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Effectiveness of Planned Teaching Programme on Health Hazards of Junk Food Among Adolescents

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Abstract

Background of the Study: Adolescence is a very critical and important phase in one's life. It is a stage with unique biological and social characteristics of its own. Most of the physiological, psychological, and social changes occur during this period. About one fifth (22.5%) of the total population in India is between the age group of 10-19 years. Our modern eating environment has an effect on the way adolescent eat. Junk food consumption tends to the occurrence of many life-threatening diseases during adulthood and later life. Studies proved that educational programme might be effective in influencing adolescents to choose a healthier diet. Hence the investigator felt the need to provide planned teaching programme on health hazards of junk food among adolescents in a selected Pre- University College at Trivandrum. *Objectives:* The objectives of the study were to- 1. Determine the existing level of knowledge on health hazards of junk food among adolescents in a selected Pre-University College by using structured knowledge questionnaire. 2. Evaluate the effectiveness of planned teaching programme on health hazards of junk food among adolescents in a selected Pre-University College by using same structured knowledge questionnaire. 3. Find the association between pre-test knowledge score on health hazards of junk food among adolescents with selected demographic variables. *Methods:* The research design was one group pre-test post-test design and the study was conducted at a Pre-University College, Trivandrum. The sample consisted of 110 adolescents who were selected by simple random sampling technique. Data collection was done by using the demographic variables, structured knowledge questionnaire for assessing the knowledge of adolescents regarding health hazards of junk food. After assessing the knowledge of adolescents a planned teaching programme was given on the same day. A post-test was conducted on the 7th day after the PTP to find out the gain in knowledge among adolescents regarding health hazards of junk food. *Results:* Majority of the subjects 85(77.27%) had moderately adequate knowledge score in the post-test, whereas in the pre-test none of the samples had adequate knowledge. In the post-test none of the sample had inadequate knowledge whereas in the pre-test 28(25.45%) samples had inadequate knowledge. The mean post-test knowledge score (19.32) was higher than mean pre-test knowledge score (13.18) suggesting that PTP helped in improving the knowledge of adolescents regarding health hazards of junk food. The mean difference between the post-test and pre test knowledge scores of adolescents regarding health hazards of junk food was found to be highly significant at 0.05 level. There was no significant association between mean pre-test knowledge score and selected demographic variable at 0.05 level of significance.

Keywords: Effectiveness; Planned Teaching Programme; Health Hazards of Junk Food; Adolescents; Pre-University College.

Introduction

Every individual in this universe has to go through the various life stages of growth and development. Out of all the stages of life, the most fascinating is the adolescent age. Adolescence is one among those, which is a very critical and important phase in the development. It is a time of moving from immaturity of childhood into the maturity of adulthood. Young adulthood is a unique period whereby youth obtain independence from their parents. People in this age group are vulnerable to develop unhealthy behaviors', which will predispose them to chronic

diseases later in life [1].

There are 1.2 billion adolescents between the age of 10 - 19 in developing nations, making up one fifth to one quarter of their population [1]. About one-fifth of India's population is in the adolescent age group of 10–19 years. It is estimated that there are almost 200 million adolescents in India. This age group will continue to grow reaching over 214 million by 2020 [2].

Adolescence is one of the fastest growth periods of a person's life. During this time, physical changes affect the body's nutritional needs, while changes in one's lifestyle may affect eating habits and food choices. Nutritional health during adolescence is important for supporting the growing body and for preventing future health problems [3].

It is well known and documented that diet and nutrition play important role in maintaining health and preventing diseases. Decrease in morbidity and mortality associated with lifestyle, diseases may be achievable if satisfactory nutritional habits are adopted in early life and maintained in the long term. During adolescence, young people are assuming responsibility for their own eating habits, health attitudes and behaviors [4].

Nutritional intake during adolescence is important for growth, long-term health promotion and development of life-long eating behaviours. Nutritional intake during this period may have long-term health implications. Several physical, psychological and behavioral changes may affect food habits during adolescence and have long-term consequences on adult health status [5].

Factors identified by adolescents as being most influential on their food choices included hunger or cravings, appeal of food, time available to them and parents, convenience of food and peer pressure . The need to be in step with the trends and belong to the peer group leads the adolescent to eating non-nutritious food like pizzas, burgers, soft drinks, and also other roadside junk foods [5].

Junk food is an informal term applied to some foods that are perceived to have little or no nutritional value. These foods are typically ready-to-eat containing high levels of saturated fat, salt, sugar, little or no fruit, vegetables, or dietary fiber; and are considered to have little or no health benefits. Common junk foods include salted chips, candy, chewing gum, most sweet desserts, fried fast foods and carbonated beverages [6]. Most harmful effects of fast food include increased cholesterol levels, cardiac problems, hypertension, obesity, dental caries, cancer, reproductive problems and many other threatening health hazards [7].

An exploratory descriptive approach was adopted to identify the modifiable and non modifiable risk factors of coronary artery disease present among adolescents

in Malad, India. A sample of 591 students aged between 12-18 years were selected by non- probability convenient sampling. A structured questionnaire was used to collect the data regarding modifiable and non modifiable risk factors. The results showed that 71 percent of the samples consumed fast food daily and 67 percent of the samples were found to have three or more risk factors for coronary artery disease whereas 22 percent of them had two risk factors and 11 percent of them had one risk factor for coronary artery disease [8].

A survey was conducted to investigate the consumption of ten types of junk food practices among adolescents in Beijing. A sample of 1019 adolescents aged between 8-16 years were selected. A questionnaire technique was used to obtain the information. One month prior to the study 97.5 percent of the adolescents had eaten at least one type of junk food and 15.88 percent of them had eaten all ten types of junk food. Most of the adolescents ate junk food during breakfast at home, without a correct idea on the nutrition of junk food [9].

Adolescents, as a group, are at risk for nutritional problems both from a physiological and a psychosocial standpoint. Psychosocial changes, such as the adolescent's search for independence and identity, concern for appearance, and active lifestyle, can have a strong impact on nutrient intake and food choices

Statement of the Problem

Effectiveness of planned teaching programme on health hazards of junk food among adolescents in a selected Pre-University College at Trivandrum.

Objectives

1. To determine the existing level of knowledge on health hazards of junk food among adolescents in a selected Pre-University College by using structured knowledge questionnaire.
2. To evaluate the effectiveness of planned teaching programme on health hazards of junk food among adolescents in a selected Pre-University College by using same structured knowledge questionnaire.
3. To find the association between pre-test knowledge

score on health hazards of junk food among adolescents with selected demographic variables.

Operational Definitions

Effectiveness

In this study, effectiveness refers to the extent to which the planned teaching programme on health hazards of junk food, has achieved the desired objectives as evidenced by the gain in knowledge as measured by a structured knowledge questionnaire.

Planned Teaching Programme

In this study it refers to a systematically developed teaching programme designed for Pre-University College adolescents regarding meaning, types, ingredients, promoting factors, health hazards of junk food and recommendation for healthy eating habits.

Health Hazards of Junk Food

In this study it refers to the selected health hazards of junk food which are included in the structured knowledge questionnaire and planned teaching programme to assess the knowledge of adolescents and to teach them.

Adolescents

In this study adolescents refer to those who are studying in 11th standard in a selected Pre-University College at Trivandrum.

Pre-University College

In this study it refers to urban educational institutes which provides 11th standard education and which comes under deputy director of Pre-University education jurisdiction, who permitted me to conduct the study in Trivandrum.

Assumptions

The investigator Assumes that

- Adolescents will have some knowledge regarding health hazards of junk food.
- A planned teaching programme will enhance knowledge of adolescents regarding health hazards of junk food.
- The adolescents will sincerely answer the questions.

Hypotheses

The hypotheses will be tested at 0.05 level:

H1:The mean post test knowledge score of adolescents on health hazards of junk food will be significantly higher than mean pre-test knowledge score.

H2: There will be a significant association between pre-test knowledge score of adolescents on health hazards of junk food and selected demographic variables.

Delimitations

The study is delimited to:

- Selected health hazards of junk food.
- Selected Pre-University College at Trivandrum.
- A sample of 110 adolescents.

Materials and Methods

Research Approach

Evaluative approach is an applied form of research that involves finding out how well a programme, procedure or policy is working and its goal to assess or evaluate the success of a programme.

Research Design

One group pre-test post-test design is the most appropriate design for measuring the impact or effectiveness of a programme. The design is described as two sets of cross-sectional observations on the same population to find out the change in the phenomenon between two points in time. The change is measured by comparing the difference in the phenomenon at the pre-test and post-test observation. No comparison with the control group is provided.

In view of the nature of the problem and to accomplish the objectives of the study, with a one group pre-test post-test, quasi experimental design was used to evaluate the effectiveness of the planned teaching programme on health hazards of junk food among adolescents.

Table 1: Representation of research design

Sample	Pre-test	Treatment	Post-test	Effectiveness
Adolescents	O_1	X	O_2	$E=O_2-O_1$

O_1 Pre-test assessment of knowledge on health hazards of junk food among adolescents.

X Treatment (planned teaching programme on

health hazards of junk food).

O_2 Post effect of planned teaching programme on health hazards of junk food among adolescents.

E. Effectiveness

Variables

Independent Variable

In this study, planned teaching programme is the independent variable.

Dependent Variable: In this study, knowledge of adolescents is dependent variable.

Demographic Variables: The demographic variables used in my study are gender, family income, and pocket money per month.

Setting

The present study was conducted in a selected Pre-University College at Trivandrum .

Population

In the present study the population comprised of adolescents studying in 11th standard in Pre-University College at Trivandrum.

Sample

The sample for the present study consist of 110 adolescents, who met the sampling criteria.

Sampling Technique

Simple random sampling technique was found appropriate to select 110 adolescents studying in 11th standard from a Pre-University College as samples for the study. In the sample universe there were 32 Pre-University Colleges. In the first stage, simple random sampling method, i.e., lottery method was adopted for selecting a Pre- University College. Thus one of the Pre-University College was selected for the study. From the selected Pre-University College, 55 adolescents were selected from section A and 55 adolescents were selected from section B of 11th standard by simple random sampling technique using lottery method.

Sampling Criteria

Inclusion Criteria

Adolescents

- who are present at the time of data collection.
- who are studying in 11th standard.

Exclusion Criteria

- Who are not willing to participate in the study.

Findings

Section I: Demographic Variables

This section deals with the frequency and percentage distribution of demographic variables and presented in Table 1.

Data presented in the Table 3 shows that majority (55%) of the participants are males. Majority (40%) of the adolescents family income was 5001-10,000 rupees. Highest percentages (57%) of adolescents get 1-500 rupees pocket money per month. Majority (60%) of the participants did not receive previous information regarding health hazards of junk food. Forty eight percent of adolescents consume junk food from home. Most (45%) of the participants visit fast food centres 1-4 times/week. Majority (54%) of adolescents do not have the habit of skipping breakfast.

Section II: Pre-Test Knowledge Scores of Adolescents on Health Hazards of Junk Food

This part deals with assessment of the existing knowledge of adolescents regarding health hazards of junk food and the area-wise analysis of pre-test knowledge.

Section A: Assessment of the Level of Rxisting knowledge

In order to assess level of knowledge of adolescents, the percentage scores were graded arbitrarily as follows: 0-33% - Inadequate, 34– 66% -Moderately adequate, 67-100% - Adequate.

The data in the table 4 and figure 1 shows that majority of adolescents (74.55%) had moderately adequate knowledge, 25.45% had inadequate knowledge whereas none of the adolescents had adequate knowledge regarding health hazards of junk food.

Section B: Area-Wise Analysis of the Pre Test Knowledge Scores

This part deals with the area-wise Mean, SD and Mean percentage of pre-test knowledge scores of adolescents regarding health hazards of junk food.

The data in Table 3 reveals that the mean percentage of the pre-test knowledge score was 41.81% with mean and SD (13.18±2.36). Area-wise mean percentage of knowledge scores was 53.03%

Table 1: Frequency and percentage distribution of samples according to demographic characteristics

S. No.	Variables	Frequency	Percentage
1.	Gender		
	a. Male	61	55
	b. Female	49	45
2.	Family income(Rupees per month)		
	a. 1,001 -5000	38	35
	b. 5,001 -10,000	45	40
	c. 10,001 -15,000	7	6
	d. Above 15,000	20	19
3.	Pocket money(Rupees per month)		
	a. 1-500	63	57
	b. 501 -1,000	24	22
	c. 1,001 -1,500	15	14
	d. Above 1,500	8	7
4.	Previous information regarding health hazards of junk food		
	a. Yes	44	40
	b. No	66	60
5.	Sources of junk food		
	a. Home	53	48
	b. College canteen	14	13
	c. Fast food corner	43	39
6.	Frequency of visiting fast food centres		
	a. Rarely		
	b. 1-4 times/week	30	27
	c. More than 4 times/week	14	13
	d. Daily	16	15
7.	Skipping breakfast		
	a. Yes	51	46
	b. No	59	54

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Table 2: Percentage and distribution of level of knowledge of adolescents regarding health hazards of junk food N =110

Range of score % knowledge	Level of	Number of respondents	Percentage (%)
0-33	Inadequate	28	25.45
34-66	Moderately adequate	82	74.55
67-100	Adequate	-	-
Total		110	100.00

Table 3: Area-wise mean, standard deviation and mean percentage of pre-test knowledge scores N=110

Areas	Minimum score	Maximum Score	Mean	SD	Mean%
Area I	2	10	6.27	1.57	53.03
Area II	3	11	6.91	2.07	33.46
Overall knowledge Maximum score=32	7	17	13.18	2.36	41.81

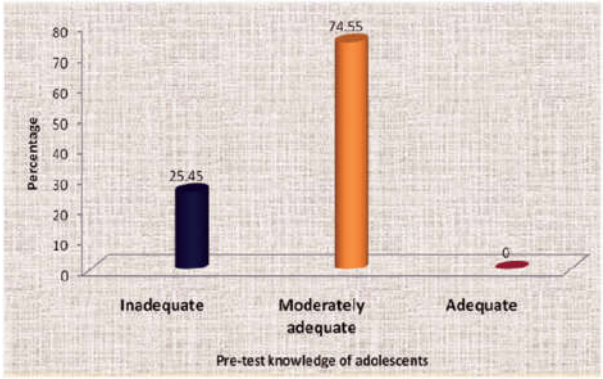

Fig. 1: The cylinder diagram shows percentage distribution of adolescents according to pre-test knowledge

in the area of knowledge on junk food with mean and SD (6.27±1.57). In the area of health hazards of junk food mean percentage was 33.46% with mean and SD (6.91±2.07). The above data reveals that the overall knowledge of the adolescents regarding health hazards of junk food is average.

Section III: Effectiveness of Planned Teaching Programme on Health Hazards of Junk Food

This section deals with analysis and interpretations of pre-test and post-test knowledge such as distribution of samples, mean, standard deviation of difference, 't' value, area-wise mean, mean percentage and effectiveness.

The data in the Table 4 depicts that none of the adolescents had adequate knowledge regarding health hazards of junk food in pre-test whereas in the post-test, around 25(22.73%) adolescents had adequate knowledge regarding health hazards of junk food.

Section A: Area-wise Mean, SD, and Mean Percentages of Pre -Test and Post- Test

This part deals with Area-wise Mean, SD, and Mean percentages of pre-test and post-test knowledge score.

The data presented in the table 5 shows that the total mean knowledge score is increased by 18.59% with mean and SD of 6.14 ± 0.55 after the planned teaching programme on health hazards of junk food.

