuch, Gujarat.

Sample and Sample size: In this study the sample comprised of 532 adolescents were from Dayadra High school, St. Xavier's school, Anjuman E Talim high school, M.A.M high school Sitpon was selected from the 8th, 9th & 10th standard.

Sampling technique: In this study, staged sampling technique was used. Convenient sampling technique was used to select the schools from Bharuch District and the simple random sampling technique was used to identify the samples from 8th, 9th, 10th standard from each school for the present study.

Sampling criteria:

Inclusion criteria:

Adolescents who are in 8th, 9th and 10th std.

Adolescents who are willing to participate.

Exclusion criteria:

Adolescents who are absent on the day of study.

Adolescents who are diseased with mental disorders.
Adolescents who are recently bereaved.

Description of the Tool

Socio demographic data and Modified scale for suicidal ideation (MSSI) was used to identify the suicidal ideation among adolescents. This MSSI scale given by Ivan w. miller William H. Norman, Stephan B. Bishop, Michael G Dow. Reliability of the scale was 0.94.

The tool was divided into two parts

Part 1: It consist of 10 items regarding the demographic information of the subject such as age, sex, BMI, Economical status, attendance of religious prayer, substance use, Neglected by parents, Physical abuse by parents, performance of friends, school performance .

Part 2: Data was collected by means of structured interview with the use Modified scale for suicidal ideation (MSSI). It consists of 18 items in four sub dimensions measured on 0- "None", 1- "Weak", 2- "Moderate" & 4- "Severe". The possible score range from 0-72 points for the entire scale with increasing score, the person's level of ideation is on rises.

Scores are interpreted by as followed

Table 3: Level of ideation and score.

Level of ideation	Score
Mild	0-8
Moderate	9-20
Severe	21 [^]

Procedure for data collection

The data was collected in Iqra school, Dayadra High school, St. Xavier's school, Anjuman E Talim high school, M A M high school Sitpon Prior to data collection, written permission was obtained from the principal of each school. Written informed consent was obtained from the students who were participated in this study, after explaining the purpose of this study 532 samples were selected by using simple random sampling technique. The data was collected at convenient from the participants were approached and were made comfortable. First the information was collected related to socio demographic data of the adolescents and after tool were filled up by adolescents.

Plan for data analysis

Descriptive and Inferential Statistics

Human Rights

The ethical clearance has got from Institutions.

Result

The data Analysis were done according to objectives of the study.

Data Analysis

Table 4 : Frequency & Percentage distribution of Demographic variables.

Demographic Variables	Frequency	Percentage
Age		
14yr	147	28%
15yr	206	39%
16yr	140	26.31%
17yr	39	7.33%
Sex		
Male	283	53.19%
Female	244	46%
BMI		
11-15	60	11.27%
16-20	270	51%
21-25	178	33.45%
26-30	24	4.51%
Income		
0-5000	54	10.15%
6000-10,000	226	42.48%
11,000-15,000	130	24.43%
16,000-20,000	122	23%
Attendance of religious prayer		
Regular	369	69.36%
Irregular	163	30.63%
Substance use		
Yes	39	7.33%
No	493	93%
Feeling neglected by parents		
No	330	62.03%
Yes	202	33.75%
Physical abuse by parents		
No	383	72%
Yes	149	28%
Friend performance		
Below average	26	4.88%
Average	447	84%
Above average	59	11.09%
School performance		
Below average	27	5.07%
Average	472	88.7%
Above average	33	6.20%

Demographic Variables:

The results shows in table 4 that 147(28%) of respondents were in the age group of 14yrs, 206 (39%) of respondents in the age group of 15yrs and 140(26.31%) of respondents in the age group of 16 yrs and 39 (7.33%) of respondents in the age group of

17yrs. In relation to sex , 283 (53%) of respondents were found to be male and 244(46%) of respondents were found to be female. In relation to BMI,60(11.27%) of respondents have 11-15 BMI rate, 270(51%) of respondents have 16-20 BMI rate, 178(33.45%) of respondents have 21-25 BMI rate, 24(4.51%) of respondents have 26-30 BMI rate. With respect to monthly income 54(10.15%) of respondents family income is 0-5000, 226(42.48%) of respondents family income is 6000 to 10,000, 130 (24.43%) of respondents family income is 11,000-15,000,122(23%) of respondents family income is 16,000-20,000. With respect to attendance of religious prayer, 369(69.36%) of respondents are pray regularly, 493(92.66%) of respondents are not praying regularly. Regarding substance use, 39(7.33%) of respondents are using substance, 493(92.66%) of respondents are not using any substance. With the respect of neglected by parents, 330(62.03%) of respondents said no, 202 (3.75%) of respondents said yes. With respect of physical abuse by parents, 383 (71.99) of respondents said No, 149(28%) of respondents said yes. In relation with performance of friends, 26(4.88%) of respondent's friends performance is below average, 447 (84%) of respondent's friends performance is average, 59(11.09%) of respondent's friends performance is above average. In relation with school performance, 27(5.07%) of respondent's school performance is below average, 472(88.7%) of respondent's school performance is average, 33(6.20%) of respondent's school performance is above average.

Table 5: Association between socio demographic variable and suicidal ideation.

Socio demo graphic variable	Mean	F	df	Chi-square Value	Table value	P<0.05
Age			9	41.76	21.67	S
14 yr	0.27	147				
15 yr	0.38	206				
16 yr	0.26	140				
17 yr	0.073	39				
Sex			3	14.402	11.34	S
Male	0.53	283				
Female	0.45	244				
BMI			9	40.87	21.67	S
11 – 15	0.11	60				
16-20	0.50	270				
21-25	0.33	178				
26-30	0.45	24				
Income			9	55.35	21.62	S
0-5000	0.10	54				
6000-10,000	0.42	226				
11,000-15,000	0.24	130				
16,000-20,000	0.22	122				

Attendance of prayer	3	37.56	16.27	S
Regular	0.69	369		
Irregular	0.30	163		
Substance use	3	104.4	16.27	S
Table Cont.				
Yes	0.07	39		
No	0.92	493		
Feeling neglected by parents	3	3.48	2.37	S
No	0.62	330		
Yes	0.37	202		
Physical abuse by parents	3	2.82	2.37	S
No	0.71	383		
Yes	0.28	149		
Performance of friend	6	15.82	15.3	S
Below average	0.048	26		
Average	0.84	447		
Above average	0.11	59		
School performance	6	13.37	12.59	S
Below average	0.05	27		
Average	0.88	472		
Above average	0.06	33		

Table 5 shows that there is association between demographic variable such as age, sex, BMI, Economical status, attendance of religious prayer, substance use, Neglected by parents, Physical abuse by parents, performance of friends, school performance with suicidal ideation among school going adolescents.

