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Factors Influencing Utilization of Immunization Services and Effectiveness of a Guided Health Action on Immunization Status among Parents of Under Fives in a Selected Area of Dehradun, Uttarakhand

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Abstract

A True experimental pretest posttest study was conducted to assess the factors influencing the utilization and non- utilization of under five immunization services and to evaluate the effectiveness of guided health action on utilization of immunization services among parents of under five children in a selected area of Dehradun, Uttarakhand. The research hypothesis stated that the guided health action would significantly increase the utilization of immunization services in the experimental group and was test at ($p<0.05$). Total 120 children who met the selection criteria were selected using convenient sampling and were divided into experimental group (60) and control group (60). Pre interventional immunization status was assessed along with the reasons of not utilizing immunization services using a structured immunization checklist and structured questionnaire respectively in both the groups. Guided health action was given to the experimental group through a combination of SMS, phone calls and personal contacts followed by post intervention data collection. The results showed significant reduction in the missed vaccination doses in experimental group after intervention (43) as compared to the missed doses before intervention (142) ($\chi^2 = 28.47$, p value <0.05). The major reasons reported by the parents for not immunizing their children were illness of the child and unawareness regarding need to return for 2nd and 3rd dose of immunization. The least reported reason was no faith in immunization. The findings of the present study revealed that the guided health action was effective in improving the utilization of under-five immunization status.

Keywords: Guided Health Action Under Five Children; Under-Five Immunization; Utilization of under Five Immunization Services.

Introduction

Immunization is one of the most effective, safest and efficient public health interventions that protect millions of lives from vaccine preventable diseases [1]. Since Year 2000, several efforts are made to meet the goals of the Global Immunization Vision and Strategy (GIVS) [2].

Although immunization rate has improved over a past decade, roughly three million children die each year due to Vaccine Preventable Diseases (VPDS). Most of these children live in developing countries [3].

In India government is providing under -five immunization for free of cost. Abundant resources have been spent on the immunization but the outcomes are still far from the desired goals.

Problem Statement

A study on factors influencing utilization of immunization services and effectiveness of a guided health action on immunization status among

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parents of under fives in a selected area of Dehradun, Uttarakhand.

Objectives

- To assess the factors that influence the utilization and non- utilization of under five immunization services.
- To evaluate the effectiveness of guided health action on utilization of immunization services.

Hypotheses

H_1: The guided health action would significantly increase the utilization of immunization services in the experimental group.

Material and Method

True Experimental pre test post test design was used in the present study. The study was conducted in a rural area of Dehradun, Uttarakhand. Ethical permission was taken from Principal, College of Nursing and Ethical committee. Written consent was taken from the participants. A total of 120 children who fulfilled the inclusion criteria were selected. They were randomly divided into experimental and control group with 60 samples in each group. Tools used in the present study were demographic variables checklist, immunization schedule checklist and structured questionnaire on reasons for not utilizing immunization services. The content validity of the tool was established by submitting tool to experts from various fields. Pilot study was conducted on 10 samples in selected area of Dehradun. Reliability of the tool was established by test retest method. Karl Pearson's coefficient was calculated which was found to be 0.8.

Results and Findings

Table 1 shows that most of the children (36.6%) in the experimental group and (40%) in the control group were in the age group of 1 – 2 years. Most of the fathers (41.7%) in the experimental group and (53.3%) in the control group were having secondary level of educational status. Most of the mothers (46.7%) in the experimental group and (53.3%) in the control group were having primary level educational status. Majority of the fathers (55%) in the experimental group and (53.3%) in the control group were self employed. Most of the mothers (46.6%) in the experimental group were self employed and majority (61.7%) of mothers in the control group was housewife. Majority of the parents (60%) in experimental and (96.6%) in control group belonged to Hindu religion. Majority of the children (68.3%) in experimental group and (61.7%) in control group were delivered in government hospital. Majority of the parents (66.7%) in experimental group and (53.3%) in control group belonged to joint family. Source of information about immunization for majority of the parents (73.3%) in the experimental group and (66.7%) in the control group were health care providers.