Table 4: Distribution of samples according to their pre and post-test knowledge N = 110

	Pre-test		Post-test	
Level of knowledge	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Inadequate	28	25.45	0	0
Moderately adequate	82	74.55	85	77.27
Adequate	0	0	25	22.73

Table 5: Area-wise mean, standard deviation and mean percentage of knowledge scores in pre-test and post-test N=110

		Pre-test (A)		Post-test (B)		Effectiveness (B-A)	
Knowledge area	**Max. score**	**Mean±SD**	**Mean %**	**Mean±SD**	**Mean %**	**Mean±SD**	**Mean %**
Junk food	12	**6.27±1.57**	53.03	7.23±1.19	60.3	0.96±0.38	7.27
Health hazards of junk food	20	6.91±2.07	33.46	12.09±2.45	60.45	5.18±0.38	26.99
Total	32	13.18±2.36	41.81	19.32 ±2.91	60.4	6.14± 0.55	18.59

Area-wise comparison of mean and SD of the knowledge on junk food shows that the pre-test mean knowledge score was 53.03% (6.27±1.57) whereas post-test mean knowledge score was 60.3% (7.23±1.19). This shows that there was increase of 7.27% in the mean knowledge score of adolescents.

In the area of knowledge on health hazards of junk food shows that the pre- test mean knowledge score was 33.46%(6.91±2.07) whereas the post-test knowledge score was 60.45%(12.09±2.45). This shows an increase of 26.99% in the mean knowledge score of adolescents.

The overall findings reveals that the percentage of post-test knowledge score was more, hence the PTP was effective in enhancing the knowledge of adolescents regarding health hazards of junk food.

Section B: Comparison of level of knowledge in pre-test with post test and effectiveness of the study

This part compares level of knowledge and mean of pre test and post test and it also deals with mean difference in pre test and post test and 't' value thus finds the effectiveness of the study. To evaluate the effectiveness of planned teaching programme, a null hypothesis was formulated. A paired 't' test was used to find the effectiveness. The value of 't' was calculated to analyse the difference in knowledge score of adolescents in pre-test and post-test.

H_{01}: There is no significant difference between the mean pre test and post test knowledge of adolescents regarding health hazards of junk food.

The data presented in the Table 6 and Figure 2 shows that the pre-test knowledge level of 25.45% adolescents was inadequate, 74.55% adolescents had moderately adequate knowledge and in the post test 77.27% had moderately adequate knowledge, 22.73% of adolescents had adequate knowledge regarding health hazards of junk food.

The findings in Table 6 revealed that the mean post test score was significantly higher than their mean pre test score. The calculated 't' value (18.39, $P<0.05$) in knowledge aspect was greater than the table value (1.66) at 0.05 level of significance. Therefore, the null hypothesis was rejected and the research hypothesis was accepted indicating the

Table 6: Comparison of level of knowledge and effectiveness in pre-test with post test and effectiveness of the study

Level of knowledge	Pre-test			Post-test			Mean difference	t value
	f	%	Mean	f	%	Mean		
Moderately adequate	Inadequate		28	25.45		0	0.00	
	82	74.55	13.18	85	77.27	19.32	6.14	18.39*

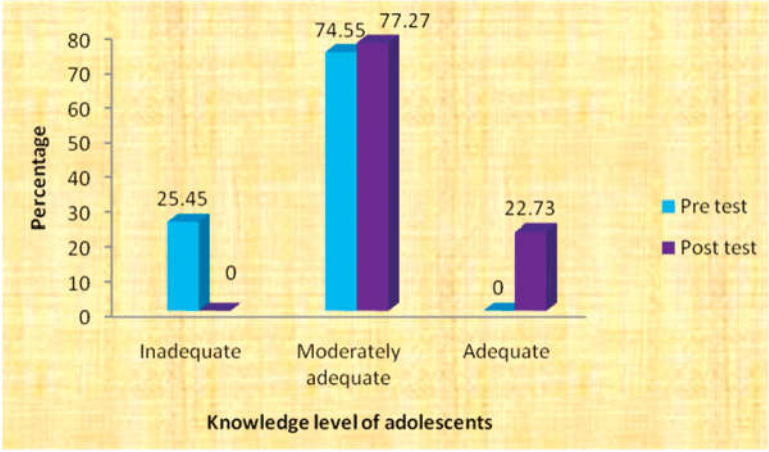

Fig. 2: The bar diagram compares pre-test and post-test knowledge scores of adolescents regarding health hazards of junk food

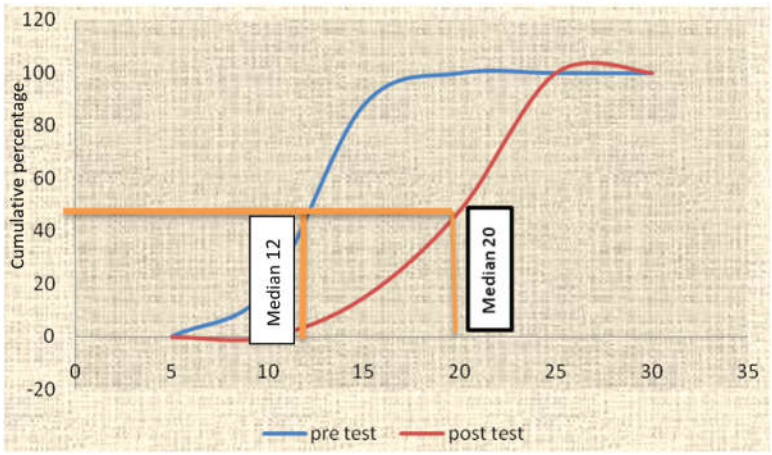

Fig. 3: "O" give of the pre-test and post-test knowledge scores of adolescents regarding health hazards of junk food

gain in knowledge was not by chance. Hence it is concluded that there is very high significant gain in knowledge of adolescents regarding health hazards of junk food.

The cumulative frequency distribution of pre-test and post- test knowledge scores is shown in the o gives. The data presented in the o gives shows significant difference between the pre-test and post-test scores. The knowledge pre-test median was 12.00 where as the post test median score was 20.00. It shows a difference of eight in knowledge. The o gives plotted shows that the first quartile score of post-test is higher than third quartile score of pre-test. This indicates that there is a significant increase in the knowledge of adolescents regarding health hazards of junk food.

Section IV: Association between Pre-Test Knowledge Score with Selected Demographic Variables

Chi-square test was computed to test the association between pre-test knowledge of adolescents and selected demographic variables; the following null hypothesis was formulated.

H_{02}:There will be no significant association between pre test knowledge score with selected demographic variables.

Data presented in Table 7 reveals that the calculated Chi-square value of all demographic variables are less than table value, hence the null hypothesis can be accepted and concluded that there was no significant association between the pre-test knowledge score with selected demographic variables.

Table 7: Association between selected demographic variables with pre-test knowledge score N = 110

Demographic variable	$x2$	Knowledge		
		df	p -value	Inference
Gender	0.025	1	0.876	NS
Family income	3.660	3	0.301	NS
Pocket money	0.095	3	0.092	NS
Source of junk food	0.713	2	0.700	NS
Frequency of visit to fast food center	6.754	3	0.800	NS

Discussion

Pre-test Knowledge Scores of Adolescents Regarding Health Hazards of Junk Food

The overall pre-test knowledge scores of adolescents regarding health hazards of junk food shows that majority 82(74.55%) adolescents had moderately adequate knowledge, 28(25.45%) had inadequate knowledge whereas none of the adolescents had adequate knowledge regarding health hazards of junk food.

A similar study was conducted to determine the prevalence of consumption and knowledge regarding junk food among adolescents in Trivandrum, kerala. A total population of 2636 students from 10 different schools aged between 4-15 were selected. Their knowledge regarding the type of food consumed was obtained by a questionnaire. The 60 percent of students consumed junk food on a daily basis and 70 percent of them were not aware of nutritional content of food consumed by them. This study emphasises education on health hazards of junk food among adolescents [14].

Another similar study was conducted to determine the socio-cultural influences on fast-food intake among adolescents in Thailand. A sample of 634 adolescents aged between 15-19 were selected by simple random sampling. A structured knowledge questionnaire was used to assess youth's knowledge, practices and feelings towards fast food. The study results shows that about three-quarters of respondents were aware of the high-calorie content of fast food and its link with obesity, about half were aware of fast food as a risk for high blood pressure and high cholesterol, and just over one-third knew the link to heart disease. The important factors influencing fast food consumption were convenience, speed, familiarity and advertising. This study found that 50 percent of adolescents have accurate knowledge of health risks of consuming junk food, however 50 percent of adolescents lack a proper understanding of health hazards of fast foods [23].

Effectiveness of planned teaching programme for adolescents regarding health hazards of junk food.

The post-test knowledge score reveals that 25 (22.73%) adolescents had adequate knowledge, 85 (77.27%) had moderately adequate knowledge and none of them show inadequate knowledge regarding health hazards of junk food.

A similar study was conducted to find inclination towards junk food consumption and effect of health education among 904 adolescent school children of 9-11 standard in Chandigarh. The information was collected regarding the dietary intake and eating habits through interview. Most common food item consumed by adolescents was samosa (42.4%), chat (39.7%), burger (24.5%), pizza (23.3%). A team comprising of doctors, medical social workers and supporting staffs gave education regarding diet and nutrition. One month later post test was done. The results showed that 58.8 percent of adolescents preferred fast food items but after intervention it is declined to 31.2 percent [38].

Another similar study was done to evaluate the effectiveness of implementing nutrition intervention among college students in Midwestern university. A sample of 80 college students enrolled themselves to participate in the study. A 3-day food records were collected, verified, and analyzed before and after the intervention. The intervention focused on nutrition knowledge related to prevention of chronic diseases, healthy dietary choices, increasing fruit and vegetable consumption, dietary feedback, and interactive hands-on activities. The results show that participants significantly increased consumption of not only total fruits and vegetables, but also fresh fruits and vegetables. Intake of French fries decreased significantly. The researcher concluded that class-based nutrition intervention focusing on prevention of chronic diseases is a cost-effective approach to increase fruit and vegetable consumption among college students [40].

It was also found that the difference between the mean pre-test (13.18) and post-test (19.32) knowledge scores were significant ('t'109=18.39, $p<0.05$), which suggest that PTP was effective in enhancing the knowledge of adolescents regarding health hazards of junk food. Hence PTP was effective in improving the knowledge of adolescents regarding health

hazards of junk food. So the research hypothesis which was formulated is accepted.

Major Findings of the Study

The conclusions related to the major findings are as follows;

- In the pre-test 28(25.45%) adolescents had inadequate knowledge, 82(74.55%) adolescents had moderately adequate knowledge, and none of the adolescents had adequate knowledge regarding health hazards of junk food
- In the post-test, 25(22.73%) adolescents had adequate knowledge and 85(77.27%) adolescents had moderately adequate knowledge and none of the adolescents had inadequate knowledge regarding health hazards of junk food.
- The comparison of the mean pre-test (13.18) and post test (19.32) knowledge scores showed that there was significant gain in knowledge of adolescents after PTP at 0.05 levels ('t'109=18.39, p<0.05). This shows that PTP was effective

The study findings concluded that adolescents had inadequate knowledge regarding health hazards of junk food. The planned teaching program had great potential for improving the knowledge regarding health hazards of junk food.

Limitations of the Study

- The study was limited to one particular Pre-University College at Trivandrum due to limited time for data collection.
- The study was limited only to the adolescents studying in 11th standard.
- The study did not use a control group.
- Structured knowledge questionnaire used for data collection restricts the amount of information that can be obtained from the respondents.
- No attempt was made to follow-up and measure the retention of knowledge of adolescents.

Recommendations

Based on the findings of the present study recommendations are offered for further researchers:

- A similar study can be replicated on a large sample thereby generalize the findings to a large population.
- A descriptive study can be conducted to assess the knowledge regarding health hazards of junk food among teachers in selected Pre-University College at Trivandrum.
- A study can be conducted to find out the knowledge and attitude of parents and teachers toward junk foods.
- Knowledge, attitude and practice of adolescents on junk foods among rural and urban can be compared.
- A similar study can be conducted in school settings.

Conclusion

Conducting this study was a good experience for the investigator. The present study in short, gave the researcher a new experience, a chance to widen the knowledge and a venue to interact with adolescents. The directions from the guide, various experts and co-operation of adolescents played a major role in the successful completion of the study. The investigator did not face any problem during the data collection. The adolescents were very attentive and co-operative.

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Effect of Lactation Intervention on Weight Gain of Babies and Maternal Satisfaction among Mothers with Breast Feeding Problems at Kovai Medical Center and Hospital, Coimbatore, Tamil Nadu, India

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Abstract

Breast feeding (BF) is a problem for both mother and her baby if it is not initiated in time will lead to lactation failure. Hence it is important that every professional and the family members need to support BF, otherwise lactation failure will be the end result and threat to infant survival. An average of 341 mothers per year according to hospital based observation are in need of lactation intervention including Position (P), Attachment (A), Suckling(S), and Swallowing (S). Successful lactation is based on a good start. *Objectives:* The aim of our work is to solve the breast feeding problems, improve weight in babies with poor weight gain, and to ensure maternal confident in breast feeding and Infant satiety. *Methods:* Variables studied were, lactation intervention, weight gain of babies, maternal satisfaction and infant satiety. The study was conducted among both inborn and referral 30 mothers baby-dyad, during the year 2012, as one group pre& post test with individual lactation intervention. Observation checklist on BF problems, Hill and Humenick lactation scale was used to evaluate the maternal satisfaction and infant satiety. Before and after intervention the babies weight were checked using calibrated Electronic weighing scale. *Results:* Lactation problem before intervention, the mean score was (17.43), after intervention, the mean score was two (2) significant at $p<0.01$. Babies weight gain mean score pre (3.176) and post (3.539) significant at $p<0.01$. Maternal satisfaction: before intervention the mean score was (47.13), after intervention, the mean score was (59.13) significant at $p<0.01$. Infant satiety: pre test mean (15.7), posttest mean (20.10) significant at $p<0.01$. *Conclusion:* Our results ensures that the lactation intervention improves weight in babies and enhances maternal confident and satisfaction of breast feeding and also resolves BF problems which is the hindrance to effective lactation process.

Keywords: Breast Feeding (BF); Maternal; BF Problems; Suckling; Swallowing.

Introduction

Breast feeding gives a smart start in life for baby and mother. Breastfeeding helps the mother to read her baby's cues and body language, which is the initial step in getting to know her baby. It is one of the best ways of bonding with baby, it is not only provides nutrition, comfort and nurturing it is also a time for mom and baby to study one another's faces. During the first few months of a baby's life, her mother is everything to her – her source of comfort, security and nourishment everything and *breastfeeding* provides an excellent opportunity for mother and infant to form a strong bond.

Breast feeding as the best method of infant feeding because it is associated with important and wide ranging health outcomes. Breast feeding is now an endangered practice around the world in both rich and poor countries. It has been estimated that out of all interventions for child survival, breastfeeding alone prevents 13% of mortality among infants.

Healthy people 2010 goal for initiating breastfeeding during postpartum period is 75% of all newborn infants. The average rate of infants being exclusively breastfed is only 33%, which is considerably lower than the goal. Successful lactation is greatly influenced by the motivation and

confidence of the mother and by the support from her relatives and health professionals. The more a mother nurse, the more milk she will produce.

The four essential attributes of effective breastfeeding are positioning, latch, sucking and milk transfer. It is considered that an effective sucking technique is important to establish breastfeeding, to ensure milk transfer and to avoid breastfeeding problems. Poor positioning and latch leads to low milk production. The time of breastfeeding initiation also matters and it is recommended to give breast milk within 1st hour after delivery [20].