Discussion

Based on the objective and result the discussions are given below.

The first objective was to assess suicidal ideation among secondary school going adolescents.

In this study the level of suicidal ideation is more among adolescents, in this study 45.67% of adolescents are having mild suicidal ideation, and 10.52% of adolescents are having moderate suicidal ideation & 0.93% of adolescents having severe suicidal ideation. The result of the study has supported with another study done by *Tanuj Sidhartha, Shivananda Jena* done a study on **Suicidal Behaviors in Adolescents** in Delhi to find prevalence of NFSB and other related behaviors and to identify risk factors for NFSB. The total samples were 1205 adolescents in the age group from 12 to 19 years from 2 schools. The data has collected through semi structured questionnaire on demographic variables, NFSB, death wish, deliberate self-harm (DSH), Adjustment Inventory for School Students (AISS) by Sinha et al. & BDI. The results show that the Prevalence of suicidal ideation (lifetime), suicidal ideation (last year), suicide attempt (lifetime), suicide attempt (last year) were 21.7%, 11.7%, 8% and 3.5%,

respectively.

B) To associate the level of suicidal ideation with selected demographic variables.

Based on this, the result were discussed below in this study, level of suicidal ideation compared with selected demographic variable had a significant effect on Age ,45.67% of adolescents having mild suicidal ideation ,10.52% are moderate and 0.93% are severe. Due to the changes and challenges adolescents are facing during adolescence phase, they end up with the thought of suicide.

In this study, 24.62% of girl adolescents are having suicidal ideation, where 31.57% of boys adolescents are having suicidal ideation. Here boys are having more suicidal ideation than girls, it can be due to boys are less expressive compare to girls, they face difficulties in sharing their feelings to family and friends. Due to this; the mixture of emotions rises and they get suicidal thoughts. To support this finding from Canadian article "The suicide gap: Why men are more likely to kill themselves ?" by Vnessa milne et al. 2017, it says that suicide is often thought of as a three times as many Canadian men kill themselves every year than women do.

Haesoo kin et al. conducted study on "Association of body mass index with suicide behaviors, perceived stress and life dissatisfaction in the Korean general population." The result of study shows that being underweight was associated with higher risk of suicide ideation, 95% likewise obesity also increased the risk of suicide ideation. In this study 35.90% of adolescents having suicidal ideation who were underweight.28.98% are having suicidal ideation with normal weight and 2.25% are having suicidal ideation that is obese.

According to Kretschmer's personality classification, Asthenic personality are unsociable, shy, pessimist in nature . Which means that adolescents who are underweight, are pessimist in nature which can be the reason behind their suicidal thoughts because they are shy and unsociable, they are not sharing their feelings and problems to others.

Adolescents whose' family income is under 5000rs having suicidal ideation 6.39%, 1.82% of adolescents having suicidal ideation whose' income is 6000-10,000rs, 15.22% of adolescents having suicidal ideation whose income is 11,000-15,000rs where adolescents whose family income is 16,000- 20,000 having 17.29% suicidal ideation. Which means that adolescents who belongs to good wealthy environment having more ideation. It can be due to; more the family is rich, they can buy everything and replace love with money due to this adolescents are feeling alone and they can't share their feelings with

everyone and end up with suicidal thoughts.

4.51% of adolescents are having moderate suicidal ideation who is performing prayer regularly, while 6.01% adolescents having moderate suicidal ideation who is performing prayer irregularly as well 0.37% are with severe ideation who are regular performer of prayer where 0.56% are irregular. Which shows that adolescents who is performing prayer regularly having less ideation compare to irregular.

The reason can be the belief and spiritual hope, in life if any difficulty arise we remember our God and we have belief and hope from our god that God will solve everything if adolescents are not doing prayer that shows they are lacking spiritual belief and hope and they get suicidal thought.

6.20% of adolescents are having suicidal ideation that uses substance, where 50.93% of adolescents are having suicidal ideation that is not using any substance. It shows that adolescents who are not using any substance have more ideation.

35.33% of adolescents having ideation who felt neglected by parents, while 21.80% of adolescents having no ideation that who were got good care from the parents. Physical abuse from parents significantly associated with suicidal ideation, 16.54% of adolescents having suicidal ideation who were got physical abuse from parents. Similar study done by Tanuj Sidhartha, Shivananda Jena done a study on Suicidal Behaviors in Adolescents in Delhi to find prevalence of NFSB and other related behaviors and to identify risk factors for NFSB. The total samples were 1205 adolescents in the age group from 12 to 19 years from 2 schools. The data has collected through semi-structured questionnaire on demographic variables. The following Demographic variables such as Hindu religion, female sex, older adolescent, physical abuse by parents, feeling neglected by parents, history of running away from school, history of suicide by a friend, death wish and DSH were found to be significant risk factors for NFSB.

48.12% of adolescents are having suicidal ideation whose friend's performance is average, where 6.95%

are having ideation whose friend's performance is above average. It is showing that the adolescents whose' friends performance is average having more ideation. It reveals that adolescents who are good in study having less suicidal ideation compare to average students.

In this study all demographic variables significantly associated with suicidal ideation, so in this study the research hypothesis is accepted and null hypothesis rejected.

Recommendation

1. A further research study can be conducted for assessing the negative Impact of suicidal thoughts on physical health.
2. A similar study can be conducted on other age groups.
3. Health education given to parents and students to spread awareness regarding prevention of suicide.

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Analysis and Management Considerations of Neonates at Risk for Covid-19 Pandemic in NICU

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Abstract

The entire world is reeling under the effects of the novel corona virus pandemic. As it is a new infection, our knowledge is evolving constantly. There is limited information about impact of corona virus on neonatal care in relation to new born with confirmed or suspected COVID-19. In this article, we summarize the current approach to this infection in relation to newborn babies. We discuss the basic aspects of the infection, the approach of care to novel corona virus disease 2019 (COVID-19) in positive pregnant women, the likely presentation in new born (as per current knowledge), and the approach to the management of neonates with infection or at risk of the infection. Children are less susceptible to COVID-19 infection and generally have a mild course. There is a lower risk of severe disease among pregnant women and neonates. It was recommended to follow the current protocols for management of symptomatic newborn with isolation precautions, antibiotics, and respiratory support.