Table 2 shows that in experimental group missed Hepatitis B immunization doses were 50% (zero dose), 6.6% (first dose), 11.6% (second dose), and 16.6% (third dose). Missed DPT doses were 25% (first dose), 8.3% (second dose), 10% ((third dose) and 21.6% (Booster). Missed measles doses were 25%. Missed Vitamin A prophylaxis was 61.6%. While in control group missed Hepatitis B immunization doses were 41.6% (zero dose), 61.6% (First dose), 21.6% (second dose), and 15% (third dose). Missed DPT doses were 8.3% (first dose), 11.6% (second dose), 8.3% ((third dose) and 41.6% (Booster). Missed measles doses were 35%. Missed Vitamin A prophylaxis was 46.6%.

Effectiveness of Guided Health Action on Utilization of Immunization Services among Experimental and Control Group.

Table 3 illustrates that the total pre-intervention missed doses in the experimental group were 142 and in control group were 168. After guided health action total number of missed doses in the experimental group was 43 and in the control group was 153. χ^2 was 28.47 at df 1 and the p value obtained is less than 0.001. Hence the researcher rejected the null hypothesis and alternative hypothesis was accepted. Therefore the researcher inferred that guided health action was effective in increasing the utilization of under-five immunization services.

Table 3.1 shows that in experimental group there were 30 pre- intervention missed doses of Hepatitis-B (zero dose) and in control group there were 25 missed doses. After guided health action the post-intervention missed Hepatitis- B (zero dose) of the experimental group was 11 and of the control group was 23. The χ^2 value obtained was 4.165at df 1. The p value is less than 0.001. Therefore the researcher inferred that guided health action was effective in increasing the utilization of Hepatitis B zero dose among under-five.

Table 3.2 shows the total pre-intervention missed

doses of Hepatitis-B (3rd dose) in the experimental group were 10 and in control group were nine. After guided health action total number of missed doses in the experimental group was zero and in the control group were eight. χ^2 was 6.687 at df 1 and the p value obtained was less than 0.001.

Table 3.3 shows that total pre-intervention missed doses of DPT (2nd dose) in the experimental group were five and in control group were seven. After guided health action total number of missed doses in the experimental group was zero and in the control group were seven. χ^2 was 3.958 at df 1 and the p value obtained was less than 0.001.

Table 3.4 shows that total pre-intervention missed doses of DPT (booster) in the experimental group were 13 and in control group were 45. After guided health action total number of missed doses in the experimental group was three and in the control group were 43. χ^2 was 4.977 at df 1 and the p value obtained was less than 0.001.

Table 3.5 shows that total pre-intervention missed doses of Measles in the experimental group were 15and in control group were 21. After guided health action total number of missed doses in the experimental group was four and in the control group was 21. χ^2 was 4.532 at df 1 and the p value obtained was less than 0.001.

Figure 1 shows that majority of the parents (86%) reported illness of child was the reason for not utilizing under five immunization services. Sixty percent (60%) parents reported that they did not think that immunization is important. Twenty percent (20%) reported that they did not have any source of information about immunization. Twenty two percent (22%) reported that vaccinator was absent on the day of immunization and forty nine (49%) percent reported that they were unaware of the need to return for 2nd and 3rd dose.