Good latch is important in preventing the common breastfeeding problems of nipple sore, unsatisfied babies, breast engorgement, insufficient milk supply and hyperbilirubinemia which leads to unsatisfactory weight gain. The relationship developed through breastfeeding can be an important part of maternal infant bonding. Early maternal interactions with the infant provide a source of security and comfort to the infant. It is essential that an experienced professional observe and assist with several feeding to document good lactation.

The variables associated with breastfeeding duration identified from meta analyses, literature reviews, quantitative and qualitative studies. Variables include the demographic factors, biological factors consisted of poor milk supply, infant health troubles, physical challenges of breastfeeding like parity and mode of delivery, the social problems included income, family support and professional support, psychological variables consisted of insufficient milk supply and infant health problems, the physical challenges of breastfeeding like parity and mode of delivery, the social problems included income, family support and professional support and the psychological variables like maternal interest and confidence in feeding [13].

The three factors early discharge, lack of early follow up and lack of access to lactation services may increase an infant's risk for hospital readmission if breastfeeding is not going well. When an infant is hospitalized for any problem, breastfeeding duration and previously established breastfeeding patterns are difficult to maintain and affects negatively. He has found breastfed babies are most likely to lose weight due to inadequate breast milk intake due to poor feeding technique.

Breastfed infants present to the hospital during the first 2 to 4 weeks of life with diagnosis that may be directly related to breastfeeding failure include weight loss, dehydration, hyperbilirubinemia, failure to thrive [13]. Maternal perceptions of insufficient milk supply in breastfeeding are one of the most important causes for early cessation and found that insufficient milk supply decreased exclusivity in mothers who have initiated breastfeeding [17].

Association between total serum bilirubin level and weight loss in healthy term infants readmitted for hyperbilirubinemia after birth hospitalization. Significant weight loss reflects feeding problems and an important factor associated with severe hyperbilirubinemia in breastfed infants. Weight loss from birth could become a useful clinical indicator to identify breastfed term infants at risk of severe hyperbilirubinemia either during birth hospitalization, in early neonatal period or follow up visits [23].

Methods

The study was conducted at KMCH, both inborn and referral mother baby- dyad, in the year 2012 at Coimbatore, Tamilnadu, India. Formal permission was obtained from the chairman and concern hospital authorities. The mother and baby were selected with BF problems who were fulfilling the inclusion criteria. The pre test was conducted among 30 mothers, individually assessing the breast feeding problems, maternal satisfaction, infant satiety and weight of babies. Individual lactation intervention was given. After 15 days the post test was conducted. The magnitude of BF problem was assessed by observation checklist containing 30 items in which five items related to feeding position, eight items for baby response, four items for emotional bonding, four items for anatomy of breast, nine items for suckling and swallowing. The tool was tested with inter rated reliability which was 0.73.

The maternal satisfaction and infant satiety was assessed by H and H Lactation scale consist of nine items with three subscales with three items each such as maternal confidence/ commitment on BF, perceived infant BF satiety, maternal infant BF satisfaction. The responses are scored as follows: strongly disagree (1), disagree (2), somewhat disagree (3), neutral (4), somewhat agree (5), agree (6), strongly agree (7). Reliability of the tool is 0.08.

The enrolled mother baby - dyad was interviewed and recorded in the sample form. It includes the demographic variables of the babies were age, sex, and birth weight, initiation of breastfeeding and reason for seeking medical help. The demographic variables of the mothers were age, educational status, occupation, family support, parity, type of delivery, source of information regarding breastfeeding. Lactation intervention includes video assisted

teaching which consists of PASS and individual demonstration on breastfeeding.

Results

The outcome of the study results were computed using SPSS package both descriptive and inferential statistics which are discussed as under. 40% of babies belonged to age group of 45-60 days and 63.3% were male babies. 53.3% had birth weight of more than 3kg. 50% of babies initiated breastfeeding after 6 hours of delivery. 43.3% babies came with the problem of poor weight gain.

Majority of the mothers 53.4% were in the age group of 25-30 years. 80% of mothers were graduates. 80% were homemakers and 93.3% of them were getting family support from their mothers. 66.7% of the mothers were from joint families. 80% of mothers were primiparas. 66.7% of the mothers had caesarian section. 80% of the mothers got information regarding breastfeeding from the health workers

The 't' value for the pre and post test weight gain of babies which is 10.532 significant at p<0.01. Thus it is evident that there is a significant increase in the weight of the babies after lactation intervention.

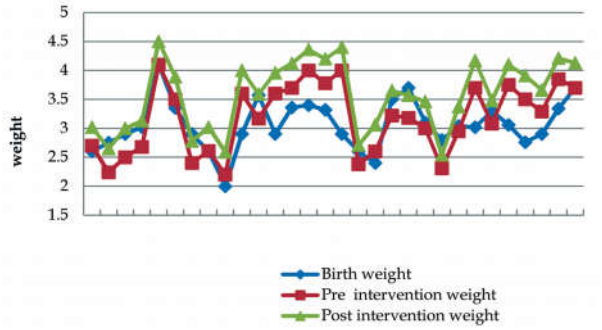

Fig. 1: Distribution of weight of babies

The computed't' value of lactation problem based on the observation checklist were 50.466. Pre and post test score shows significant at p<0.01. It is evident that the lactation problems decreased after intervention.

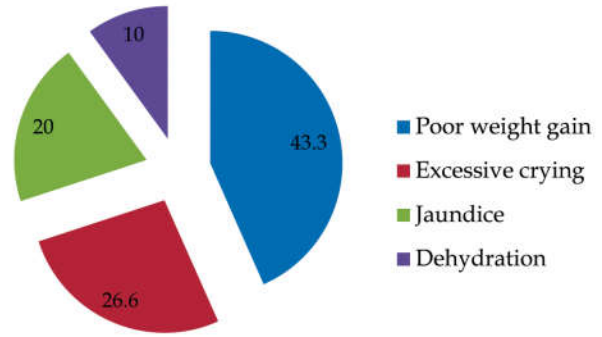

Fig. 2: Breastfeeding problems

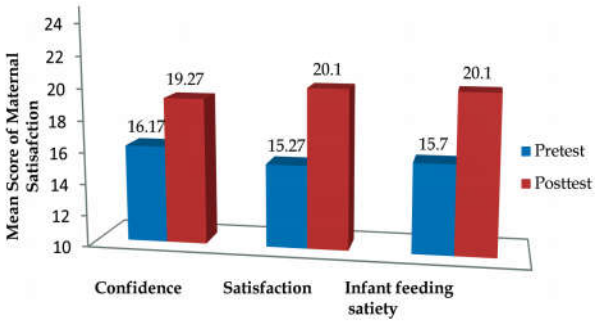

Fig. 3: Distributions of mean scores of H. H, Lactation subscales of maternal satisfaction

Computed 't' value of maternal satisfaction on breastfeeding before and after intervention was 6.490 which was significant at p <0.01. It is evident that there is an increase in maternal satisfaction after lactation intervention The computed't' value of maternal confidence was 3.624, maternal infant feeding satisfaction was 5.743 and perceived infant breastfeeding satiety were 4.547 which was significant at p<0.01. It shows that there is an increase in post test score of subscales of maternal satisfaction on breastfeeding after intervention.

Conclusion

The following conclusions were drawn from the study.

- Weight of the babies increased after lactation intervention, 't' value is 10.532, which is significant (p<0.01). It shows that the intervention is effective in rectifying breastfeeding problems of the babies and mothers.
- Maternal satisfaction has increased after lactation intervention and the 't' value is 6.490 which is significant at p<0.01. It shows that the maternal satisfaction has increased after the intervention and it is necessary for successful lactation.

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Assessment of the Status and the Factors Influencing Psychosocial Wellbeing among Adolescents

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Abstract

Background of the Study: Adolescence is a very critical and important phase in one's life. It is a stage with unique biological and social characteristics of its own. Most of the physiological, psychological, and social changes occur during this period. About one fifth (22.5%) of the total population in India is between the age group 10-19 years. As per the WHO report, it is found that 10–20% of the adolescents in India have one or more mental or behavioural problems. The Younger the children, the more vulnerable they are to risk factors leading to poor mental health and the longer they are exposed to the risk factors, the more likely they are subject to poor mental health. Assessment of status of psychosocial wellbeing and finding its influencing factors will help the adolescents at risk. Hence the investigator felt the need of assessing the status and factors influencing psychosocial wellbeing among adolescents in selected high school at Trivandrum. *Objectives:* The present study is aimed at assessing the status and factors influencing psychosocial wellbeing among adolescents in selected high school. *Methods*: The present study used a descriptive design to accomplish the objectives. 100 adolescents both boys and girls were selected using simple random sampling. They were assessed for psychosocial wellbeing and its influencing factors using self developed psychosocial wellbeing scale and response scale respectively. The reliability of the tool was tested by using Cronbach's alpha method. For the psychosocial wellbeing scale the reliability was ($r = 0.84$; $p<0.05$) and for the response scale it was ($r = 0.82$; $p< 0.05$). Data was collected from the students who were studying in 8-10th standard from a selected English medium school at Trivandrum. The collected data was analysed using descriptive and inferential statistics. *Results:* The findings revealed that majority (70%) of the samples had high level of psychosocial wellbeing, about 30% of them had moderate level of psychosocial wellbeing and zero percent had very poor level of psychosocial wellbeing. The overall mean percentage for psychosocial wellbeing was 75.58% with mean ±SD of 113.37±11.532. Findings pertaining to the factors influencing psychosocial wellbeing, about 94% influences positively and 6% negatively. Chi- square test was computed to find the association which showed a significant association between the status of psychosocial wellbeing and the religion. Karl Pearson's correlation coefficient was used to find the correlation which showed there was a positive correlation ($r = 0.574$) between the status and factors influencing psychosocial wellbeing. *Interpretation and Conclusion:* Overall the study observes that, the adolescents possess an optimal wellbeing, in spite of the positive and negative impact of the factors. It was also found that, the factors are positively related to the psychosocial wellbeing of the adolescent which suggest that an adolescent boy or girl can function optimally only when they are provided with necessary requirements for the physical and mental growth.
Keywords: Psychosocial Wellbeing; Adolescents; High School; Urban Area.

Introduction

Every creature in this universe has to go through the various life stages of growth and development; in particular, with the human creature there are defined phases of life and expected developmental milestones. Adolescence is one among those, which is a very critical and important phase in the development. It is a stage with unique biological and social characteristics of its own. Most physiological, psychological, and social changes occur during this period [1].

India is the second most populous country in the world with the total population of over 1081 million, of which one fifth is in the age group 10-19 years, i.e., about 22.5% of the total population [2].

Adolescence can be a specifically turbulent as well as a dynamic period of one's life, where they develop a clearer sense of psychological identity [3]. Good overall adjustments and a sense of psychosocial wellbeing are very crucial factors for the adolescents' positive contribution to the society [4].

Wellbeing is a contented state of being happy, healthy, and prosperous. It is a composite of physical, emotional, social, psychological, spiritual, and intellectual dimensions. Among these the psychosocial component plays an important role in overall development of an adolescent. Different people will achieve this development at different speeds depending on biological processes and environmental interactions [5].

Various factors affect adolescents' level of psychosocial wellbeing such as socioeconomic circumstances, his or her interpersonal relationship with the family, peer pressure, opportunities of education and employment [2].

This period can be looked upon as a time of more struggle and turmoil. 11 Problems and disorders occurring during this phase often represent exaggerations or unresolved versions of the normal development tasks of adolescent. The problems among adolescents may have detrimental effect on their mental health which needs special attention of the health professionals. Therefore, psychological issues among adolescents need immediate assessment and attention [6].

A study examined the relationship between quality of life, self-rated health, and wellbeing, and to establish the relationship between discontent with familial financial situation and health in adolescents living in the Tuzla Canton. The data was collected from a random sample of 356 high school students aged 16, coming from 15 different classes of 16 high schools in the Tuzla municipality. Result showed that 27% reported symptoms of depression and 33% reported sadness, 25% reported poor school marks and failure in school, 22% consumed tranquillisers or sedatives, 31% skipped classes, and 57% needed to use substantial effort in order to complete the required tasks. The study concluded that discontent with the financial situation significantly reduced the quality of mental health, leads to inappropriate patterns of behaviour, and endangered future perspectives and wellbeing of adolescents [7].

A study was conducted to assess the level of psychological wellbeing among adolescents in a selected high school at Tumkur. One hundred adolescents studying in 8th, 9th and 10th standards of 12-17 years were selected by convenient sampling method. Results revealed that 84% of respondents had adequate psychological wellbeing level, 11% of respondents had moderate psychological wellbeing, and 5% of the respondents had inadequate psychological wellbeing [8].

Psychosocial health issues among adolescents are very high and rising by the day. The prevailing condition in our country offer to avail this problem and it is necessary to plan out alternative strategies for promoting and maintaining their psychosocial wellbeing.

Statement of the Problem

"A descriptive study to assess the status and the factors influencing psychosocial wellbeing among adolescents in selected high school at Trivandrum."

Objectives

1. To assess the status of psychosocial wellbeing among adolescents measured by psychosocial wellbeing scale.
2. To determine the factors influencing psychosocial wellbeing among adolescents measured by response scale.
3. To find the correlation between status of psychosocial wellbeing and factors influencing psychosocial wellbeing among adolescent.
4. To find the association between status of psychosocial wellbeing with selected demographic variables.
5. Operational Definitions

Status

In this study, it refers to the level or degree of psychosocial wellbeing among adolescents.

Psychosocial Wellbeing

In this study, it refers to a contented state of being happy, healthy and prosperous and the dimensions includes control of self and events, happiness, self esteem, mental balance, social environment and sociability.

Factors Influencing Psychosocial Wellbeing

In this study, it refers to the factors which show both positive and negative aspects of psychosocial

wellbeing and they are personal, family interaction, parenting, peer group interaction, academic adjustments, and economic status.

Adolescent

In this study, it refers to boys and girls between the age group of 12 to 17 years, who are studying in 8^{th} to 10^{th} standards.

High School

In this study, it refers to urban public secondary school which provides education from 8^{th} to 10^{th} standard and comes under the Block Education Officer's jurisdiction, situated in Trivandrum..

Assumptions

The investigator assumed that,

1. Psychosocial wellbeing is moderate in adolescents.
2. Psychosocial wellbeing is a subjective phenomenon.
3. Psychosocial wellbeing varies among adolescents.
4. Factors affecting psychosocial wellbeing are unique to individual.
5. Adolescents will give free and frank responses.

Hypotheses

The hypotheses were tested at 0.05 level of significance

H_1: There will be a significant correlation between status of psychosocial wellbeing and factors influencing psychosocial wellbeing among adolescent.

H_2: There will be a significant association between status of psychosocial wellbeing and selected demographic variables.

Delimitations

1. The study is delimited to adolescents studying in the selected urban high school in Trivandrum..
2. Adolescents both boys and girls who are studying in 8^{th} to 10^{th} standard.

Materials and Methods

Research Approach

As the main objective of the study was to assess the status of psychosocial wellbeing among adolescents in a selected high school, a descriptive survey approach was adopted.

Research Design

Research design depicts the overall plan for organisation of scientific investigation. The research design for the present study was non-experimental descriptive research design [24].

Setting

The present study was conducted in a selected English medium high school at Trivandrum..

Population

The population is the entire group of adolescents that is of interest to the investigator. In the present study the adolescents who are studying in 8^{th} to 10^{th} standard in a selected high school at Trivandrum. comprise the population.

Sample

The present study was conducted among 100 adolescent students selected from a high school at Trivandrum..