Keywords: COVID-19; Hematological; Caesarean; Neonatal; Transmission.

Introduction

Since the May 2020 posting of this bearing, a couple of circulations have uncovered the aftereffects of youths carried into the world to mothers with suspected or insisted SARS-CoV-2 pollution. These circulations have been used to prompt this course update. CDC will continue breaking down data on the risk of defilement and results for young people carried into the world to mothers with SARS-CoV-2 sickness and will invigorate this heading as new information opens up. Since December 2019, when the novel Covid-19 related contaminations were

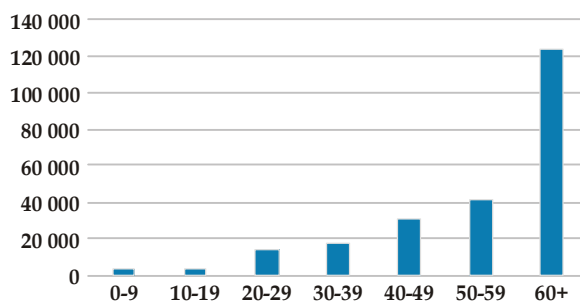
accounted for in the Wuhan region in China, the world has seen a circumstance never seen. The infection has now been accounted for in many nations all throughout the planet and since March 11, 2020, has been proclaimed a pandemic by the World Health Organization (WHO). There has been a high case casualty rate, and as of now (mid-June 2020), near 8 million cases and almost 440,000 passing have been accounted for. As it is another contamination and illness attributes are as yet being clarified in numerous settings, the specific conventions that we continue in various age gatherings will require normal updates.

The information on COVID-19 in children is just founded on a new encounter in the course of recent months or somewhere in the vicinity. Kids are less helpless to COVID-19 disease and by and large have a gentle course in babies, and kid's insight with essentially lower demise rates. In addition, there is restricted data about the effect of Covid on neonatal consideration corresponding to babies with affirmed

or suspected COVID-19. Therefore, it is identified that the fundamental parts of the contamination, the methodology of care to novel Covid-19 illness 2019 in certain pregnant ladies, the conceivable show in babies according to current information and the way to deal with the administration of children with disease or in danger the contamination.¹

Number of reported COVID-19 cases by age in Italy and Kenya

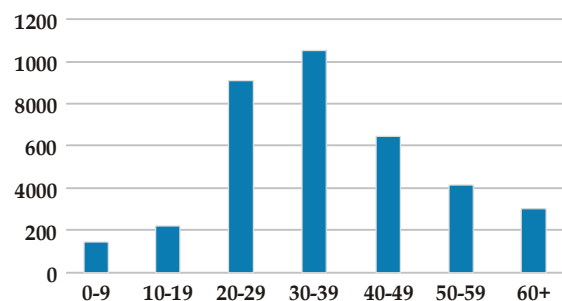
Number of reported COVID-19 cases by age in Italy, as at 15 June 2020



Source: Statista, 'Distribution of Coronavirus Cases in Italy as of June 22, 2020, by Age Group', <www.statista.com/statistics/1103023/coronavirus-cases-distribution-by-age-group-italy>, accessed 6 July 2020.

Note: * Age range is 10-18 years

Number of reported COVID-19 cases by age in Kenya, as at 15 June 2020



Source: Kenya, Ministry of Health, 'COVID-19 Outbreak in Kenya: Daily situation report - 90', 15 June 2020. Available at: <www.health.go.ke/wp-content/uploads/2020/06/Kenya-SITREP-090-15-June-2020.pdf>, accessed 6 July 2020.

Fig 1: Picture Shows the Scenario of Covid-19 in Italy and Kenya

The information on COVID-19 in children is just founded on a new encounter in the course of recent months or somewhere in the vicinity. Kids are less helpless to COVID-19 disease and by and large have a gentle course in babies, and kid's insight with essentially lower demise rates. In addition, there is restricted data about the effect of Covid on neonatal consideration corresponding to babies with affirmed or suspected COVID-19. Therefore, it is identified that the fundamental parts of the contamination, the methodology of care to novel Covid-19 illness 2019 in certain pregnant ladies, the conceivable show in babies according to current information and the way to deal with the administration of children with disease or in danger the contamination.¹

Definition of suspected coronavirus disease-2019

Newborn who were associated with COVID-19 disease in any case the side effects, is the babies that convey to the moms with a background marked by affirmed COVID-19 contamination 14 days before birth or have the immediate openness to patients with affirmed disease with COVID-19 in the initial 28 days of life.²

Impact on Maternal/Neonatal Health

Right now, there is no proof of higher danger of serious sickness and entanglements among pregnant ladies with COVID-19 contrasted and sound non-pregnant adult age women. There is just restricted information on the effect of the current COVID-19 flare-up on ladies influenced during pregnancy and babies. As of now, no information was proposing an expanded danger of premature delivery in pregnant ladies with COVID-19 disease. In ladies with indicative COVID-19, there might be an expanded danger of fetal trade off in dynamic work. Ladies have been encouraged to stay away from water births to forestall the danger of illness transmission through defecation. Information from China discovered serious intricacies in 8% of pregnant ladies with COVID-19. Notwithstanding, the high pace of cesarean area conveyances in Chinese reports is unsettling, and resulting reports from various nations have not affirmed any need to consider Cesarean Area Conveyances separated from the obstetric and maternal condition-based choices. Announced conveyance subtleties of 72 COVID-19 positive moms in Spain, and the Cesarean Area Conveyances choice depended on obstetric choice.

The examination couldn't exhibit the presence of Covid in placenta, amniotic liquid, or string blood in

the cases. The maternal result was marginally more awful as far as requiring respiratory help for moms going through Cesarean Area Conveyances, and the new-born result was not unique. Just 3 of the 72 babies were positive on the underlying test, and these were negative on the recurrent test at 48 h. Two of the new-borns created contamination following 2 days, likely gained from the mother, yet all children were well and asymptomatic. Moreover, beginning reports on the COVID-19 contaminated pregnant ladies in Wuhan showed that a large portion of them were in their third trimester, not many on second trimester, and none recognized from the outset trimester. Notwithstanding, the investigation showed that the baby of the SARS-CoV tainted mother in the primary trimester of pregnancy would foster intrauterine development limitation; hence, more consideration ought to be paid on the anticipation of COVID-19 in the principal trimester of pregnancy.