Table 1: Frequency and percentage distribution of base line data of the participants

Socio-demographic variables	Sample characteristics	Experimental Group (n=60)		Control group (n=60)		Total	
		F	%	F	%	F	%
Age of children	0 - 1 yrs	10	16.6	09	15	19	15.8
	1 - 2 yrs	22	36.6	24	40	46	38.3
	2 - 3 yrs	17	28.3	16	26.6	33	27.5
	3 - 4 yrs	03	05	08	13.3	11	9.1
	4 - 5 yrs	08	13.3	03	05	11	9.1
Gender of the children	Male	28	46.7	30	50	58	48.3
	Female	32	53.3	30	50	62	51.6
Education status of father	Higher education	12	20.3	13	21.7	25	20.8
	Secondary education	25	41.7	32	53.3	57	47.5
	Primary education	21	35	15	25	36	30
	No formal education	02	3.3	00	00	02	1.6
Education status of mother	Higher education	08	13.3	7	11.7	15	12.5
	Secondary education	14	23.3	21	35	35	29.1
	Primary education	28	46.7	32	53.3	60	50
	No formal education	10	11.7	00	00	10	8.3
Occupation of father	Employed	25	41.7	27	45	52	43.3
	Self-employed	33	55	32	53.3	65	54.1
	Unemployed	02	3.3	01	1.7	03	2.5
Occupation of mother	Employed	08	13.3	05	8.3	13	10.8
	Self-employed	28	46.6	18	30	46	38.3
	Unemployed	24	40	37	61.7	61	50.8
Religion	Hindu	36	60	58	96.7	94	78.3
	Muslim	24	40	02	3.3	26	21.6
Delivery setting	Government setup	41	68.3	37	61.7	78	65
	Private setup	19	31.7	23	38.3	42	35
Type of family	Joint	40	66.7	35	58.3	75	62.5
	Nuclear	20	33.3	25	41.7	45	37.5
Source of information about immunization	Family members	14	23.3	08	13.3	22	18.3
	Healthcare providers	44	73.3	40	66.7	84	70
	Media	02	3.3	12	20	14	11.6

Table 2: Frequency and percentage distribution of Pre- intervention missing doses of immunization among experimental and control group

Immunization doses	Experimental Group (N=60)		Control Group (N=60)	
	F	%	F	%
Hepatitis B				
0	30	50	25	41.6
1	04	6.6	10	61.6
2	07	11.6	13	21.6
3	10	16.6	09	15
DPT				
1	15	25	05	8.3
2	05	8.3	07	11.6
3	06	10	05	8.3
DPT Booster	13	21.6	45	41.6
Measles	15	25	21	35
Vitamin A	37	61.6	28	46.6

Table 3: Effectiveness of guided health action on utilization of immunization services among experimental and control group N= 120

Groups	Total No. of Pre-intervention missed doses	Total No. of post-intervention missed doses	Total	Chi-square	P value
Experimental group	142	43	185	**28.47**	**<0.001***
Control group	168	153	321		
Total	310	196	506		

*χ^2 = 28.47, at df = 1, p value <0.001

Table 3.1: Effectiveness of guided health action on utilization status of Hepatitis-B 0 dose N=120

Group	Pre intervention missed doses	Post-intervention missed doses	Total	Chi square	P-value
Experimental group	30	11	41		
Control group	25	23	48	4.165	**<0.001***
Total	55	34	89		

*χ^2 = 4.165, at df = 1, p value <0.001

Table 3.2: Effectiveness of guided health action on utilization status of Hepatitis-B 3rd dose N=120

Group	Pre-intervention missed doses	Post-intervention missed doses	Total	Chi square	P-value
Experimental group	10	00	10		
Control group	09	08	17	6.687	**<0.001***
Total	19	0 8	27		

*χ^2 = 6.687, df=1, p value <0.001

Table 3.3: Effectiveness of guided health action on utilization status of DPT 2nd dose N=120

Group	Pre-intervention missed doses	Post- intervention missed doses	Total	Chi square	P-value
Experimental group	05	00	05		
Control group	07	07	14	3.958	**<0.001***
Total	12	07	19		

*χ^2 = 3.958, df=1, p value <0.001

Table 3.4: Effectiveness of guided health action on utilization status of DPT booster