Sampling Technique

Simple random sampling technique was found appropriate to select 100 adolescent students from a high school as the sample for the study. In the sample universe there were 63 urban high schools. In the first stage, simple random sampling method, i.e., lottery method was adopted for selecting a high school. Thus St. Aloysius English Medium High School was selected for the study. From the selected high school, 100 adolescents were selected by simple random sampling technique using lottery method.

Sampling Criteria

Inclusion Criteria

1. Adolescents who were studying in 8^{th} to 10^{th} standard.
2. Adolescents who were willing to participate in the study.
3. Students who were present at the time of data collection.
4. Both adolescent boys and girls were included in the study.

Exclusion Criteria

1. Students who are physically challenged.
2. Students who are below 8th and above 10th standard.
3. Students who are not willing to participate in the study.

Part I: Description of Demographic Variables of High School Adolescents

This part deals with distribution of participants according to their demographic characteristics. Data was analysed using descriptive statistics and summarised in terms of percentage.

Table 1: Frequency and percentage distribution of sample according to demographic characteristics

	Variable	Frequency	Percentage
1.	**Age**		
	12-13	29	29
	14- 15	70	70
	16-17	01	01
2.	**Gender**		
	Male	81	81
	Female	19	19
3.	**Religion**		
	Hindu	51	51
	Muslim	10	10
	Christian	39	39
	Others	0	0
4.	**Type of family**		
	Nuclear	85	85
	Joint	12	12
	Extended	1	1
	Single parent family	2	2
Education of father			
	Illiterate	1	1
	Primary	2	2
	High school	6	6
	PUC	25	25
	Graduate	66	66
Education of mother			
	Illiterate	0	0
	Primary	0	0
	High school	9	9
	PUC	26	26
	Graduate	65	65
7.	Marital status	90	90
	Stay together	00	00
	Divorced	04	04
	Widowed	06	06
	Staying separately		
8.	Family Income		
	Rs. 5,000 below	06	06
	Rs. 5,001-10,000	22	22
	Rs 10,001-15,000	25	25
	above 15,001	47	47
Number of siblings			
	No sibling	18	18
	One	58	58
	Two	14	14
	Three	10	10
10.	Studying in		
	8th standard	35	35
	9th standard	34	34
	10th standard	31	31
Place of residence			
	Hostel	00	00
	Paying guest	00	00
	Home	100	100
	Relatives home	00	00

Data presented in Table 1 shows that the majority of respondents (70%) belonged to the age group of 14-15 years whereas 29% belonged to 12-13 years and 1% belonged to 16-17 years. With regard to gender, majority of respondents (81%) were male and 19% were female. More than half the adolescents (51%) belonged to Hindu religion and only 10% were Muslims. The majority (85%) of adolescents were from nuclear family and only 1% from extended family. The majority of adolescents' fathers were graduates (66%) and only 1% were illiterates. Majority of adolescents' mothers were graduates (65%) and only 9% had completed high school education. Most (90%) of the parents of the adolescents were staying together and only 4% were widows. Majority (47%) of adolescents' family income was above Rs. 15,000 and that of 6% was below Rs. 5,000 rupees per month. Majority (58%) adolescents had one sibling and 10% have three or more number of siblings. In relation to the residence of the respondents all were staying at home.

Age

Figure 1 depicts the percentage and frequency distribution of the adolescents according to their age. It shows that the majority of respondents (70%) belonged to the age group of 14-15 years whereas 29% belonged to 12-13 years and 1% belonged to 16-17 years.

Gender

The Figure 2 depicts the percentage and frequency distribution of the adolescents according to gender. Majority of respondents (81%) were male and 19% were female.

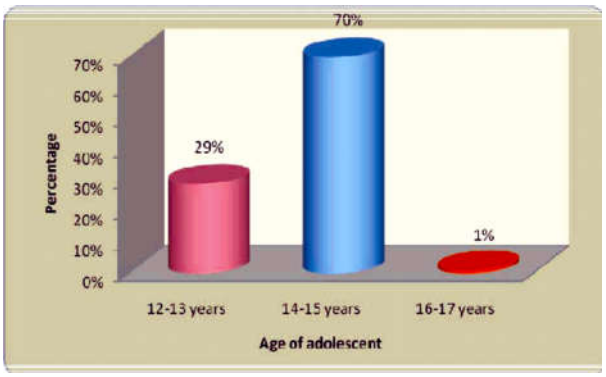

Fig. 1: Distribution of adolescents according to age

Religion

The Figure 3 depicts the percentage and frequency distribution of the adolescents according to religion. Maximum number of the adolescents (51%) were Hindus whereas 39% were Christians and 10% were Muslim.

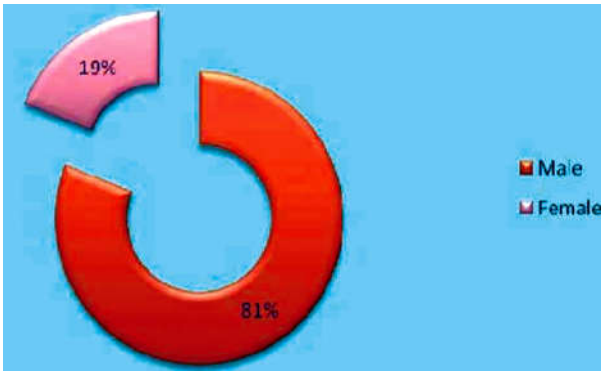

Fig. 2: Distribution of adolescents according to gender

Type of Family

The Figure 4 depicts the percentage and frequency distribution of the adolescents according to type of family. Majority of the respondents (85%) belonged to nuclear family, whereas 12% belonged to joint family, 2% were from single parent family and 1% belonged to extended family.

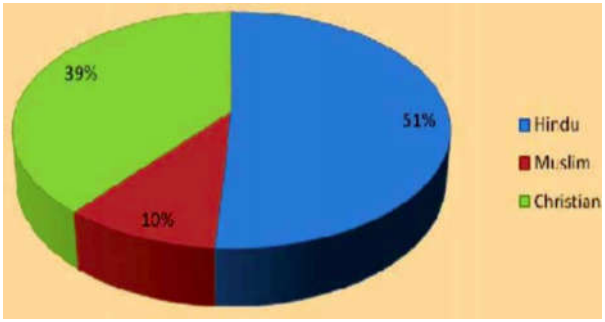

Fig. 3: Distribution of adolescents according to religion

Education Status of Father

The father's education of majority of respondents showed that 66% were graduates, whereas 25% of the fathers completed PUC, 6% had high school education, 2% had primary school education, and 1% of the fathers were illiterate.

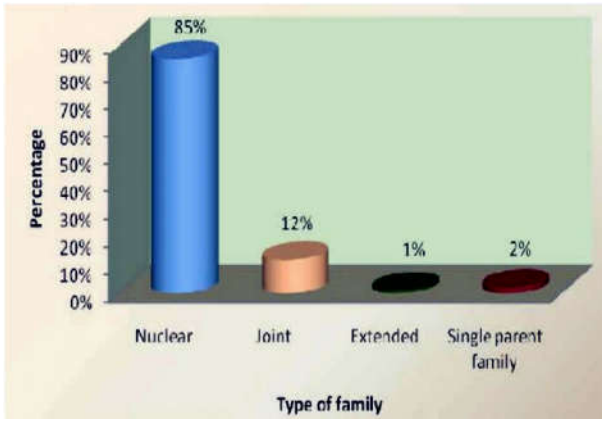

Fig. 4: Distribution of adolescents according to type of family

Education Status of Mother

The mother's education of majority of respondents showed that 65% were graduates, whereas 26% had completed PUC, and 9% of the mothers had high school education.

Marital Status of Parents

The marital status of parents of majority of respondents (90%) were staying together, whereas 6% of the parents were staying separately and 4% were widowed.

Family Income

The Figure 5 depicts the percentage and frequency distribution of the adolescents according to family income. The family income of majority of respondents (47%) was above Rs. 15,001, whereas 25% of respondents earned Rs. 10,000-15,000, 22% earned Rs. 5,001-10,000 and 6% of respondents were earning less than Rs. 5,000.

Number of Siblings

The Figure 6 depicts the percentage and frequency distribution of the adolescents according to the number of siblings. In relation to the number of siblings, it shows that 58% had one sibling, 18% had no siblings, 14% had two siblings, and 10% have three or more sibling.

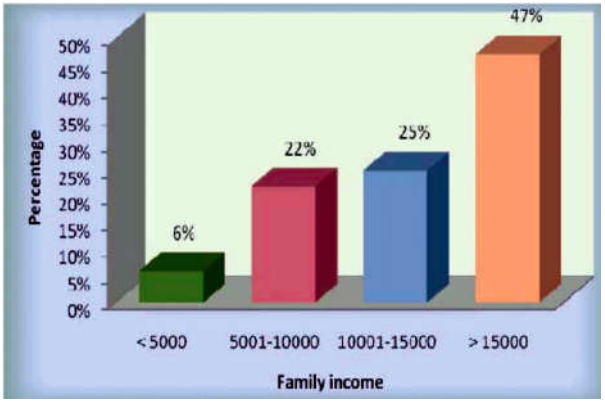

Fig. 5: Distribution of adolescents according to the family income

Studying Standard

The figure 7 depicts the percentage and frequency distribution of the adolescents according to studying standard. Thirty-five percent studied in 8th standard, 34% studied in 9th standard, and 31% studied in 10th standard.

Place of Residence

All the subjects resided at home.

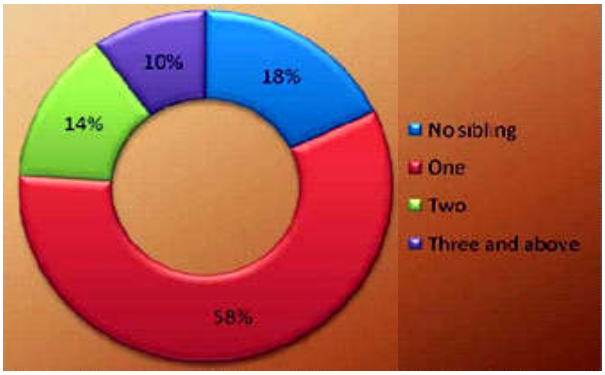

Fig. 6: Distribution of adolescents according to number of sibling in the family

Part II: Assessment of the Status of Psychosocial Wellbeing among Adolescents

Status of psychosocial wellbeing among adolescents was assessed using psychosocial wellbeing scale.

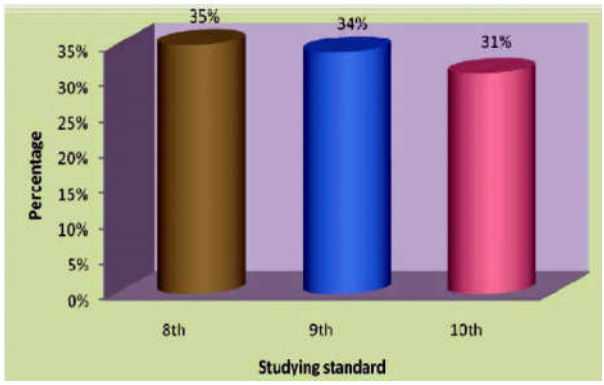

Fig. 7: Distribution of adolescents according to studying standard

Section A: Analysis of the Status of Psychosocial Wellbeing among Adolescents

In order to assess the status of psychosocial wellbeing among adolescents percentage scores were graded arbitrarily as follows: poor level of psychosocial wellbeing ≤ 33%, moderate level of psychosocial wellbeing 33-66%, and optimum level of psychosocial wellbeing 67-100%.

Data in Table 2 and Figure 8 show that majority (70%) of the adolescents had optimum psychosocial wellbeing, 30% had moderate psychosocial wellbeing and no one had poor psychosocial wellbeing.

Section B: Area-wise analysis of status of psychosocial wellbeing among adolescents

Data in Table 3 and Figure 9 reveal that the mean percentage of total status of psychosocial wellbeing score was 75.58% with mean±SD of 113.37±11.532. Area-wise mean percentage of status of psychosocial wellbeing was more (83.60%) in area related to

'social environment' with mean±SD of 16.72±2.470. In the area of 'self-esteem' the mean percentage was 77.53 % with mean±SD of 31.01±4.600 and in the area related to sociability the mean percentage was 75.12% with mean±SD of 18.78±2.236. In the area of 'happiness' the mean percentage was 74.70 % with mean±SD of 14.94±2.490 and in the area related to 'control of self and events' the mean percentage was 71.50% with mean±SD of 14.30±2.389. The lowest mean percentage 70.48% was obtained in the area of mental balance; with mean±SD of 17.62±3.087.

The findings in high school adolescents reveal that, overall status of psychosocial wellbeing among adolescents was average. Where as in area-wise status of psychosocial wellbeing among adolescents showed that in the area of social environment, adolescents had good psychosocial wellbeing and rest all the areas of psychosocial wellbeing were average.

Table 2: Frequency and percentage distribution of the adolescents according to status of psychosocial wellbeing N= 100

Level of psychosocial wellbeing	Range of score	Frequency	Percentage
Poor	30 – 70	-	-
Moderate	71 – 110	30	30
Optimum	111 - 150	70	70

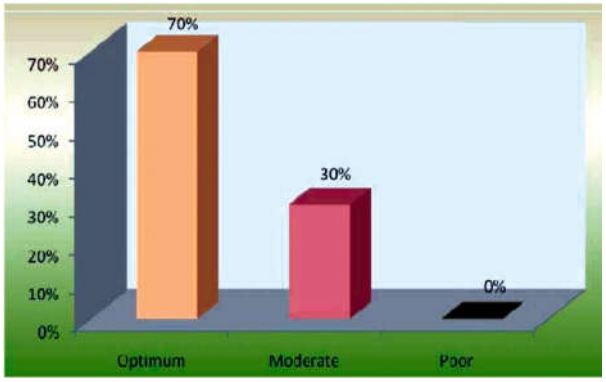

Fig. 8: Percentage distribution of adolescents according to the status of psychosocial wellbeing

Part III: Assessment of Factors Influencing the Status of Psychosocial Wellbeing among Adolescents

Factors influencing the status of psychosocial wellbeing among adolescents were assessed by using a response scale. Factors influencing the status of psychosocial wellbeing among adolescents are organised under two sections.

Section A: Analysis of the Factors Influencing the Status of Psychosocial Wellbeing among Adolescents

Data presented in Table 4 and Figure 10 shows that majority (94%) of adolescents had positive influence on psychosocial wellbeing and 6% of them had negative influence on psychosocial wellbeing.

Table 3: Overall and area-wise mean, SD and mean percentage of the status of psychosocial wellbeing among adolescents N = 100

Domain	Mini. score	Max. score	Max. Possible Score	Mean	SD	Mean %
1. Control of self and events	7	20	20	14.30	2.389	71.50
2. Happiness	7	20	20	14.94	2.490	74.70
3. Self esteem	15	39	40	31.01	4.600	77.53
4. Mental Balance	8	24	25	17.62	3.087	70.48
5. Social Environment	11	20	20	17.72	2.470	83.60
6. Sociability	14	23	25	18.78	2.236	76.12
Overall	80	136	150	113.37	11.532	75.58

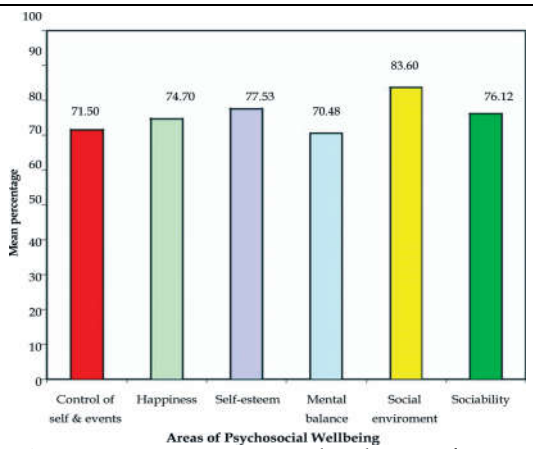

Fig. 9: Area-wise mean percentage distribution of status of psychosocial wellbeing among adolescents

Section B: Area-Wise Analysis of the Factors Influencing to the Status of Psychosocial Wellbeing among Adolescents

The data provided in Table 5 and Figure 11 shows that the mean percentage of overall factors influencing psychosocial wellbeing score was 79.39% with mean±SD of 90.50±8.499. Area-wise mean percentage of factors influencing psychosocial wellbeing was more (86.06%) in area related to 'family interaction' with mean±SD of 15.49±2.560. In the area of 'economic status' the mean percentage was 85% with mean±SD of 5.10±0.859 and in the area related to 'parenting' the mean percentage was 80.95% with mean±SD of 17.00±2.084. In the area of

'peer group' interaction the mean percentage was 77.52% with mean±SD of 16.28±2.349 and in the area related to 'academic adjustment' the mean percentage was 77.41% with mean±SD of 20.90±2.488. The lowest mean percentage (74.90%) was obtained in the area of 'personal factors of psychosocial wellbeing' with mean±SD of 15.73±2.169.