There is no proof that COVID-19 affects fatal turn of events of development in any case, expanded possible danger of preterm conveyance has been underlined. An examination of 23 investigations including pregnant moms with COVID-19 exhibited a preterm conveyance pace of 47%. One of the significant inconveniences of preterm conveyances, necrotizing enter colitis, may overburden the obstetrics and neonatal administrations¹.

How do Neonates Get Infected

Ongoing investigations from the UK and different nations affirmed that upward transmission because of COVID-19 can happen, albeit the rate is low. It is empowering that on a level plane infected children had shown a gentle clinical profile with great results. Early Chinese reports recommended that upward transmission of SARS-CoV-2 doesn't happen, as amniotic liquid, vaginal bodily fluid, placenta, umbilical string, rope blood, and neonatal stool examples tried negative for the infection. Innate SARS-CoV-2 disease, with infection present in a child's nasopharynx at the hour of birth, may happen, with a recurrence not yet characterized. There are reports of perinatal spread particularly where the mother is suggestive only before conveyance; this could be clarified by the generally high popular burden in symptomatic moms.

Post pregnancy transmission from caregivers who have the contamination or are asymptomatic transporters is the commonest reason a child may get infected. The job of breast milk in spreading is likewise being discussed, as there have been reports of breast milk being positive for the infection where the mother was suggestive around conveyance. Be that as it may,

the World Health Organization just as different bodies like the Canadian Paediatric Society energize bosom taking care of either straightforwardly or as communicated milk after caregivers have been clarified the danger and advantages. A new report has announced that Neonatal COVID-19 disease is phenomenal, extraordinarily indicative, and the pace of contamination is no more prominent when the child is conceived vaginally, breastfed, or permitted contact with the mother. Another new contextual investigation distributed in Nature Communication detailed Trans placental transmission of COVID-19 from a positive pregnant mother during the last trimester to her posterity which happened because of maternal viremia, placental contamination, and neonatal viremia following placental disease.¹

NICU Policies

All suspected or affirmed COVID-19 children are needed to be admitted to neonatal intensive care units. Since people group transmission puts any person in danger of being asymptomatic and conveying the infection, it is fitting to limit visiting hours and permit just guardians to visit. Skin-to-skin health management and direct breastfeeding care of while in neonatal intensive care units may should be limited in open design neonatal intensive care units. Lamentably, one of the adverse consequences of this training would be openness to bottle taking care of, as cup taking care of or needle taking care of necessities closer contact and conceivable vaporized openness. It was recommended that COVID-19 adverse aftereffects of respiratory samples or anal swabs ought to be taken no less than 48 h before release.¹



Fig 2: Picture Shows covid-19 NICU Protocols to manage New born.

Oral Care in Neonates in COVID-19 Pandemic

General oral consideration suggestions, for example, oral cleanliness care by delicate cleaning of oral cavity utilizing sterile dressing plunged in drinking water ought to be followed. Colostrum can fill in as a gainful oral consideration in new-born particularly for preterm new-born children. Dental systems are generally demonstrated when children have the presence of natal or neonatal teeth. Dental extraction is demonstrated when natal or neonatal teeth are related with the accompanying conditions:

1. Portability
2. Bother during sucking/bosom taking care of
3. Oral ulceration,
4. Exaggerated teeth. During COVID-19 pandemic

The dental specialist should clinically assess oral cavity and history related with taking care of uneasiness. The dental specialist ought to lean toward early arrangement during the start of work day. Early arrangement will forestall the child to open to the patient group in the dental office and forestalling cross-disease. Phone discussion and tele dentistry ought to be favoured method of correspondence with dental specialists. Dental practices are viewed as the central focuses for cross-contamination, and dental consideration experts should play it safe to limit the danger of disease by receiving public/worldwide contamination control and counteraction rules.¹

Routes of transmission

Transmission of SARS-CoV-2, the contamination that causes COVID-19, to kids is thought to happen generally through respiratory globules during the post pregnancy time period when young people are introduced to mothers or various caregivers with SARS-CoV-2 illness. Confined reports in the composing have raised concern of possible intrauterine, intrapartum, or peripartum transmission, anyway the degree and clinical significance of vertical transmission, which appears, apparently, to be phenomenal, is foggy. As of now, there are inadequate data to make ideas on routine conceded string supporting or brief skin-to-skin health management for the executives to predict SARS-CoV-2 transmission to the adolescent.

Clinical presentation and disease severity

Separated signs among young people with SARS-CoV-2 ailment merge fever, aloofness, rhinorrhea, hack, tachypnea, broadened work of breathing, hurling, separation of the guts, and weak managing.

The amount SARS-CoV-2 contamination added to the pronounced indications of contamination and difficulties is unclear, as tremendous amounts of these divulgements are standard in term and preterm youngsters for different reasons.

Current evidence suggests that SARS-CoV-2 infections in adolescents are phenomenal. If adolescents do become infected, the bigger part have either asymptomatic defilements or delicate disease i.e., don't require respiratory assistance, and they recover. Genuine disorder in youngsters, including infection requiring mechanical ventilation, has been represented anyway emits an impression of being exceptional. Youths with covered up illnesses and preterm new-born youngsters <37 weeks gestational age may be at higher risk of outrageous sickness from COVID-19.

Testing recommendations

Testing is recommended for all kids carried into the world to mothers with suspected or certified COVID-19, regardless of whether there indicate defilement in the adolescent. For young people giving signs of sickness suggestive of COVID-19, as portrayed above, providers should similarly consider elective decisions.

Recommended testing

- Testing is recommended for all kids carried into the world to mothers with suspected or certified COVID-19, regardless of whether there indicate defilement in the adolescent. For young people giving signs of sickness suggestive of COVID-19, as portrayed above, providers should similarly consider elective decisions.