N=120

Group	Pre-intervention missed doses	Post-intervention missed doses	Total	Chi square	P-value
Experimental group	13	03	16		
Control group	45	43	88	4.977	**<0.001***
Total	58	46	104		

*χ^2 = 4.977, df=1, p value <0.001

Table 3.5: Effectiveness of guided health action on utilization status of Measles N=120

Group	Pre- intervention missed doses	Post-intervention missed doses	Total	Chi square	P-value
Experimental group	15	04	19		
Control group	21	21	42	4.532	**<0.001***
Total	36	25	61		

*χ^2 = 4.532, df=1, p value <0.001

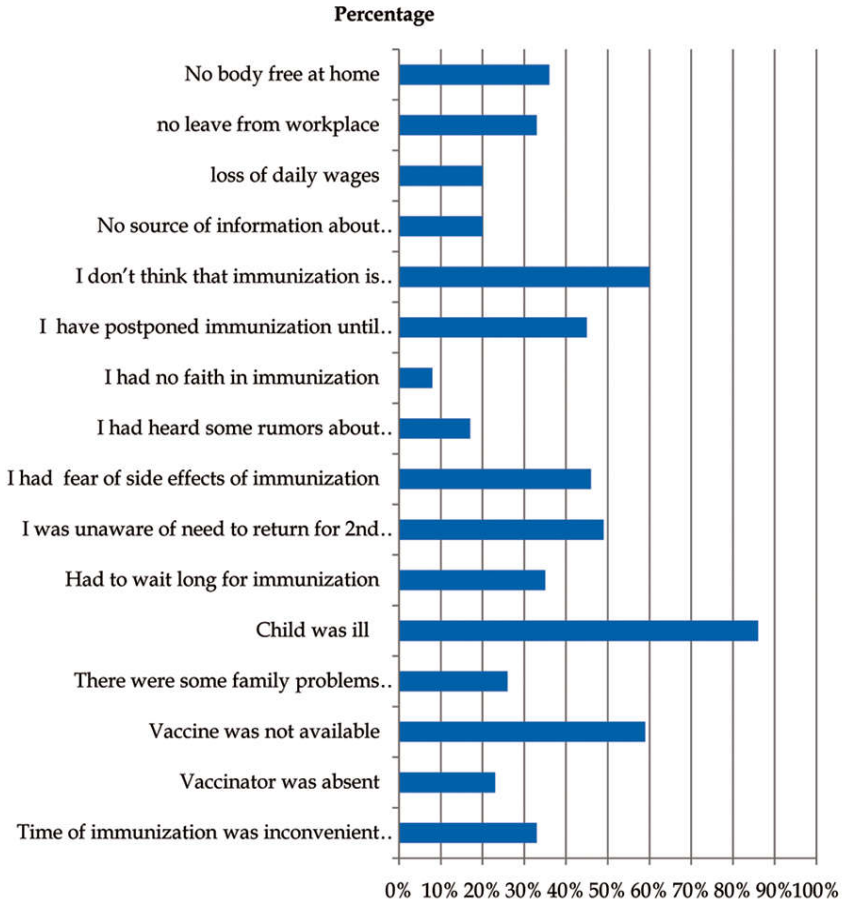

Fig. 1: Percentage of reasons for not utilizing immunization services in experimental and control group

Discussion

In the present study majority of the respondents (86%) reported illness of child as the reason for not utilizing under-five immunization services. It was contradictory to Kar et. al. (2001) study results in which 30.8% reported illness of child as reason for not immunizing their child [1]. Similar results were found in Sharma B.et. al. (2012) which stated 29.52% children were not immunized due to sickness [3,5].

The findings of the preset study can be applicable in various area of nursing like nursing practice,

education, research and administration. As illiteracy and lack of knowledge of parents are found to be associated with health and immunization status of children, health care workers should give more importance to educate public regarding this. Improvement in immunization status can be enforced through various activities. Parents should be informed about immunization schedule and importance of timely immunization. Nurses should address the issues of poor utilization of immunization services and factors responsible for it to the concerned authorities.