The findings revealed that all the factors influenced positively the psychosocial wellbeing among adolescents, whereas in area-wise factors influencing psychosocial wellbeing among adolescents showed that 'economic status' had negative influence on psychosocial wellbeing and rest of the factors had positive influence on psychosocial wellbeing among high school adolescents.

Part IV: Correlation between Status of Psychosocial Wellbeing and Factors Influencing Psychosocial Wellbeing among Adolescent

To test the correlation between the status of psychosocial wellbeing and factors influencing psychosocial wellbeing among adolescents the following null hypothesis was formulated:

H_{01}: There will be no significant correlation between the status of psychosocial wellbeing and factors influencing the status of psychosocial wellbeing among adolescents.

Karl Pearson's correlation coefficient was used to find the correlation between the status of psychosocial wellbeing and factors influencing psychosocial wellbeing scores. The Karl Pearson correlation coefficient was 0.574 (table value r= 0.209, for 98 df), which is greater than table value at 0.05 level of significance. So the null hypothesis was rejected and the research hypothesis accepted.

Section A: Analysis of Correlation between Status of Psychosocial Wellbeing and Factors Influencing Psychosocial Wellbeing among Adolescent

The data presented in Table 6 shows that there was a positive correlation (r=0.574) between status of psychosocial wellbeing and factors influencing the status of psychosocial wellbeing among adolescents.

Table 4: Frequency and percentage distribution of the adolescents according to factors influencing the status of psychosocial wellbeing among adolescents N = 100

Influence of factors	Range of score	Frequency	Percentage
Negative	33 – 67	06	06
Positive	68 – 144	94	94

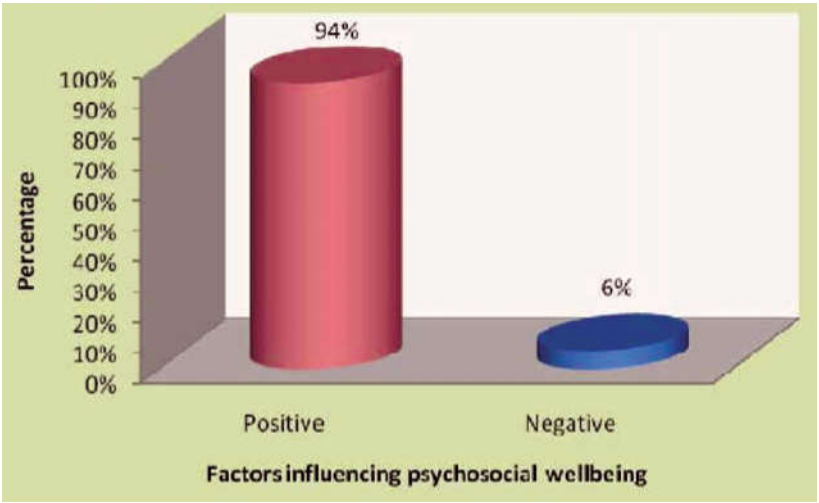

Fig. 10: Percentage distribution of factors influencing the status of psychosocial wellbeing among adolescents

Table 5: Overall and area-wise mean standard deviation and mean percentage of factors influencing to the status of psychosocial wellbeing among adolescents

Domain of Psychosocial wellbeing	Mini. score	Max. score	Max. Possible Score	Mean	SD	Mean %
1. Personal	9	20	21	15.73	2.169	74.90
2. Family interaction	7	18	18	15.49	2.560	86.06
3. Parenting	11	21	21	17.00	2.084	80.95
4. Peer group interaction	8	21	21	16.28	2.349	77.52
5. Academic adjustment	13	26	27	20.90	2.488	77.41
6. Economic status	2	6	6	5.10	0.859	85.00
Overall	63	107	114	90.50	8.499	79.39

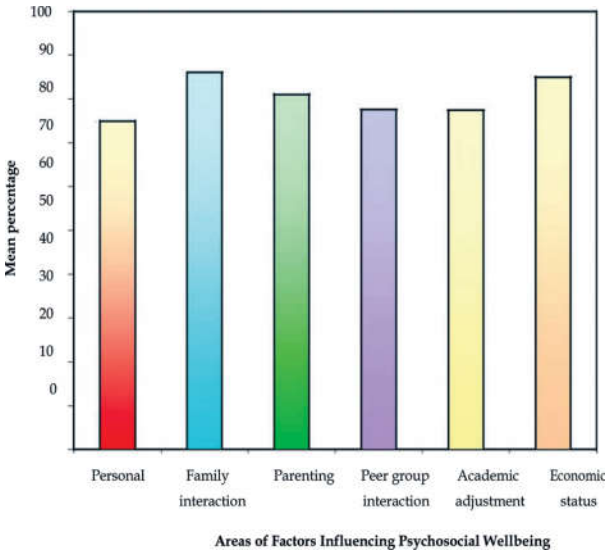

Fig. 11: Area-wise mean percentage distribution of factors influencing the status of psychosocial wellbeing

Section B: Area-wise Analysis of the Correlation Between Status of Psychosocial Wellbeing and Factors Influencing Psychosocial Wellbeing among Adolescent

This section deals with the analysis and interpretation of data collected from 100 high school adolescents to determine the correlation between status of psychosocial wellbeing and factors influencing the status of psychosocial wellbeing among adolescents. To test the statistical significance, the following null hypothesis was stated.

H_{01}: There will be no significant correlation between the status of psychosocial wellbeing and factors influencing the status of psychosocial wellbeing among adolescents.

In order to find out the correlation between status of psychosocial wellbeing and factors influencing the status of psychosocial wellbeing among adolescents, Karl-Pearson co-efficient of correlation formula was used and computed. The data is presented in Table 7.

Table 6: Overall correlation between status of psychosocial wellbeing and factors influencing psychosocial wellbeing among adolescent

Karl Pearson correlation	df	Table value
0.574	98	0.209

The data presented in Table 7 shows that Karl-Pearson's correlation coefficient of each factors influencing psychosocial wellbeing with correlation to overall status of psychosocial wellbeing scores were higher than the table value (0.209) at 98 degrees of freedom. Thus it is inferred that there is a positive correlation between factors influencing psychosocial wellbeing and overall status of psychosocial wellbeing among adolescents, whereas for the economic factor the 'r' value (0.194) was less than the table value (0.209) at 98 degrees of freedom which shows that there was no significant correlation with status of psychosocial wellbeing among adolescents.

Findings depict that there is a positive correlation between overall status of psychosocial wellbeing and factors influencing the status of psychosocial wellbeing among adolescents. Hence the null hypothesis (H_{01}) is rejected and the research hypothesis is accepted in terms of correlation between overall status of psychosocial wellbeing and factors influencing the status of psychosocial wellbeing among adolescents.

Part V: Association between the Status of Psychosocial Wellbeing with the Selected Demographic Variables of Adolescents

Chi-square test was computed to test the association between the status of psychosocial wellbeing of the adolescents with the selected demographic variables; the following null hypothesis was formulated.

H_{02}: There will be no significant association between the status of psychosocial wellbeing and selected demographic variables among adolescents.

The hypothesis was tested using chi-square test at 0.05 level of significance.

The data presented in Table 8 shows that the obtained Chi-square values indicate a significant association between the psychosocial wellbeing of high school adolescents and religion (6.603 at 0.05 levels). But there is no significant association between the psychosocial wellbeing and other demographic

Table 7: Area-wise correlation between the status of psychosocial wellbeing and factors influencing psychosocial wellbeing among adolescent N =100

		Factors	'r' Value	Inference
Status of psychosocial wellbeing	1.	Personal	0.545	Positive Correlation
	2.	Family interaction	0.290	Positive Correlation
	3.	Parenting	0.284	Positive Correlation
	4.	Peer group interaction	0.470	Positive Correlation
	5.	Academic adjustment	0.439	Positive Correlation
	6.	Economic status	0.194	No Correlation

t98= 0.209

variables such as age, gender, type of family, education status of parents, marital status of parents, family income, number of sibling, studying standard, and place of residence.

However, the above finding reveals that there was association between the psychosocial wellbeing of high school adolescents and religion of the adolescent. So the null hypothesis (H_{02}) was rejected and research hypothesis was accepted.

Discussion

Section I: Description of Baseline Characteristics

In the present study majority (70%) of the adolescents were between 14-15 years of age who makes about 81% of male. Around half of them (51%) were Hindus who lived nuclear family (85%). Majority (66%) fathers and 65% of mothers were graduates. It was observed that 90% among parents were staying together.

Majority (47%) of the subjects were contented with their financial background. Majority (58%) of the subjects had one sibling. It was observed that majority (35%) of adolescents were studying in 8th standard. Almost all the subjects were residing in their home.

Section II: Status of Psychosocial Wellbeing among Adolescents

The status of psychosocial wellbeing among the subjects were assessed using Psychosocial wellbeing scale which showed 70% as optimally stable with the mean percentage of overall psychosocial wellbeing score of 75.58% which is supported by a study assessed the level of psychological wellbeing among adolescents in a selected high school at Tumkur, where 84% of the adolescents have adequate psychological wellbeing [8].

Table 8: Association of the status of psychosocial wellbeing with selected demographic variables of adolescents N = 100

Sl. No.	Demographic variables	df	Calculated value (χ^2)	Table value	Inference
1.	Age	1	2.214	3.84	NS
2.	Gender	1	0.001	3.84	NS
3.	Religion	2	6.603	5.99	S
4.	Type of family	1	1.197	3.84	NS
5.	Education of father	2	0.337	5.99	NS
6.	Education of mother	2	1.618	5.99	NS
7.	Marital status	1	0.285	3.84	NS
8.	Family Income	2	0.213	5.99	NS
9.	Number of siblings	2	1.823	5.99	NS
10.	Studying in	2	0.431	5.99	NS

NS= Not significant S= Not significant

Section III: Factors Influencing Psychosocial Wellbeing among Adolescents

Certain factors have been found that affect psychosocial wellbeing like protective factors and disruptive factors. The present study aims at identifying the factors that affects both positively as well as negatively.

According to area-wise, it was found that family interaction had the highest impact i.e. about 86.06% with the SD of 15.49 ± 2.560. The low impact was observed in the area of personal factors.

The findings are supported by the study conducted in USA to find the association between parental style, family functioning and adolescent wellbeing, contrasting intact families with those of changed configuration. Results indicated that the configuration of the style of parenting turned out to be the main determinant of both family functioning and wellbeing of the adolescents [37].

The findings were contradicted with the Social and Health Survey of Children and Adolescents examined the association between family break-up and psychosocial maladjustment in adolescents, which showed changes in family structure, is associated with an increase in psychosocial maladjustment among adolescents [14].

Section IV: Correlation between Status of Psychosocial Wellbeing and Factors Influencing Psychosocial Wellbeing among Adolescents

Findings of the present study revealed that the high school adolescents overall status of

Psychosocial wellbeing and factors influencing psychosocial wellbeing among adolescents scores computed by Karl- Pearson's co-relation coefficient 'r' value (0.574) is higher than the table value (0.209) at 98 degrees of freedom. Thus there was positive correlation (r = 0.574) between status of psychosocial wellbeing and factors influencing psychosocial wellbeing among high school adolescents.

The findings are consistent with the study conducted to investigate the influence of loneliness and relation with parents and friends psychosocial wellbeing of adolescents, which shows a positive relationship among 67% of adolescents between parents and friends which in turn promotes psychosocial wellbeing [36].

The findings were contradicted with a study conducted in Brazil to identify individual, social, and familial risk factors for depressive symptoms in adolescent students revealed that the symptoms of depression were present in 10% of adolescents. Adolescent children of divorced parents had 73% greater odds of depression, victims of serious physical abuse by mothers had 6.49 times the odds, those with low self-esteem, 6.43 greater odds and those displaying dissatisfaction with their lives had 3.19 greater odds [32].

This shows that in general, emotional support by the family members can improve psychosocial wellbeing by reducing anxiety, stress and depression.

Section V: Association between Psychosocial Wellbeing and Selected Demographic Variables

The findings of the study revealed that there was a significant association between the psychosocial wellbeing and selected demographic variables like religion (6.60 at 0.05 levels) and no association with other demographic variable.

The findings were supported by a study examined relationship between religious wellbeing and psychosocial characteristics. Analysis indicates a significant association and subjects who scored higher on the measure of religious wellbeing scored lower on indices like loneliness and hopelessness [46].

The findings were contradictory to a study which indicates a significant association between the psychological wellbeing of high school adolescents and sex of the adolescent (6.21 at 0.05 levels) and family origin of the adolescent (11.89 at 0.05 levels). But no association with regard to the religious background (3.85 at 0.05 levels), family income and number of family members in the family [8].

Thus, the findings of the present study revealed that the status of psychosocial wellbeing of the adolescents possesses optimal level, only if the influencing factors fall in line with the positive development. It is also recommended that meeting the subjective needs of the adolescents would build up the psychosocial development in them.

Major Findings of the Study

The analysis of the demographic variables revealed that majority (81%) of the samples was male. Highest percentage (70%) of students was in the age group of 14 and 15 years. Majority (51%) of the adolescents belonged to Hindu religion and majority (85%) of the adolescents were living in nuclear families. Most (90%) of the parents of the adolescents are staying together. Majority (66%) of the fathers and (65%) of the mothers of the adolescents were graduates and highly qualified. Majority (47%) of the adolescents belonged to family income group of more than Rs. 15,000/-. Majority (58%) had single sibling. Majority (35%) of the adolescents were studying in the 8th standard. All adolescents were residing in their home.

The assessment of the overall status of psychosocial wellbeing was found to be adequate among adolescents which revealed that 70% of respondents had optimum psychosocial wellbeing status and 30% of respondents had moderate psychosocial wellbeing. Findings revealed that the mean percentage of overall status of psychosocial wellbeing score was 79.39% with mean±SD of 90.50±8.499.

Overall six factors were identified and selected to find their influence on the status of psychosocial wellbeing among adolescents. Findings revealed that the mean percentage of overall factors influencing psychosocial wellbeing score was 75.58% with mean±SD of 113.37±1.153

Overall six factors were identified and selected to find their influence on the status of psychosocial wellbeing among adolescents. Findings revealed that the mean percentage of overall factors influencing psychosocial wellbeing score was 79.39% with mean ±SD of 90.50±8.499.

Among all the factors selected, area-wise mean percentage of factors influencing psychosocial wellbeing was more (86.06%) in the area related to family interaction with mean±SD of 15.49±2.560 and the lowest mean percentage (74.90%) was obtained in the area of personal factors of psychosocial wellbeing with mean±SD of 15.73±2.169.