When to test

- Both interesting and asymptomatic kids carried into the world to mothers with suspected or asserted COVID-19, paying little notice to mother's signs, should have testing performed at about 24 hours mature enough. In case fundamental test results are negative, or not open, testing should be repeated at 48 hours mature enough.

Prioritization of testing

In zones with confined testing limit, testing should be centered around for kids with signs suggestive of COVID-19 too young people with SARS-CoV-2 receptiveness requiring more raised degrees of care or who are depended upon to have delayed hospitalizations, >48-72 hours depending upon

movement mode.

Limits and understanding of testing

The ideal arranging of testing after birth is dark. Early testing may provoke fake positives e.g., in case the young person's nares, nasopharynx and also oropharynx are contaminated by SARS-CoV-2 RNA in maternal fluids or counterfeit negatives e.g., RNA may not yet be recognizable after transparency following birth.

Infection prevention and control

Paces of SARS-CoV-2 pollution in youths don't emit an impression of being affected by strategy for transport, method for new-born youngster dealing with, or contact with a mother with suspected or attested SARS-CoV-2 sickness. All youths carried into the world to mothers with suspected or insisted defilement should be considered as having suspected SARS-CoV-2 infection when test results are not free.

At the point when everything is said in done, mothers with suspected or insisted SARS-CoV-2 defilement and their adolescents should be withdrawn from other strong mothers and youngsters and truly centered around according to recommended sickness countering and control practices for routine clinical benefits transport. In case a kid doesn't remain in the mother's room, workplaces should consider the establishment's capacity and resources similarly as the conceivable risk of SARS-CoV-2 transmission to other high-peril kids while sorting out where the young person should be segregated.

Separating new-born kids with suspected or attested SARS-CoV-2 pollution in a neonatal Intensive Care Unit should be avoided aside from in case the adolescent's clinical condition warrants Neonatal Intensive Care Unit affirmation. Discovering youths with suspected or avowed SARS-CoV-2 illness in a Neonatal Intensive Care Unit may absurdly construct the risk of revealing other frail children and Neonatal Intensive Care Unit staff to SARS-CoV-2. In specific centers, a Neonatal Intensive Care Unit may be the solitary sensible environment for appropriate thought of an isolated youth. Likewise, confirmation about best circumstance should be made at the workplace level.

Mother/neonatal contact

Early and close contact between the mother and kid has some grounded benefits. The best setting for care of a sound, term new-born child while in the facility is in the mother's room, by and large called living in. Current verification proposes the risk of a young person getting SARS-CoV-2 from its mother is low.

Further, data suggests that there is no differentiation in danger of SARS-CoV-2 contaminated to the young person whether a kid is truly centered on in an alternate room or stays in the mother's room.

There is, regardless, a normal risk of SARS-CoV-2 transmission to the adolescent through contact with powerful respiratory emanations from the mother, parental figure, or other individual with SARS-CoV-2 defilement, including not well before the individual makes signs when viral replication may be high. Appropriately, all parental figures ought to practice defilement balance and control measures i.e., wearing a shroud, practicing hand tidiness beforehand and remembering that truly focused in on a kid.

Mothers with suspected or confirmed SARS-CoV-2 pollution may feel off-kilter with this reasonable risk. Ideally, each mother and her clinical consideration providers should analyse whether she may need the child to be truly centered on in her room or an alternate region if she is related or confirmed with having COVID-19, measuring the examinations recorded underneath. It's most un-requesting to begin this conversation during pre-birth mind and continue with it through the intrapartum period. Clinical benefits providers should respect maternal freedom in the clinical unique cycle. Considerations for discussions on whether a neonate should remain in the mother's room include:

- Mothers who room-in with their babies can all the more effectively learn and react to their taking care of prompts, which builds up breastfeeding. Breastfeeding lessens horrible-ness and mortality for the two moms and their newborn children. Moms who decide to breastfeed should take measures, including wearing a cover and rehearsing hand cleanliness, to limit the danger of infection transmission while taking care of. Extra data for medical care suppliers on breastfeeding with regards to COVID-19 is accessible.
- Mother-baby holding is worked with by keeping the youngster with its mom.
- Rooming-in advances family-focused mind and can take into consideration parent instruction about newborn care and disease counteraction and control rehearses.
- Mothers with suspected or affirmed SARS-CoV-2 contamination ought not be considered as representing an expected danger of infection transmission to their youngsters on the off chance that they have met the measures for ending detachment and insurances:
- At least 10 days have passed since their manifestations previously showed up.

- At least 24 hours have passed since their last fever without the utilization of antipyretics, and their different manifestations have improved.
- Mothers who have not met these models may decide to briefly isolate from their children in exertion to lessen the danger of infection transmission. In any case, if after release they won't keep up detachment from their child until they meet the rules, it is indistinct whether brief division while in the emergency clinic would at last forestall SARS-CoV-2 transmission to the youngster, given the potential for openness from the mother after release.
- Separation might be important for moms who are too sick to even consider really focusing on their newborn children or who need more significant levels of care.
- Separation might be important for children at higher danger for extreme disease e.g., preterm babies, babies with basic ailments, newborn children requiring more significant levels of care.
- Separation to diminish the danger of transmission from a mother with suspected or affirmed SARS-CoV-2 to her child may not be vital if the youngster tests positive for SARS-CoV-2.

Measures to minimize risk of transmission

- On the off chance that the child stays in the mother's room, gauges that can be taken to limit the danger of transmission from a mother with suspected or affirmed COVID-19 to her youngster include:
- Mothers should wear a cover and practice hand cleanliness during all contact with their youngsters. Of note, plastic baby face safeguards are not suggested and veils ought not be put on youngsters or kids more youthful than 2 years old.
- Engineering controls, for example, keeping an actual distance of >6 feet between the mother and youngster or setting the child in a hatchery, ought to be utilized when practical. On the off chance that the baby is kept in a hatchery, it is imperative to instruct the mother and different guardians, including clinic work force, on legitimate use (i.e., locking entryways) to forestall new-born falls. A sound parental figure who isn't at expanded danger for serious sickness, utilizing suitable disease counteraction precautionary measures (e.g., wearing a cover, rehearsing hand cleanliness), ought to give care to the youngster, if conceivable.