The present study was limited to only those under five children who had immunization card and also it does not establish any association between the socio demographic variables and immunization status. The researcher recommends to conduct a similar study with larger sample size for better generalization and to find the association between various socio demographic variables and immunization status.

Conclusion

It can be concluded from the results of the present study that most of the children were partially immunized for age. The major reason reported by parents for not immunizing child was illness of child and unawareness about need to return for 2nd and 3rd doses. The guided health action was effective in improving the utilization of under-five immunization services.

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Knowledge on Worm Infestation among Mothers with Under Five Children at Maraimalai Nagar, Kancheepuram District

M. Hemamalini*, S. Divya**

Abstract

Introduction: Worm infestation affect the child growth and development and it leads to major complication if the children are not treated in the earlier stage. The mother plays a major role in child care as is the prime care giver. *Objective*: The objective of the study was to assess the knowledge on worm infestations among mothers with underfive children in Maraimalai nagar. *Methodology:* The research approach selected for the present study was Quantitative approach and descriptive research design. The study was conducted in Maraimalainagar, Kancheepuram District. The study was conducted among 50 mothers with under five children. Non probability purposive sampling technique was adopted for the study. The data was collected using structured questionnaire which consists of 20 questions. *Results*: 50 mothers, 18 (36%) mothers have in adequate knowledge; 20 (40%) mothers have moderately adequate knowledge and 12 (24%) mothers have adequate knowledge. *Conclusion:* Hence the knowledge of the mothers can be enhanced through mass awareness program on prevention of worm infestation which in turn promotes the health of the under five children.

Keywords: Worm Infestation; Mothers; Underfive Children; Health Promotion.

Introduction

Worm infestation remains one of the main problems of child development. This is especially a greater health hazard in developing countries [1]. Globally 3.5 billion people are infected with intestinal worms.

Of which 1.15 billions are with roundworm. 1.3 billion people with hookworm and 1.05 billion people with whipworm [2]. In 1995, The "WHO" estimated that there were 250 million persons infected with Ascarislumbricoids and 60,000 persons died from ascariosis[3].

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In India, the problem is likely to be more common because of bad hygiene, poor awareness, illiteracy, misbeliefs, poverty and a variety of allied factors [4]. Children population is considered to be the greatest potential of any nation because in developing countries health and child care need greater attention. Children enjoy a state of well being in every family that is in true sense the harmony stability and happiness. This harmony is distributed due to many factors affecting the under five children health. Some of the factors are communicable disease child accidents etc. One of the major problem in the under five children is worm infestation [5].

Worm infestation affect the child growth and development and it leads to major complication if the children are not treated in the earlier stage [6]. By improving health of the children the researcher contributes to the health of the general population. The mother plays a major role in child care as is the prime care giver. She has to be equipped with knowledge about control and prevention of worm infestation. Adequate knowledge in the mother would lead to optimum health status in children.

Home teaching result in the natural environment of the parent and it is for this reason the mothers are chosen as samples to assess their knowledge about worm infestation [7].

In any community mother and children constitute a priority group. Mother and children are the major consumer of health child are multi factorial. Despite current efforts the health of child still constitutes one of the most serious health problem affecting the community. Particularly in the developing countries. Care approach combines all elements in the local community necessary to make a positive impact on the health status of the children's [8].

Prevention and control of worm infestation involves sanitary disposal of feces, periodic case finding and treatment of all infected person treatment of anemia and health education. The preventive measures include simple habit of improved personal hygiene,avoiding contact of contaminated soil by using foot wear,use of sanitary latrine for the disposal of feces to prevent soil pollution. Community involvement through health education is an important aspect of prevention of worm infestation [9].