The findings in high school adolescents reveal that all the factors influenced positively to psychosocial wellbeing among adolescents, whereas the area-wise factors influencing psychosocial wellbeing among adolescents showed that the area of 'economic status' had negative influence on psychosocial wellbeing and rest had positive influence on psychosocial wellbeing among high school adolescents.

Overall, results depicted that there was a significant association between the psychosocial wellbeing of high school adolescents and religion (6.603 at 0.05 levels). But there was no significant association between the psychosocial wellbeing and other demographic variables such as age, gender, type of family, education status of parents, marital status of parents, family income, and number of siblings, standard in which adolescents studying and place of residence.

Limitations of the Study

- The study was limited to one particular high school at Mangalore due to limited time for data collection.
- The study was limited only to the adolescents from 8th standard to 10th standards.
- Only a few major factors were selected to assess the psychosocial wellbeing of adolescents whereas many other factors may influence the status of psychosocial wellbeing.
- The questions asked were related to the psychosocial wellbeing of adolescents with regard to the short period (past one month) whereas their psychosocial wellbeing may vary over a longer period.

Recommendations

Based on the findings of the present study, the following recommendations have been offered for further researchers:

- The study can be replicated among urban schools.
- The study can be replicated among pre-university students.
- The study can be replicated in other parts of the country on large sample to generalise the findings.
- An experimental study can be carried out to find out the effectiveness of a counselling programme in reducing the stress levels and enhancing coping strategies as well as maintaining the psychosocial wellbeing of adolescents.
- A comparative study can be conducted to find out the difference in psychosocial wellbeing between adolescent boys and girls.
- A comparative study can be conducted to find out the difference in psychosocial wellbeing between adolescents of urban area and the adolescents of rural area.
- This cross sectional study can be conducted on all the adolescents studying in 8th standard to 12th standard in different schools.

Conclusion

Adolescence has long been characterised as a time when individuals begin to explore and examine psychological characteristics of the self in order to discover who they really are, and how they fit in the social world in which they live [6]. Positive psychology is sometimes brought up when addressing adolescent psychology as well. This approach towards adolescents refers to providing them with motivation to become socially acceptable and notable individuals, since many adolescents find themselves bored, indecisive and/or unmotivated [65].

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Original Article

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Assess the Effectiveness of Lecture cum Demonstration on Neonatal Resuscitation among B.Sc Nursing Students

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Abstract

Nursing education which is the skill of art and science where the nursing students exhibit their performance as an outstanding quality education. The purpose of the study is to assess the level of knowledge as a novel person in the pediatric student .this study proves the students got moderately adequate knowledge. The student continues in skill training them expert in the nursing care.

Key words: Lecture Cum Demonstration; B.Sc. Students; Neonatal Resuscitation; Effectiveness.

Introduction

About 0.76 million neonates die every year inIndia, the highest for any country in the world. The neonatal mortality rate (NMR) of the country did decline from 52 per 1000 live births in 1990 to 28 per 1000 live births in 2015 but the rate of decline has been slow, and lags behind that of infant and under-five child mortality rates. Pointing out that one-third of all neonatal deaths occur on the first day of life (almost half within three days and nearly three-fourths within the first week), the report underlines the need for early and immediate care during and after childbirth.The first few moments after birth are full of anxiety and rapid physiological adjustments. Most babies go through the transition successfully as a matter of routine; however 10 per cent of babies who do not start breathing immediately and spontaneously result in birth asphyxia and need assistance to initiate breathing. Competency in neonatal resuscitation is critical in the delivery rooms, neonatology units and pediatrics intensive care units to ensure the safety and health of neonates. Neonatal resuscitation is effective only when health professionals have sufficient knowledge and skills. However, due to lack of skilled health professionals, appropriate timely action is not taken in many health settings to prevent the incidence. Lack of competency of health professionals is one of the impediments for saving the asphyxiated babies. Nurses being crucial health care providers available in the unit round the clock at all levels of health care delivery system can contribute significantly in promotion of newborn's health if they have adequate knowledge and skill in provision of newborn care. Thus improving their knowledge and making them competent in provision of resuscitation can help to identify and manage the asphyxiated baby in time and ensure intact survival of newborn baby. Nursing students requires adequate training and understanding for the timely and successful resuscitation measures to have adequate skills for prompt neonatal resuscitation technique.

Title: A pre experimental study to assess the effectiveness of lecture cum demonstration on neonatal resuscitation among 3rd year B.Sc nursing students, AIIMS, Rishikesh.

Objectives of the Study

To assess the effectiveness of lecture cum demonstration on neonatal resuscitation among 3rd year B.Sc nursing students, AIIMS, Rishikesh.

Methodology

A pre experimental one group post test only design was adopted to evaluate the effectiveness of lecture cum demonstration on neonatal resuscitation. The population was 3rd year nursing students. The accessible population was nursing students studying in AIIMS Rishikesh. A total of 46 students were selected from 3rd B.Sc nursing by using non random convenient sampling technique. A tool was prepared after extensive review of various books, journals and articles. It includes 20 structured questions regarding neonatal resuscitation. A survey method was adopted to collect the date. Data was organized and tabulated for analysis. Descriptive and inferential statistics were adopted to analyze the data.

Findings of the Study

Score	Interpretation	Mean	Median	Standard deviation
0-6	Inadequate	8.1	8	2.53
7-13	Moderately adequate			
14-20	Adequate			

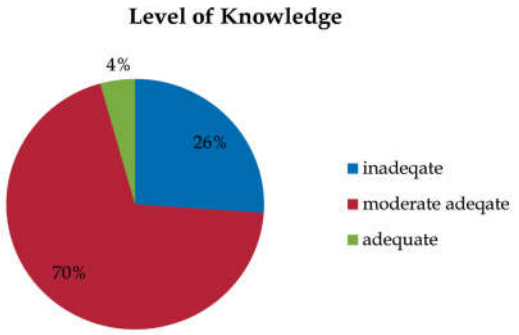

Fig. 1:

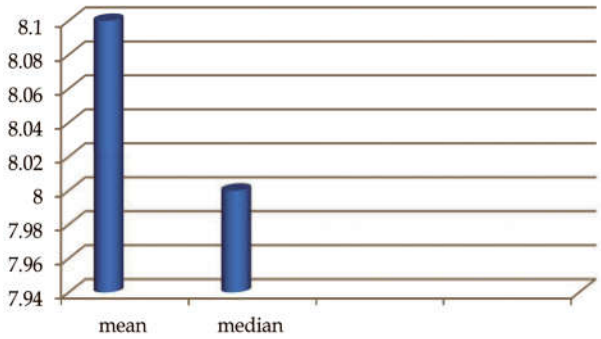

Fig. 1:

Result

From the above findings it was found that 3rd years B.Sc (Nursing) students are having moderately adequate knowledge regarding neonatal resuscitation after having lecture cum demonstration. The finding shows that mean score was 8.1 and median was 8 with standard deviation of 2.53. It is found that the post test was effective in improving their knowledge level among the 3rd year B.Sc Nursing students.

Conclusion

Newborn resuscitation is very important topic and important procedure to be demonstrated to all nursing students but 3rd B.Sc nursing students are particularly need to be focused more because they are working in the delivery room, postnatal and neonatal units with ward incharges during their clinical posting. So it requires accurate understanding about this procedure. Lecture cum demonstration is moderately affective in improving their knowledge on neonatal resuscitation. But students need more practice as the result showed only moderately adequate knowledge. So it is concluded that lecture cum discussion alone is not enough in improving their knowledge, they additional teaching method like vedio teaching, repeated demonstration, practice in the real setting on the topic.

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Nutritional and Medicinal Superiority of Goat Milk over Cow Milk in Infants

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Abstract

Goat milk has got an excellent medicinal and nutritional property. It has been established that the goat milk is better suited for the infant suffering from cow milk allergy and discomfort. Goat milk is very much similar to mothers' milk in many aspects when compared with the cow milk. Studies suggested that the goat milk resembles human milk, is homogenous, less allergenic, is better digested and absorbed than the cow milk. It has got an excellent buffering action. So goat milk can easily find its inclusion in infant formulas ahead of cow milk. The aim of the present review is to highlight the nutritional and medicinal potential of goat milk in infant nutrition when compared with cow milk.

Keyword: Goat Milk; Infants; Fatty Acids; Allergy; Cow Milk.

Introduction

Goat is one of the oldest domesticated animals. In ancient times also goat milk was valued the most. Goat milk still plays an important role in human nutrition. All over the world riding on high profile or big budget campaign cow milk has been made very popular, however it doesn't mean that cow milk is the best with better quality than the goat milk. In fact 65% of the milk consumption worldwide is from goat milk and is superior to cow milk in many aspects.

According to the *Journal of American Medicine*, "Goat milk is the most complete food known." It contains vitamins, minerals, electrolytes, trace elements, enzymes, protein, and fatty acids that are utilized by human body with ease. In fact, our body can digest goat milk in just 20 minutes while it takes 2-3 hours to digest cow milk.

Excerpts from Biomarker Diet [1] say that the milk consumed in biblical times differed much from the milk we consume today. The milk of the Bible came from cows and goats and was consumed straight from the animal (it was not pasteurized or homogenized), or it was immediately fermented. These 'live' foods provide excellent health benefits in contrast to today's pasteurized, homogenized, often skimmed and refortified milk, which is not only less nutritious but also can be potentially harmful and a major cause of allergies and even heart disease.

Biochemically goat milk has greater concentrations of essential fatty acids such as linoleic and arachidonic acid, Vitamin B_3, B_6, Vitamin A, and Potassium (K) than cow milk. One cup of goat milk supply 35% of our daily need of calcium, 20% of daily need of B_2. High level of potassium causes goat milk to react in an alkaline way within the body whereas cow milk reacts in acidic way due to lees amount of potassium. In Naturopathic medicine, goats are referred as bio-organic sodium animals whereas cows are referred as bio-organic calcium animals. Bioorganic sodium is an important element in keeping the joints mobile and tender. Goat milk is a rich source of the trace mineral selenium, a necessary nutrient, which keeps immune system strong and also has antioxidant properties. It is said that Mahatma

Gandhi maintained his health through drinking raw goat milk after extensively long periods of fasting [2].

The aim of the present review is to analyze the beneficial and medicinal properties of the goat milk. The review presents the studies suggesting goat milk possesses many advantages over cow milk as a nutritional source for infants and children.

Goat Milk is Naturally Homogenized

When both of fresh cow milk as well as fresh goat milk are refrigerated overnight in a glass, one can find that the goat milk looks exactly the same whereas the cow milk separates into two phases with cream on top and skim milk at the bottom. This is a natural phenomenon brought about by a compound called agglutinin. Cow milk is homogenized mechanically to destroy the fat globule cell wall in order to allow cream and skim milk to stay homogenous. These mechanical homogenization releases a superoxide (free radicals). These free radicals may cause various problems inside the body even causing mutation. Goat milk have smaller fat globules and lacks agglutinin allowing milk to stay naturally homogenous thus eliminating the concerns associated with mechanical homogenization processes.

Goat Milk Resembles Human Milk

Goat milk is as close to perfect food as possible in nature. Human milk has a more similarity with goat milk than the cow milk which may be the reason for goat milk healing properties. Although no food is better than mothers' milk at least for the first six months of life.

The oligosaccharide profile of goat milk is most similar to that of human milk and the goat milk oligosaccharides could be included in infant formulas to improve the nutrition of infants [3].

A study by the International Journal of Food Science Nutrition found that goat milk has a very different profile of the non-protein nitrogen (NPN) fraction to cow milk, with several constituents such as nucleotides having concentrations close to those in human breast milk [4]. NPN contents of goat and human milks are higher than in cow milk. Nucleotides are added to the infant formula to facilitate the immune maturation of the milk fed offspring [5]. Being an important constituents of DNA and RNA, it plays an important role in signal transduction, synthesis of apolipoproteins (Apo) A1 and Apo A1V in pre term infants and in long chain polyunsaturated fatty acids (PUFA) synthesis upregulation in neonates [5]. The nucleotide contents of the infant formula made from goat milk have nearly the same level as human milk [4].

Goat milk also resembles human milk in the protein structure. The major casein protein Beta casein found in both goat and human milk is different from the casein found in cow milk [6]. Also, the peptide mappings of alpha-lacto albumins and beta-lacto globulins in goat and human milk are completely different from those of cow milk [6]. The micelle structures of the casein between human and goat milk have a similarity than the cow milk [7]. Milk from women and goats were found to contain significantly higher concentrations of selenium than from cows [8]. Goat milk is a complete protein that contains all the essential amino acids without the heavy fat content and mucus producing materials of cow milk. Goat milk proteins are also important sources of bioactive acetyl cholinesterase (ACE) inhibitory and antihypertensive peptides. They can provide a non-immune disease defence and control of microbial infections. Important minor milk proteins include immunoglobulins, lactoferrin, transferring, ferritin, proteose peptone, calmodulin (calcium binding protein), prolactin, and folate-binding protein.

Goat Milk is Less Allergenic

Cow milk allergy is the number one allergy of children, affecting roughly 0.5 to 1.5 million children every year [9]. Cow milk contains more than 20 allergen proteins [6] which are not recognized by the immune system leading to a variety of symptoms like Hives, wheezing, vomiting, abdominal cramping, diarrhoea, skin rash (commonly near and around the mouth), runny nose, watery eyes, colic in infants and even anaphylactic shock. Alpha s1 casein is one of the main allergens in cow milk. Goat milk, like human milk, contains low levels (89% less than cow's milk) of alpha s1 casein and high levels of alpha s2 casein, which is non-allergic. Infants suffering from allergies with eosinophilia associated with the gastrointestinal tract showed improvement after shifting to goat milk. Likewise it is reported that the chronic enteropathy due to feeding of cow milk can be cured by shifting to goat milk.

In one of the study it was found that nearly 93 percent of infants suffering from cow milk allergies were able to tolerate and thrive on goat milk [10]. Another animal model study concluded that goat milk, when used as the first source of protein after a breastfeeding period, is less allergenic than cow milk [11].

The size of fat globules in Cow's milk is much bigger which may increase mucous build-up, leading to irritation in the gut. Goat's milk does not produce mucus due to the smaller size of fat globules; hence it does not stimulate a defence response from the human immune system. Allergies in adults due to cow milk are manifested by latent discomfort, pain, damage and overall lack of wellness.

Polyamines play an important role in maturation of the GIT enzymes, cell function [12] and reduce the incidence of food allergy in infants [13]. The concentration of polyamines in goat milk is highest in goat milk compared to cow and human milk [14]. It was found that five times more goat milk is required to trigger an adverse reaction than the cow milk [15]. In a mice study it was found that only one out of 13 mice weaned on to goat milk showed typical allergic symptoms in comparison to the 8 of 13 mice on cow milk [16].

Nearly every cow is given growth hormones, antibiotics, GMO feed, vaccinations; it is not uncommon to see adverse effects from consuming pasteurized cow's milk. Goats are rarely treated in such ways.