Air

Children who in any case meet clinical standards for discharge external symbol don't need the aftereffects of SARS-CoV-2 testing for release. In the event that accessible, results from the youngster's test ought to be imparted to the family and outpatient medical services supplier. To decide when to end home detachment for a youngster with suspected or affirmed SARS-CoV-2 contamination, guardians and different parental figures ought to follow distributed proposals. Children with suspected or affirmed COVID-19, or continuous openness, require close outpatient follow-up after release.²

Transmission

Coronavirus is an original respiratory microbe that has arisen as another strain of Covid, first recognized in Wuhan City, China, and has brought about a global pandemic. The method of transmission between the instances of COVID-19 has solid proof of human-to-human transmission. This infection was secluded from respiratory emissions, defecation, and tainted fomites. Suggestion and counsel to the medical care suppliers on neonatal field are prescribed to follow severe disease avoidance and control measures. No proof yet showed the chance of vertical transmission from mother to child antenatally or intrapartum. The investigation distributed by Chen et al. tried various examples including amniotic liquid, rope blood, neonatal throat swabs, and breastmilk from COVID-19-tainted moms, and all examples tried were negative for the infection. Moreover, in an alternate article by Chen et al., swab was taken from the placenta of contaminated moms, and the outcome was additionally negative for the infection.

There is no proof of intrauterine fetal disease with COVID-19, so it is impossible that there will be inherent impacts of the infection on fetal turn of events. Likewise, there is no proof right now that the infection can cause embryo abnormality. There are some case reports of preterm work birth in ladies with COVID-19, yet it is hazy whether the preterm birth was with other explanation or happened suddenly.²

Labour Care

At present, there is no distributed proof of vertical transmission of the infection. Consequently, if endotracheal intubation required in an newborn affirmed to be a Coronavirus positive personal protective equipment ought to be trailed by faculty. Infection won't be delivered by such strategy yet the personal protective equipment is suggested. The neonatal group ought to be educated regarding any arrangement to convey the baby of a women influenced by COVID-19 dubious or affirmed, as far

ahead of time as could really be expected. The quantity of neonatal group going to the conveyance is smarter to be limited in the space to diminish the chance of contact and senior faculty prudent to join in. There is no proof against deferred line cinching in such circumstance, if the group intend to do delayed cord clamp it ought to be finished with insignificant or no skin to skin contact. The new-born ought to be resuscitated by the current NRP rules.²

Resuscitation

New-born needed around 10% resuscitation upon entering the world and if necessary ought to be finished by the NRP. There are not many local guidelines to move toward babies conveyed to suspected mother or affirmed for COVID-19 in their pregnancy. Chinese wellbeing experts chose to separate the new-born for a time of 14 days from the infected mother. This detachment and division can influence the children and mother as far as breastfeeding, holding, and intellectually. Those information from china was from little information test so approach ought to be completed by the mother circumstance in case she is suspected or affirmed sick with Coronavirus. Calculation diagrams was altered from Canadian guidelines. Showing approach care for the new-born without side effects conveyed to suspected mother. Showing way to deal with the suggestive new-born.²

New-born Feeding

The evidence in this era should be interpreted cautiously. In one article including six Chinese cases, breastmilk was tested negative for the virus COVID-19. The main risk for the new-born on breast milk feeding from suspected or confirmed mother with covid-19 is through the respiratory droplet contact not from breast milk itself. A mother with suspicion and under investigation or a confirmed case of COVID-19 should take all possible precautions to avoid spreading the virus to her new-born via the following recommendations:

- Handwashing before direct breastfeeding or pumping.
- Covering the face during breastfeeding by mask.
- Preventing direct contact with the baby during breast feeding, such as coughing or sneezing on the face.
- Proper pump cleaning measures are recommended post breast milk expression
- Sterilization guidelines are recommended if the mother is on bottle-feeding formula.²

Neonatal Clinical Manifestations and Diagnosis with Coronavirus Disease-2019

Clinical manifestations

The incubation time of the infection is fluctuating, with the base being 1 day and the most extreme being 14 days. Clinical discoveries can be asymptomatic, gentle, or serious, and they can be vague like respiratory or gastrointestinal, primarily in untimely newborn. Imperative signs can be influenced by sickness as warm guideline can be upset and infant can has high, low or ordinary temperature. Respiratory rate and pulse likewise can be over the ordinary reach, showing tachypnea and tachycardia. Babies can give apnea, troublesome breathing or hack or torpidity; helpless taking care of or poor feeding of bigotry, and distention of abdomen.²

Essential lab examinations are vague in COVID-19. Renal and liver capacities can be influenced like expanding creatinine kinase and raised soluble phosphatase, alanine aminotransferase, aspartate aminotransferase, and lactate dehydrogenase. Haematological capacities can likewise be influenced, for example, diminished or typical leukocyte checks, diminished to ordinary lymphocyte tallies, and gentle decline in platelet checks. Infection can be recognized and secluded from blood, stool, or respiratory emissions swabs. Swabs can be taken from the upper respiratory parcel like nasopharynx or from the lower respiratory lot through bronchoscope as bronchoalveolar lavage or endotracheal suction.²

Radiographic findings

Finding highlights of pneumonia was recorded now and again and analysed by chest X-ray or lung ultrasonography. Intestinal ileus includes additionally found now and again by stomach X-ray.²

Neonatal Care

Health professionals working in the neonatal field should be aware and strictly follow the prevention and infection protocol including PPE and communicate very well in such cases.²

Airway management

Various measures and insurance prescribed to be accessible during aviation route the executives particularly if methodology delivering mist concentrates anticipated (like oral and nasal pull, positive pressure factor ventilation, noninvasive ventilation like CPAP or obtrusive ventilation, for example, endotracheal intubation, or on the other hand if cardiopulmonary revival required or bronchoscopy required for bronchoalveolar lavage, and so forth.²

The following measures should be available:

- Isolation region

- Suitable covers
- Eye defensive measures
- Suitable gloves and long-sleeved suits
- Well-ventilated room
- Suitable head cover
- A senior wellbeing supplier ought to be accessible and to limit the quantity of the method preliminary.