Research Methodology

The research approach selected for the present study was Quantitative approach and descriptive research design. The study Variable was Knowledge on worm infestation and demographic variables comprises of Age, sex, educational status, occupation, religion, income and source of information. The study was conducted in Maraimalainagar, Kancheepuram District. The study was conducted among 50 mothers with under five children. Non probability purposive sampling technique was adapted for the study. Section A it consist of demographic variables including age, education, occupation, type of food, income, type of family under five mothers. The tool used for the study comprises 2 sections, Section A consists of demographic variables including age, education, occupation, type of food, income, type of family under five mothers , Section B was structured questionnaire which consists of 20 questions. Content validity was obtained from 2 nursing Experts. Reliability was assessed by using test-retest method, the r- value was 0.8.

Ethical Considerations

The research proposal was approved by the Research committee, S.R.M College of Nursing, S.R.M University.Informed consent was obtained from the study participants, after explaining about nature and duration of the study . The researcher have explained benefits of the study to the participants,. Assurance was given to the individuals that each individual report will maintained confidentially and any point of time they can withdraw from the study. The investigator has collected data within one week. Formal approval was obtained from Dean, SRM college of Nursing. The investigator introduced herself to the samples and the purpose of the study was explained to ensure better cooperation during the data collection period. Using structured questionnaire data collection was completed. The collected data was analyzed using descriptive and inferential statistics.

Results

Table 1: Frequency and percentage distribution of demographic variables of mothers with under five children N=50

Demographic variables		Mothers of under 5 Children	
		Number	%
Age	18-21	5	10
	22-25	20	40
	26-29	9	18
	30-34	16	32
Education	Non formal Education	29	58
	Primary	21	42
Occupation	Un employed	13	26
	Private	37	74
Type of food	Vegetarian	15	30
	Non veg.	35	70
Income	Rs 1590-4726	2	4
	Rs 4727-7877	19	38
	Rs 7878-11876	18	36
	11877-15754	11	22
Type of family	Nuclear	11	22
	Joint	39	78

Table 2: Level of knowledge on worm infestation among mothers of under five children N=50

Level of knowledge	Number	Percentage
In adequate knowledge	18	36
Moderately adequate knowledge	20	40
Adequate knowledge	12	24

The above Table 2 reveals that among 50 mothers, 18 (36%) mothers had in adequate knowledge; 20 (40%) mothers had moderately adequate knowledge and 12 (24%) mothers had adequate knowledge

Table 3 reveals that there is significant association between the level of knowledge on worm infestation among mothers of under 5 children and with their demographic variables of education, occupation and type of food. There is no association with respect to other variables.

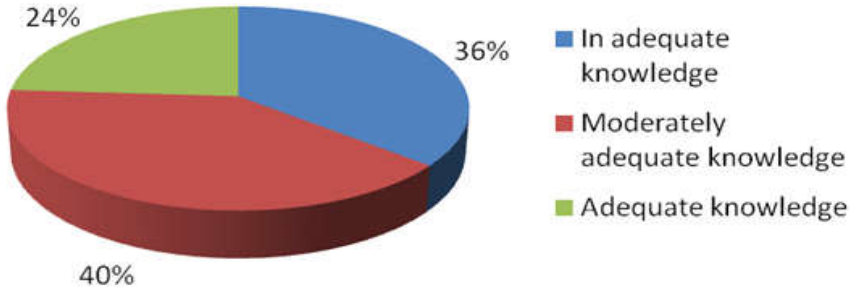

Fig. 1: Level of knowledge on worm infestation among mothers with under five children

Table 3: Association between the level of knowledge on worm infestation among mothers with their demographic variables N = 50