Goat Milk is Rapidly Digested and Absorbed

Goat milk has better digestibility and absorption than cow milk. Goat milk is much higher in short chain fatty acids and medium chain fatty acids than cow milk. These short chain fatty acids and medium chain fatty acids have a larger surface-to-volume ratio and are better digested and absorbed than the long chain fatty acids prevalent in cow milk [17]. In a recent study it was found that "levels of the metabolically valuable short and medium chain fatty acids like caproic, caprylic, capric and lauric acids are significantly higher in goat milk than in cow milk [18]. These higher levels of easy-to-digest short chain fatty acids and medium chain fatty acids are broken down quicker and more completely than the long chain fatty acids abundant in cow milk. The number of fat globules measuring 5μm is 80% in goat milk compared to 60% in cow milk [25]. Medium-chain fatty acids, such as capric and caprylic acids are highly antimicrobial. The medicinal property of these medium chain fatty acids helps in less deposition of cholesterol in the arteries, aid in dissolving cholesterol and gall stones and significantly contributing to the normal growth of infants. These medium chain fatty acids play an important role in improving the conditions like steatorrhea, chyluria, hyperlipoproteinemia, cystic fibrosis, gall stones, and childhood epilepsy.

In a study investigating the effect of pepsin and trypsin revealed that while these enzymes completely digested over 96 percent of available goat milk protein, less than 73 percent of available cow milk protein was able to be digested completely [7].

Goat milk also contains excessive amount of the energy rich substrate adenosine triphosphate (ATP) than cow milk [19]. ATP is the energy "currency" that our metabolism is constantly manufacturing, used for every cellular reaction in the body.

Goat milk also contains taurine, glycine and glutamic acid as free amino acids [20]. Taurine plays an important role in bile salt formation, osmoregulation, antioxidation, and calcium transport and also in central nervous system. Goat milk contains about 20-40 times much taurine than the cow milk [21].

Alkaline Powerhouse

Goat milk has an excellent buffering action inside human body. Many foods lead to the production of acids that may lead to certain health hazards [22]. In a study reported in the *Journal of Dairy Science,* the buffering capacity of goat milk, cow milk, soy milk and antacid drugs was examined. Theoretically the antacid drugs should have proven to have the best buffering capacity since their function is to reduce acid. However, the study found that goat milk overwhelmingly exceeded the buffering capabilities of the other three [23]. Another study in the *Journal of Nutrition* found that oligosaccharides from goat milk very likely play a major role in intestinal protection and repair [24]. This is important because acidic diets often cause damage to the gastrointestinal lining. Oligosaccharides act a prebiotic and have anti-infective property.

L-glutamine is an alkalinizing amino acid and is present in highest concentration in goat milk than any other milk products thereby increasing the pH of the blood. Goat's milk has long been used and recommended as an aid in the treatment of ulcers due to its more effective acid buffering capacity. Goat's milk soothes the digestive tract. Children on goat's milk have been observed to sleep through the night and remain more satisfied between meals.

The USDA and Prairie View A&M University in Texas have confirmed that goat milk has more acid-buffering capacity than cow milk, soy infant formula, and non-prescription antacid drugs.

Researchers at the Department of Physiology, University of Granada found that goat milk helps to prevent ferropenic anaemia (Iron Deficiency) and

bone demineralization (softening of bones) in experimental rats.

Lactose Intolerance

Lactose intolerance is due to the deficiency or lack of enzyme lactase leading to a condition called lactose intolerance. Easier digestion of the goat milk allows the lactose to pass through the intestines more rapidly, not giving it time to ferment or cause an osmotic imbalance means there is no "leftover" lactose. Also goat milk contains 10% less lactose than cow milk. Most lactose intolerant people are able to thrive on goat's milk and goat milk products.

In conclusion, goat milk has better nutritional and medicinal properties than the cow milk and is best suited to infants.

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Case Report

Case Report on Nephrotic Syndrome

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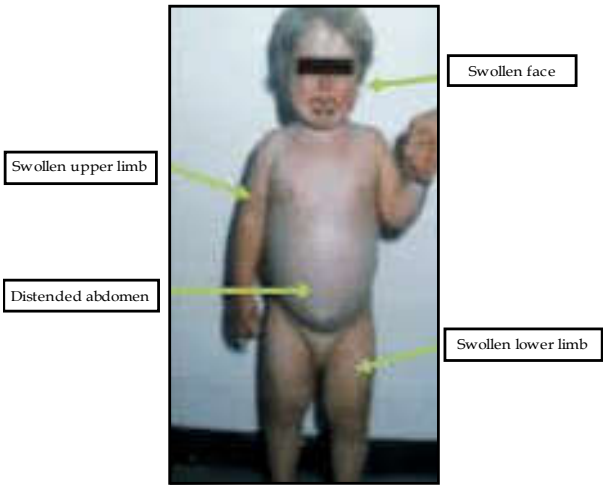
Abstract

Nephrotic syndrome is a nonspecific kidney disorder characterized by three signs of disease: large proteinuria, hypoalbuminemia, and edema. By obtaining a complete medical history, physical examination and a series of biochemical tests are required in order to arrive at an accurate diagnosis that verifies the presence of the illness. The incidence are high as it includes many types.

The types of primary nephrotic syndrome such as minimal change nephropathy, membranous nephropathy, and focal segmental glomerulosclerosis nephropathy remains challenging in treatment and nursing management. Three pediatric patients are selected randomly from the paediatric ward AIIMS Rishikesh, who were diagnosed with Nephrotic syndrome are managed with adequate medical and nursing care. The prognosis showed the improvement in resolving the syndrome specially on edema reduction and urine output .

Keywords: Nephrotic Syndrome; Kidney Disorder; Proteinuria; Hypoalbuminemia; Edema and Urine Output.



Introduction

Nephrotic syndrome is a nonspecific kidney disorder characterized by three signs of disease: large proteinuria, hypoalbuminemia, and edema [1]. Essentially, loss of protein through the kidneys (proteinuria) leads to low protein levels in the blood (hypoalbuminemia), which causes water to be drawn into soft tissues (edema). Very low hypoalbuminemia can also cause a variety of secondary problems, such as water in the abdominal cavity (ascites), around the heart or lung (pericardial effusion, pleural effusion), high cholesterol (hence hyperlipidemia), loss of molecules regulating coagulation (hence increased risk of thrombosis). Nephrotic syndrome has many causes and may either be the result of a glomerular disease that can be either limited to the kidney, called *primary* nephrotic syndrome (primary glomerulonephritis), or a condition that affects the kidney and other parts of the body, called *secondary* nephrotic syndrome. Along with obtaining a complete medical history, a series of biochemical tests are required in order to arrive at an accurate diagnosis that verifies the presence of the illness.

The treatment of primary nephrotic syndrome such as minimal change nephropathy, membranous nephropathy, and focal segmental glomerulosclerosis nephropathy remains challenging. Whilst most cases of idiopathic

nephrotic syndrome respond to steroid therapy and experience a limited number of relapses prior to complete remission, some cases suffer from frequent relapses and become steroid dependent or are primarily steroid resistant. Treatment options are limited to immunosuppressive drugs with significant side effect profiles. This present case study discusses the disease process and prognosis of the 3 children with various type of Nephrotic Syndromee.

For the comparative study, 3 patients are selected randomly from the paediatric ward AIIMS Rishikesh, who were diagnosed with Nephrotic Syndrome.

The Details of the Patients are Followed

Bio demographic data	Patient AX	Patient BY	Patient CZ
Age	6 years	6 years	6 years
Sex	Male	Female	Male
Address	Jwalapur, haridwar	Tehri garhwal	Lalpur balawala bijnor
IPD No.	456054/01/16	37746/09/15	134578/1015
Education	1st class	Kinduganden	play school
Religion	Hindu	Hindu	Muslim
Date of admission	29/01/16	9/10/15	8/10/15

Definition

Nephrotic syndrome is a syndrome characterized by edema and Lange amounts of proteins in the urine and usually increased blood cholesterol, usually associated with glomerulonephritis or within a complication of systemic disease.

Incidence

Incidence of the condition is 2-7 per 1000 children most common in male. Mean age of occurrence is about 2-5 years.

Classification

Book picture	Patient picture		
	Patient AX	Patient BY	Patient CZ
TYPE I- Idiopathic nephritic syndrome/Primary glomerulonephrosis • Approximately 90% of children with nephritic syndrome have idiopathic nephritic syndrome, idiopathic nephritic syndrome is anointed with primary glomeular disease without evidence of a specific systemic cause. • Idiopathic nephritic syndrome includes multiple histological types: minimal change disease, mesangial proliferation, focal segmental glomerulosclerosis, and membranous nephropathy. **Type- II secondary nephritic syndrome** • Nephritic syndrome can occur as a secondary feature of many form of glomerular disease. • This may be associated with membranous nephropathy, membranous proliferative glomerulo nephritis, lupus nephritis, malaria, schistoso-miaris, malignancy and therapies with numerous drugs and chemicals **Type III. Congenital nephrotic syndrome** • **Congenital** nephrotic syndrome is defined as nephoitic syndrome manifesting at birth or within first 3 month of life congenital nephrotic syndrome may be primary or secondary	Idiopathic nephritic syndrome	Secondary nephritic syndrome Patient BYwas diagnosed previously to have septicaemia	Idiopathic nephritic syndrome. Minimal changes disease

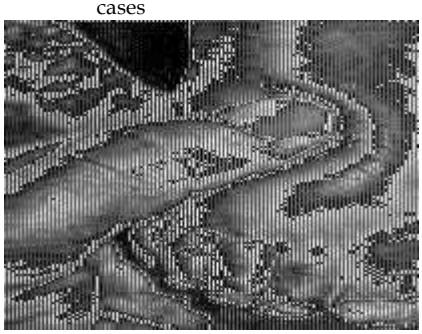
Etiology

Book picture	Patient picture		
	Patient AX	**Patient BY**	**Patient CZ**
the etiological or risk factor are divided into 2 types:- a. Primary glome rulo nephritis b. Secondary glome rulo nephritis **Primary glomerulonephrities-** caused by any glomerulor disease limited to kidney only i. Minimal change disease-cause due to minimal changes in glomerulus ii. Focal segmental glome rulosis-caused by tissue scanning in glomeruli iii. Membranous glomerulonephritis-infiammation of glomeular membrane iv. Membranoproliferative glomerulo nephritis - infiammation of glomeruli along tantibodies deposition in membrane v. Rapidly progressive glomerulo nephritis -glomeruli are in moon shaped. - GFR decreased by 30% **Secondary glomerulonephritis-** caused by any glomeruloe disease that affect the whole kidney as well as other parts of body i. Diabetic nephropathy-complication of diabetes ii. Systemic lupus erythematosis - it is an autoimmune disease that can affect many organs. iii. Sarcoidosis-accumulation of infiammatory granules in kidney. iv. Syphilis v. Hepatitis vi. Sjoguevis syndrome vii. HIV/AIDS viii. Amyloidosis - Deposition of amyloidal substance in glomeruli modifying thin shape and function ix. Multiple myeloma - cancerous cell in kidney x. Genetic disease xi. Drugs- penicillin gold salt, captopril etc.	The etiologic in patient AX was minimal change disease which results in the abnormal kidney function (primary glomerulo nephrities)	The etiologic in patient BY was minimal change disease which results in the abnormal kidney function (primary glomerulo nephrities)	The etiologic in patient CZ was minimal change disease which results in the abnormal kidney function (primary glomerulo nephrities)

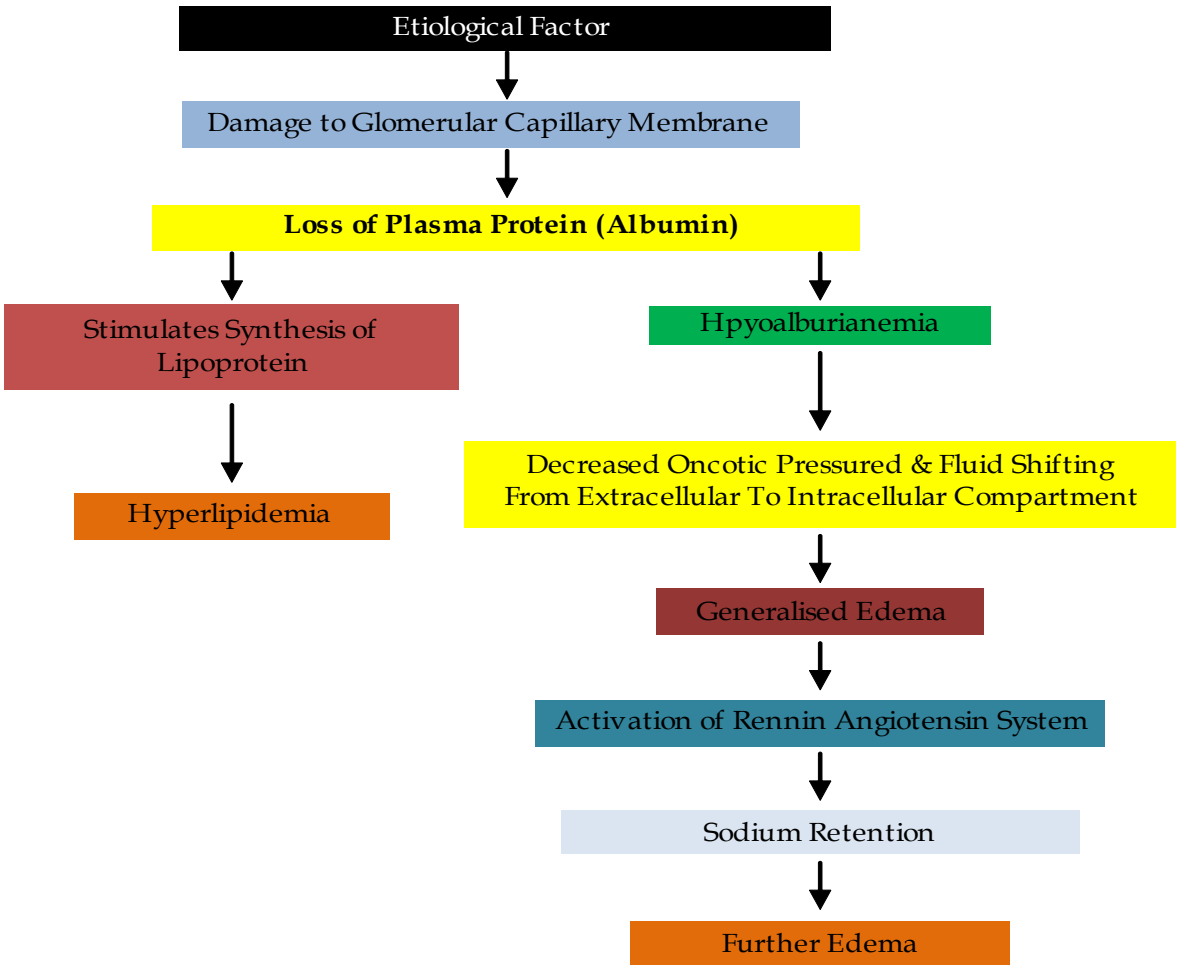
Clinical Manifestation

Book picture	Patient picture		
	Patient AX	**Patient BY**	**Patient CZ**
The onset of the disease is usually gradual or may be acute. I. The child may present with peri orbital puffiness II. Edema may be minimal or massive III. Profound weight gain within a short period of days or week is found IV. Dependent edema develops in the ankle, feet genital (scrotum) and hands. V. Striae may appear on the skin due to overstretching by edema VI. Fluid accumulation in body spaces a. Ascites b. Pleural effusion	• Periorbital puffiness • Oedema • Wt gain (28.5kg) • Ascetics present • Generalized edema • Urine output reduced • Fatigue • lethargy • Irritability • Wasting of muscle • Proteinuria	• Periorbital puffiness • Oedema • Plural effusion present • Generalized Oedema • Fatigue • Lethargic • Irritable • Hematuria • Proteinuria	• Oedema • Ascetic • Wt gain • Proteinuria • Fatigue • Lethargic • Irritability