Disinfection

- Bags ought to be twofold layered for clinical waste.
- Those waste products ought to be arranged off as per irresistible clinical waste convention in the establishment.
- Rooms ought to be cleaned post release of the infant as indicated by the disease control measures in the organization.²

Medical management

Those neonates with affirmed COVID-19 must be conceded in the NICU segregation room, ideally with negative pressing factor. Right now, the principle treatment is strong consideration and treating the complexities related with the infection. Infant who had respiratory misery disorder showed better medical clinic course with high-portion surfactant. Some infant requires breathed in nitric oxide, and high-recurrence oscillatory ventilation. Infant with renal hindrance who were fundamentally sick, may require constant renal substitution treatment and extracorporeal layer lung treatment. So multi-disciplinary group and advance neonatal level are suggested for the administration of basic youngsters with COVID-19 contamination.²

Neonatal Transport

The vehicle plan ought to be ready by the planned group for such assignments in the locale. Different degrees of measures and steps ought to be taken including the sort and number of ambulances, hardware, versatile hatcheries, ventilators, screens, supplies, and prescription. Wellbeing suppliers' groups going with such new-born should be prepared

very well on the most proficient method to deal with such cases including how to wear PPE2.

Neonatal Discharge

On the off chance that the infant is asymptomatic and swabs from the nasopharynx or pharynx or blood results show cynicism toward COVID-19 infection for multiple times successively (with somewhere around a 24-h span), the child can be released with follow-up as per calculation diagrams. While for children with affirmed COVID-19 disease and with manifestations, can be release after the indications clear.²

Conclusion and recommendations

The current emergency is an extraordinary circumstance looked by the clinical crew around the world. Offer clinical and exploration data and spread special introductions, just as contribute earnestly to the information gathered by libraries as referenced previously. As more children are influenced with intense illness, it is conceivable that we will see a more extensive range of issues and we ought to be aware of new introductions. More difficulties will be confronted like instalment frameworks and protection related issues limiting more incessant testing when governments downsize testing, and nearby groups should cooperate to define rules reasonable to their framework, so they can defeat such difficulties by cooperating in a group.

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Impact of Early Nutrition on Longterm Health

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Abstract

Nutrition in early life, a critical period for human development, can have long-term effects on health in adulthood. The importance of nutrition for health was first recognized through the association between suboptimal diet and deficiency diseases such as scurvy, beriberi and rickets and stunting in children. Early priorities in healthcare therefore focused on defining and providing nutritionally-adequate diets that could support growth and development. Historically, the greatest challenge has been to provide enough food to feed the world's ever-increasing population. However, while under nutrition remains a problem, the nutritional transition occurring in many developing countries has increased the prevalence of poverty as well as obesity.

Keywords: Impact; Early nutrition; Long term health.

Introduction

"Let food be thy medicine and medicine be thy food" ~Hippocrates

Why is Nutrition Important for Children

- Nutrition is very important for everyone, but it is especially important for children because it is directly linked to all aspects of their growth and development; factors which will have direct ties to their level of long term health as adults.
- For example, a child with the right balance of omega fatty acids in their daily diet has a much better chance at creating a more solid foundation for their brain activity and

capabilities later on.

- Likewise, a child who practices a low fat and cholesterol diet on a daily basis significantly improves their chances of preventing a heart attack; even if heart disease tends to be hereditary within their family.

Early Nutrition for Later Health: Time to Act Earlier

- Optimal nutrition in early life not only gives a newborn baby the best start in life, but may also have lifelong positive effects in reducing the risk of a number of chronic diseases, such as diabetes, cardiovascular disease and some cancers.

- Based on current evidence, there are four areas in which poor maternal diet and lifestyle can affect the health of offspring in early life and have long-term adverse health consequences.
- Specific nutrients
 - Energy/calories
 - Alcohol, smoking and drugs
 - Mode and quality of infant feeding

Calorie requirement of the children

Age Groups (in years)	Sex	Calories*
2-3	--	1000
4-8	--	1200-1400
9-13	Male	1800
9-13	Female	1600
14-18	Male	2200
14-18	Female	1800

* For active children, calorie requirements may be greater

Nutritional needs of the normal newborn

Nutrients	Value	Nutrients	Value
Calories	110-120/kg/day	Vitamin A	375 mg
Protein	1.9 gram/100 kcal	Vitamin B	0.5 mg/dL
Fat	30% to 55% of total calories	Vitamin E	4 mg
Carbohydrate	35% to 55% of total calories	Vitamin K	5 mg/day
Water	140-160ml/kg/day	Vitamin C	30 mg/day
Calcium	388 mg	Thiamine	0.4mg/100 kcal
Phosphate	132 mg	Riboflavin	0.3mg/100 kcal
Magnesium	16 mg	Folic acid	65 mg
Iron	6-10 mg	Vitamin B12	0.4 mg
Zink	0.5 mg/100 kcal	Pantothenic acid	1.7 mg
Copper	90 mg/kcal	Biotin	5 mg

Specific nutrients:

- Folate and folic acid

Babies born of mothers who have low folate status at the time of conception and in the first weeks of fetal neurodevelopment are at risk of neural tube defects such as spina bifida.

- Vitamin D

Maternal deficiency of this micronutrient increases the risk of rickets, hypocalcaemia seizures and

cardiomyopathy in a baby, and lower bone density at nine years of age

- Iodine

Maternal deficiency of iodine during pregnancy can damage a baby's brain development leading to permanent mental retardation

- Iron

Deficiency of this essential mineral can cause anemia, tiredness and fatigue in the mother and increase the risk of low birth-weight in the baby

- Omega-3 fatty acids

These essential fatty acids are critical for brain development and vision

Energy/calories

- The rising rate of maternal obesity is of particular concern because of the associated risk of pregnancy-related complications such as pre-eclampsia, gestational diabetes, thromboembolism, stillbirth, neonatal death, overweight babies and preterm birth that it presents.
- Maternal obesity is linked to an increased risk of the child becoming obese later in life and suffering from cardiovascular disease more likely to develop insulin resistance, dyslipidemia, high blood pressure and obesity in later life

Alcohol, smoking and drugs

- Alcohol consumption during pregnancy leads to diminished fetal growth, with intrauterine growth restriction and low birth-weight babies who are often born with morphological abnormalities and impairment of the central nervous system leading to delayed neurodevelopment
- Maternal smoking during pregnancy increases the risk of miscarriage, stillbirth, premature birth, and sudden infant death syndrome
- Drug-taking in pregnancy is associated with damage to the fetus and neonatal abstinence syndrome