Demographic variables		Level of knowledge						Chi square test
		In adequate		Moderately adequate		Adequate		
		n	%	n	%	N	%	
Age	18-21	0	0	3	45	2	16.7	$X^2 = 10.75$
	22-25	5	27.8	8	40	7	58.3	P = 0.12
	26-29	3	16.7	4	20	2	16.7	NS
	30-34	10	55.6	5	2.5	1	8.3	
Education	Non formal Education	5	27.8	12	60	12	100	$X^2 = 15.47$ P = 0.000
	Primary	13	72.2	8	40	0	0	**Significant**
Occupation	Un employed	7	38.9	6	30	0	0	$X^2 = 6.93$
	Private	11	61.1	14	70	12	100	P = 0.05 **Significant**
Type of food	Vegetarian	12	66.7	3	15	0	0	$X^2 = 18.80$
	Non veg	6	33.3	17	85	12	100	P = 0.000 **Significant**
Income	Rs 1590-4726	1	5.6	0	0	1	8.3	$X^2 = 10.96$
	Rs 4727-7877	10	55.6	7	35	2	16.6	P = 0.09
	Rs 7878-11876	7	28.9	6	30	5	41.7	**NS**
	11877-15754	0	0	7	35	4	33.3	
Type of family	Nuclear	3	16.7	5	25	3	25	$X^2 = 0.48$
	Joint	15	83.3	15	75	9	75	P = 0.79 NS

Discussion

Worm infestation in children is a major public health problem caused by in effective disposal of contamination of water, food, vegetables, fruits and human excrete. Underfive childrens are the most vulnerable groups of worm infestations which can be prevented through effective health education. The present study findings revealed that 50 mothers, 18 (36%) mothers have in adequate knowledge; 20 (40%) mothers have moderately adequate knowledge and 12 (24%) mothers have adequate knowledge.

The present study findings was supported study done by Dayanand G , Singh S , Pandit S in 2015 on Knowledge and practice of worm infection among mothers of school going children of Arba VDC, Kaski, Nepal .The majority of the mothers were in the age group of 26-30 years, followed by 31-35 years and <25 years. Among the age group <25 years had good and average types of knowledge and their practice score was also good. Among the 26-30 years age group mothers, knowledge score was relatively good. Among all the groups poor quality of knowledge was almost nil. Practice score was good amongst all age groups [10].

Similar study was done by Jeyalakshmi Alva Janet etal., in 2016 to identify the knowledge and practice of mothers of under-five children regarding worm infestation with the view to develop a health education pamphlet in rural community in Dakshina Kannada district. The main objective of this study was to determine the knowledge and practice of mothers of under-five children regarding worm infestation and to find the correlation between the knowledge and practice scores of mothers of under-five children. A total of 200 mothers of under-five children were participated in the study. Results: the result showed that 38.0% of mothers of under-five children had fair knowledge and 34.5% of mothers had poor knowledge regarding worm infestation; 92.5% of mothers of under-five children had satisfactory practice. And also the study results showed that, there is a significant relationship ($p<0.05$) between the knowledge and practice scores [11].

Conclusion

The present study findings revealed that 18 (36%) mothers had in adequate knowledge; 20 (40%) mothers had moderately adequate knowledge and 12 (24%) mothers have adequate knowledge. Hence the knowledge of the mothers can be enhanced through mass awareness program on prevention of worm infestation which in turn promotes the health of the under five children. Posters, leaflets can be made and issued to the community for improving the knowledge on worm infestation among the mothers of under five children.

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Effectiveness of Socratic Method Teaching on Knowledge and Attitude Regarding Hepatitis

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Abstract

Introduction: Hepatitis is one of the most common communicable diseases leading to permanent damage of the liver causing disability and even death. Health care personals are increasingly faced with the challenge of dealing with these patients on a day-to-day basis. The purpose of the study was to assess the effectiveness of Socratic Method of teaching on knowledge and attitude regarding hepatitis among nursing students. *Methods:* Data collection was done using demographic proforma; structured knowledge questionnaire and an attitude scale. *Results:* The analysis revealed that the post test mean scores for knowledge and attitude were significantly higher than the pre test mean scores i.e. the t-value for knowledge was t_{60}=10.09 and for attitude was t_{60}=7.23, which were found to be significant at 0.05% level. This significant improvement in post test scores revealed that there was an improvement in knowledge and attitude of nursing students. *Conclusions:* Based on the findings it is concluded that the Socratic Method of teaching is highly effective in improving knowledge and attitude regarding hepatitis among nursing students.