VII. Generalized edema (anasarca)
VIII. Urine output reduced
IX. Concentrated & frothy appearance of urine.
X. GT disturbances usually found as vomiting, loss of appetite & diarrhoea
XI. Other features includes like:- fatigue, lethargy, pallor, irritability.
XII. Hypertension, hematuria, hepatomegaly and wasting of muscle may found in some cases



Pathophysiology



Diagnostic Measure

Book picture	Patient picture		
	Patient AX	Patient BY	Patient CZ
• History of illness and physical examination to exclude clinical features help to diagnose the condition clinically. • Laboratory investigations to confirm the diagnosis may includes the followings: - • Urine examination shows gross proteinuria (2 to 20 g 1 day), presence of cast, slight hematuria and increased specific gravity. • Blood examination demonstrates reduced total protein, albumin less than 2.5 gl/dl and cholesterol more than 200 mg/ dl. • Lipoproteins and BUN (blood urea nitrogen) are increased. • Serum albumin and globulin ratio is reversed • Hypogammaglobulinemia, hypomagnesemia and low-ceatinine level • Renal biopsy is indicated in case of poor response to steroid therapy • Other investigation show low ASO titer and IgM, raised IgC & IgE, serum complements is normal	• Serum total protein =3.9 gm/dl • Serum albumin=1.2 gm/dl • Serum globulin= 2.7 gm/dl • A.G ratio =0.4 ➢ Urine examination • Protein =+ve appro. 500mg/ dl • Leucoogtis= tve • Casts = granulan cast present ➢ Hematological report • TLC = 13400 cells/cumm. ➢ Other investigation are normal ➢ Renal biopsy is not indicated	➢ Biochemisty examination • serum total protein = 3.5 gm/dl • serum albumin=1.5 gm/dl • serum globulin= 2.9 gm/dl • A.G ratio = 0.5 ➢ Urine examination • Protein =+ve appro. 400 mg/dl • Costs= present ➢ Haematological report • Neutrophitis =31.8% • Eosinophilis = 6.8% • MCH= 24.9 pg ➢ Lipid profile • Total cholesterol 446.0 mg/dl • Serum triglycerides 229 mg/dl ➢ Other investigation are normal ➢ Renal biopsy is not done	➢ Biochemistry examination • Serum total protein = 3.0 gm/ldl • Serum albumin= 1.0 gm/dl • Serum globulin= 2.0 gm/dl • A. G ration = 0.5 ➢ Urine examination • Protein= +ve • Appro. 500 mg/dl • Blood = present • Leukucyte= present ➢ Haematological report • Hb= 9.6 gm/dl • RBC = 3.92 million cells cumm • Lymphocytes =47% • Hematocrit = 28.6% ➢ Lipid profile Total cholesterol= 320.0 mg/dl

Medical & Nursing Management

Book picture	Patient picture		
	Patient AX	Patient BY	Patient CZ
➢ Bed rest and high protein diet with restriction of fluid intake are important aspects of management ➢ Steroid therapy with oral predni solone is the most significant aspect of management of nephritic syndrome. It is given 2 mg 1 kg iday in 2to 3 divided doses f or at teat 4 to 6 weeks and then gradually tapered off or abruptly stopped, after another 4 to 6 weeks. ➢ Antacid is given along with prednisolone to prevent gastic complication ➢ antibiotic therapy is indicated in the presence of any infection ➢ Diuretics are prescribed in the presence ascites frusemide 1 to 3 mg 1kg 1 day in 2 divided doses in given ➢ Rapid fluid loses should not be attempted in 8 to 12 hours ➢ Potass ium supplementation to be given along with diuretics ➢ Albumin infusion (1g 1 kg 1 day) may be given in case of masive	• Bed rest & high protein diet is recommender to client • Antibiotic therapy i e. Cefexime & augmentine is prescribed to the patient • Lasix (furosemide) is prescribed to patient • Low sodium diet is recomemded.	• Bed rest & high protein diet is recommended to client • Antibiotic therapy IV metrogyl 15mg TDS, oral is prescribed to the patient • Wysolone (prednidolone) 10mg, BD, oral is prescribed to patient • Syp gelusil (magnesium hydrochloride) 10 ml OD, oral is prescribed • Furosemide (lasix) 21mg 18 hourly 1 oral is prescribed to patient • Fluid intake restriction • low sodium diet	• Bed rest & high protein diet i.e. 1.2 g ml /kg /day is recommended to patient • Antibiotic therapy i.e. cetixine 200gm/orally/TDS and augmentin 375mg/ orally/ BD i s prescribed by doctor • Lasix (furose mide) is prescribed 20mg/orally/BD. • Input/ output chart should be maintain • Albumin 600gm/IU/ TDS is administered to patient

edema & ascetics. It helps to shift the fluid from interstitial space into the vascular system.
- Blood transfusion or plasma may be given is some cases to treat hypoalbuminemia.
- Immunasuppresive drugs (leuamisole , methotrexate, cyclophosphamide, cyclosporine, chlorambucil) may be administered along with prednisolone in case of frequent (4 or more per year) relapse and in steroid dependent cases.
- Renal transplantation is indicated in end stage failure

Prognosis

Book picture	Patient picture		
	Patient AX	**Patient BY**	**Patient CZ**
➢ Generally good although this depends on the underlying cause, the age of the patient and their response to treatment.	• The child is 6 years old. Enema was reduced, child showed adequate urine output. Childs	• Child was referred to other hospital with reference note.	• Urine out put was moderaqtely adequate, weight was reducing little. Periorbital Oedema reduced.

Complications

Book picture	Patient picture		
	Patient AX	**Patient BY**	**Patient CZ**
• Thromboembolic disorders • Infections: • Acute kidney failure . • Pulmonary edema: • Hypothyroidism • Hypocalcaemia: • Iron deficiency anaemia: • Protein malnutrition: • Growth retardation: • Vitamin D deficiency • Cushing's Syndrome	• Iron deficiency anaemia • Protein energy malnutrition • Growth restriction	• Iron deficiency anaemia. • Growth retardation	• Growth retardation • Iron deficiency anaemia.

Discussion

The nephritic syndrome becomes common renal disease among children now days. The causes are idiopathic for most of the children. And this leads to secondary nephritic syndrome. The children with nephritic syndrome admit in the paediatric ward very often with recurrence. In the above 3 cases baby BY admitted 3rd time in the paediatric ward with recurrence. The treatment of choice is depended upon age and type of nephritic syndrome. Steroid therapy is proved to be affective management in treating nephritic syndrome. Baby BY was treated with hydrocortisone because of the recurrent attract of the same disease but not other two babies were not received steroids. Master AX and BY discharged form hospital once they started to show progress were as master CZ got discharged against medical advice.

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Short Communication

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Coping Strategies for Depression & Stigma among HIV/AIDS Patients

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Abstract

This study was based on the fact that people living with HIV/AIDS are about twice as likely to experience mental health disorders as the general population. HIV/AIDS is a stigmatized disease. Discrimination, stigmatization, and depression are the expected outcomes of HIV/AIDS, affecting life in families, communities, workplaces, schools, and health care settings. There is a need to know the various aspects of psychological problems faced by HIV/AIDS patients due to stigma in the society, along with their medical needs.

The present study was undertaken by the investigator with twin objectives: for identifying relationship between depression and stigma in patients with HIV/AIDS on the one hand and to seek their relationship with selected factors on the other, with a view to develop self-instructional module for *"coping strategies for depression & stigma among HIV/AIDS patients"*

Keywords: Coping Stretegies; Depression; Stigma; HIV/AIDS; Self Insturctional Module.

"A correlational survey to identify, depression & stigma in patients with HIV/AIDS, with a view to develop self instruction module on "coping strategies for depression & stigma among HIV/AIDS patients" in selected hospital of Jharkhand" was conducted by Ms Anjali Sancha for partial fulfillment of the requirements for the degree of Master of Nursing at Rajkumari Amrit Kaur College of Nursing, University of Delhi during the year 2011-2012.

The *major objectives* of the study were: 1) To measure the level of depression in HIV/AIDS patients. 2) To measure the level of stigma in HIV/AIDS patients. 3) To find out the relation between depression and stigma among HIV/AIDS patients. 4) To find out the relationship of depression with selected factors like Gender, Age, Education, Type of family, Marital status, Economic status, Location (urban or rural), Duration of illness. 5) To find out the relationship of stigma with selected factorslike Gender, Age, Education, Type of family, marital status, Economic status, Location (urban or rural), and Duration of illness. 6) To prepare a self instructional module on "coping strategies for depression & stigma among HIV/AIDS patients. 7) To determine the utility and acceptability of self instruction module on "coping strategies for depression & stigma among HIV/AIDS patients."

The *conceptual framework* adopted for the study was based on Sister Callista Roy's adaptation model and Betty Neuman's Health care model. The research approach adopted for the study was "Descriptive survey" with "co-relational design" to achieve the objectives of the study. The sample comprised of 100 HIV/AIDS patients from ART centre RIMS, Ranchi were selected using purposive sampling technique.

The *tools* used for the data collection were structured questionnaire schedule, depression and stigma scale for HIV/AIDS patients. The content validity of the tool was ensured by obtaining opinion from seven experts from the fields nursing, psychiatry, psychology, medical surgical and field of HIV/AIDS. The tool was translated into Hindi and was validated by the language experts. Reliability was worked out by using Cronbach Alpha

Co efficient was found to be 0.94 for stigma scale and 0.90 for depression scale.

The data was collected from 11th Dec to 31st Dec, 2011. The data obtained were analysed using both inferential and descriptive statistics.

Result

The major findings of the study were that depression among HIV/AIDS patients is significantly correlated with stigma. The HIV/AIDS patients mainly suffer from stigma, i.e. disclosure related stigma. Most of the HIV/AIDS patients had moderate depression and moderate stigma.

There is a significant association between depression among the HIV/AIDS patients and the duration of illness. Stigma among the HIV/AIDS patients is also significantly associated with the duration of illness. Depression among the HIV/AIDS patients is significantly associated with their gender .i.e. males are more depressed than females.

The structured opinionnaire revealed that the self instructional module on "coping strategies for depression and stigma among HIV/AIDS patients" was acceptable and useful for the caretakers.

On the basis of findings, the *recommendations* made for future research werethat study can be replicated on a larger sample of HIV/AIDS patients for making broad generalizations, an evaluative study can be carried out to evaluate the effectiveness of self-instructional module prepared for the HIV/AIDS patients, a similar study can be conducted to evaluate the utilization of guidance and counseling services by HIV/AIDS patients and the reason for their non-utilization and an explorative study can be done to identify the coping strategies among HIV/AIDS patients.

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Frontiers in Pediatric Health Care

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Abstract

Pediatric health care is facing major challenges. It is our responsibility to protect them from a variety of dangers. Endless problems faced by sick children there are still waiting for a solution, despite the most recent acquisitions. Hence a new invention and trends has been generated and developed in areas like genetics, prenatal diagnosis, introducing of new device and drugs, education of caregivers and soon.

Keywords: Frontiers; Pediatric; Challenges.

Pediatric health care is facing major challenges.It is our responsibility to protect them from a variety of dangers, including, but not limited to, interruptions during pregnancy, genetic anomalies, perinatal injuries, congenital defects, malnutrition, environmental diseases, infections, poverty, traumas, violence, and exploitation. Endless problems faced by sick children there are still waiting for a solution, despite the most recent acquisitions:

Genetic Disorders

The recent decoding and sequencing of the human genome has expanded the horizon of possibilities in the diagnosis of genetic disorders. Researchers and scientists are now facing the difficulties of identifying strengths and limitations of the genome versus exome sequencing to identify the genetic causes of primary immune-deficiencies, before making the information available for potential clinical applications

Pre-Natal Diagnosis

Substantial progress has been made in the pre-natal epidemiology in order to identify the congenital heart malformations and facilitate the appropriate treatment as early as possible. The traditional focus of neonatal screening for inherited metabolic diseases, which is responsible for significant morbidity and mortality unless treatment is initiated early, is also moving toward a genetic and mutational scan across the whole fetal genome. Research on the biological mechanisms of fetal programing attracts interest and investigation, and telomere biology could represent the common underlying mechanism connecting fetal programing and subsequent health or susceptibility to complex disorders.

Prematurity

As a consequence of the improvement of pre-natal screening and diagnosis, the recognition of high-risk neonates allowed the referral for delivery in proximity of high level Neonatal Intensive Care Units, with substantial benefits for the neonatal outcomes

Neonatal Physiology

Introduction of three-dimensional cardiac magnetic resonance with phase-contrast imaging, major progress has been achieved in acquiring information on the neonatal physiology of the circulation, with the great advantage that this investigative technique can be performed in neonates without sedation or anesthesia

Introducing New Devices and New Drugs

The research and development of drugs and devices for pediatric patients is complicated due to small patient populations, characteristics of pediatric

physiology and pathophysiology, practical and ethical difficulties in designing pre-clinical and clinical trials. Due to the limitations of pre-marketing pediatric studies, post-marketing surveillance of both drugs and devices safety is compulsory in the pediatric population. Solutions for these issues require collaboration between academia, industry, and government as well as creativity in designing pediatric studies .

Ambulatory Monitoring and Care

Since there is an evident trend to develop and manage healthcare services, it is vital to prevent errors in pediatric ambulatory care. The mistakes most frequently reported include failures in medical treatment, communication, monitoring, patient identification, and the laboratory. The development of wearable technology for bio-signal monitoring has been recently proved in preterm newborn care, validated by an in-hospital pre-clinical test demonstrating efficiency, reliability, and quality.

Continuity of Treatment from the Pediatric Age through the Transitional Age

As a result of the advances in medical and surgical treatment during the pediatric age, most patients are now expected to live to adulthood, with a significant increase in the population of adults with congenital defects. Consequently, the transition from a pediatric primary care provider to an adult primary care system has become a critical process in health care management plans, addressing the medical, psychosocial, and educational needs of adolescents and young adults with chronic physical and medical conditions. Useful examples derive from studies of transitional care for children with sickle cell disease and congenital heart defects

Application of Nanotechnologies

Recent developments of nanotechnology in the field of cardiovascular diseases are emerging as a potential strategy in dealing with the complications and failures of the conventional treatments. Applications of nanotechnology in medicine are already underway, and offer tremendous potential for diagnostics and therapeutic applications. Widely used biocompatible nano-materials and nano-biotechnological tools have been utilized with high efficacy for biomedical application, such as gene therapy, radiological imaging, targeted delivery systems, and vascular implants .

Education and Training of the Care-Givers

The importance of training non-technical skills is becoming increasingly prominent in the field of enhancing the safety of patients. So far a recognized educational model to support the design of patient safety is lacking, even though a number of theories have been suggested to guide educators in future instructional designs. Further research studies are required to explore which specific aspects of interventions are effective and why, and to assess whether such interventions can impact patient outcomes

Influence of the Life Style of the Parents

Obesity and the associated and related complications such as diabetes, hypertension, cardiovascular, and respiratory diseases represent the highest risk factor for mortality and morbidity. Childhood obesity, a disturbingly growing problem, is directly related to the number of parent stressors. Parent-perceived stress is correlated to children's fast-food consumption, an important behavioral indicator of obesity risk. Addressing parent stressors and parent-perceived stress is needed in future research in studying the prevention of child obesity

Research Tools in Child Health

The development and validation of research tools to measure the results of medical and ambulatory care in pediatric patients are progressing. Recent studies have supported the validity of specific questionnaires for assessing the level of youth friendliness of family medicine services for research purposes, though further validations will be required to allow wider use of this tool in the future .

Cost containment *refers* to the strategies developed reduce inefficiencies in the health care system. Inefficiencies can occur in the way health care is used consumers. For example, taking c child to the emergency department for treatment for a cold is inappropriate use. It would be more efficient for the child's cold to be treated at a clinic.

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