Mode and quality of infant feeding

- Some of the strongest evidence for a link between early nutrition and long-term health derives from research into the benefits of breastfeeding.
- Human milk feeding has been shown to improve cognitive function, reduce the risk of some infections and atopic disease in children with a family history of allergy.
- The growth rates of breast-fed babies, which

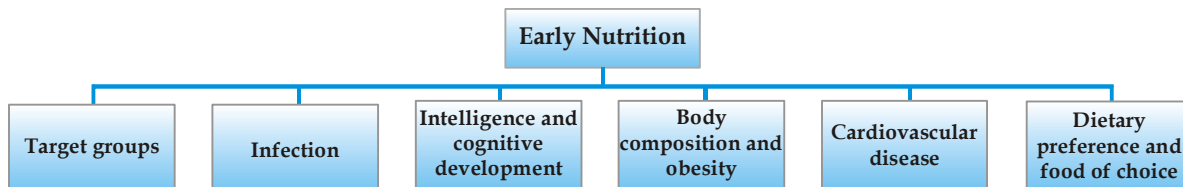
differ from those that are formula-fed, appear likely to protect them against respiratory disease, diabetes and obesity in childhood and its later consequences including cardiovascular disease in adult life

Early Nutrition and Health Outcomes

- There is a growing recognition of the need for understanding the etiology of adult disease, and

there is now a significant evidence base that links patterns of infant feeding to differences in health outcomes, both in the short and longer term.

- Optimal early nutrition is associated with lower rates of infection in infancy, and with reductions in blood pressure, cholesterol, and lowered risks of obesity and diabetes in adult life.



Optimal Early Nutrition, focusing on 4 Target Groups:

- Women before pregnancy;
- Pregnant women;
- Infants (including breastfeeding);
- Young children.

Women before pregnancy

- Good nutrition can help to ensure a healthy pregnancy. Healthy eating can help to reduce your risk of developing chronic conditions that can affect pregnancy, such as high blood pressure, diabetes, and obesity.
- Periconceptional intake of 400 mcg of folic acid per day by the pregnant women (starting from 1 month prior to 3 months after conception) can prevent 75% of all neuro related defects.
- A nutritious diet can also ensure that you receive the right nutrients to support a healthy pregnancy.

Pregnant women

- Child nutrition begins in utero; programs should focus on improving maternal nutrition during pregnancy to minimize the risk of low birth weight.
- Effects of poor maternal nutrition beyond impaired fetal growth (manifested through low birth weight). Mothers who had lower energy intakes and poorer nutritional status during pregnancy had offspring's who were at risk of having higher blood pressure measurements in adolescence.

Infants

- WHO recommendations for exclusive breastfeeding until six months, timely introduc-

tion of complementary foods, and continued breastfeeding until two years. Since

- Early infant feeding also had long-term effects on health. Breastfeeding not only protected against morbidity and stunting in childhood, but also lowered the risk of insulin resistance and high triglyceride levels in adulthood among the males.

Young children

- Healthy eating can stabilize children's energy, sharpen their minds, and even out their moods.
- Parents can take to instill healthy eating habits without turning mealtimes into a battle zone.
- By encouraging healthy eating habits now, you can make a huge impact on your children's life-long relationship with food and give them the best opportunity to grow into healthy, confident adults

Infection

- Long term health is an outcome of appropriate early nutrition which seen multifold ways one such is infection. Breast milk has been described as the "communication vehicle" between the maternal immune system and the infant.
- It contains a wide range of bioactive factors, including immunoglobulin, lymphocytes, neutrophils, cytokines and other anti-inflammatory compounds.
- These factors influence immune status by providing protection, but also promote immune development and facilitate development of tolerance and an appropriate inflammatory response responsible for later health.

Intelligence and cognitive development

- Brain growth is rapid in the first year of life,

and slow growth in infancy predicts poor cognitive performance in later life and lower educational attainment

- Dietary patterns "track" in childhood may reflect continued exposure to diets that provide an optimal supply of micronutrients to support cognitive development.
- Children whose weaning diet was characterized by higher intakes of fruit, vegetables and home-prepared foods had higher scores on tests of full-scale and verbal intelligence at age 4 years.

Body composition and obesity

- Nutrition during early development has an important impact on later health.
- As a number of epidemiological studies have shown a lower risk of obesity in children and adults who were breastfed, infancy has become a focus of public health interest as a critical period that could be targeted for obesity prevention.
- According to the WHO, overweight and obesity are among the five leading causes of death globally. Rates of obesity and especially childhood obesity have rapidly increased all over the world during the past two decades, and continue to do so in many countries.
- Overweight is associated with severe health problems and premature death due to diabetes, hypertension, cardiovascular diseases and many other non-communicable diseases.

Body mass index (BMI)

- Body mass index (BMI) is used to infer information about adiposity.
- Specifically, BMI is calculated using a formula
- People with a body mass index over 25 are considered overweight, while BMIs reaching over 30 constitute obesity.

Cardiovascular diseases (CVD)

- Nutritional factors in childhood have been shown to be particularly important in this process and have major impact on conventional cardiovascular risk factors that affect vascular health and life time CVD risk.
- Attention to nutrition throughout the life course (and not just in adults) is therefore important in prevention of CVD.
- Nutrition intervention to children aimed at primary prevention of CVD.

Dietary preference and food of choice

- Parental influence on children's food preferences and energy intake is most important activity. Latest research suggests that the food preferences of young children could be related to their risk of becoming obese later in life.
- While multiple factors influence eating behaviors and food choices of children, two potent forces are peer pressure and exposure to TV food advertising leads to intake of junk foods.
- There is now a consensus that the nutrients obtained from a diet high in fruit and vegetables can contribute to the prevention of cancer and cardiovascular disease and, in addition, may displace other foods from the diet, thereby indirectly reducing fat consumption.

Conclusion:

Early nutrition – a window of opportunity"

Early life nutrition is therefore an important 'window of opportunity', when the potential health and life chances of infants and children can be maximized, and the risks of poor health, growth and development can be minimized thus leading to the healthy lifestyle.

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[9] National Statistics Online – Trends in suicide by method in England and Wales, 1979-2001. www.statistics.gov.uk/downloads/theme_health/HSQ_20.pdf (accessed Jan 24, 2005): 7-18. Only verified references against the original documents should be cited. Authors are responsible for the accuracy and completeness of their references and for correct text citation. The number of reference should be kept limited to 20 in case of major communications and 10 for short communications.

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