Keywords: Hepatitis; Socratic Method; Communicable Diseases.

Introduction

Liver is the largest organ in the body. The liver is a roughly triangular organ that extent across the abdominal cavity just inferior to the diaphragm. The Liver plays an active role in the process .

Hepatitis (plural: Hepatitis's) is a medical condition defined by the inflammation of the liver and characterized by the presence of the inflammation cells in the tissue of the organ. Hepatitis may occur with limited or no symptoms, but often leads to the yellow discoloration of the skin, the mucus membrane, and the conjunctivae, the poor appetite and malaise. Hepatitis is acute when it lasts less than six months and chronic when it is persist longer. The condition can be self –limiting (healing on its own) or can progress to fibrous (scarring) and the cirrhosis.

Hepatitis is widely spread, affecting 400 million people worldwide, over 10 times the number of people infected with HIV. Globally, about 1.4 million people die each year from hepatitis. There are 5 main hepatitis viruses, referred to as type A, B, C, D and E. These 5 types are of greatest concern because of the burden of illness and death they cause and the potential for outbreaks and epidemic spread [2].

Aim of the Study

The aim of the study to evaluate effective of Socratic Method of teaching on knowledge and attitude regarding Hepatitis.

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Objectives of the Study

- To evaluate the effectiveness of Socratic method of teaching on knowledge and attitude regarding Hepatitis among nursing students.
- To associate the level of knowledge and attitude regarding hepatitis among nursing students with their selected demographic variables.

Materials and Methods

A quasi experimental design was adapted to determine the effectiveness of Socratic method of teaching on knowledge and attitude regarding hepatitis among nursing students. A structured questionnaire and attitude scale was used .

The constructed tools such as demographic porforma, structured knowledge questionnaire and attitude scale on hepatitis along with the objectives and criteria were given to 6 subject experts from the field of medical surgical nursing, gastro-enterologist and biostatistician for the content validity. The validity index was 0.92.

The participants were selected through random sampling technique and the sample size was 61.

The data was collected using self administer structured knowledge questionnaire and attitude scale. Demographic performa was filled by the samples themselves.

The Socratic method of teaching consisted continual probing questions of the teacher, in a concerted effort to explore the underlying beliefs that shape the students views and opinions. Animated videos And power point presentation used on hepatitis, Pre test was conducted and Socratic method of teaching was administered on the same day. Post test was conducted after 7 days.

Results

Table 1: Frequency and percentage distribution of nursing students according to their demographic variables n=61

S. No	Demographic variables	Frequency(f)	Percentage (%)
1	**Age in years**		
	18-20	32	52.45
	21-23	29	47.54
	Above 23	-	-
2.	**Gender**		
	Male	3	4.91
	Female	58	95.08
3.	**Educational status**		
	2nd year	37	60.65
	3rd year	24	39.34
4.	**Family income**		
	15,000-20,000	27	44.26
	20,001-25,000	18	29.50
	Above 25,000	16	26.22
5.	**Religion**		
	Hindu	44	72.13
	Muslim	1	1.63
	Christian	14	22.95
	Others	2	3.27
6.	**Domicile of birth**		
	Rural	13	21.31
	Urban	35	57.37
	Semi urban	13	21.31

The data presented in Table 1 show that 32(52.45%) of the students belonged to the age group of 18-20yrs, 29(47.54%) of the students belonged to the age group of 21-23 years and none of the students (0%) belonged to the age group of above 23 years.

3(4.91%) of the participants were male and 58(95.08%) were female. 37(60.65%) of the participants were in 2nd year and 24(39.34%) of the participants were in 3rd year. In terms of family income 27(44.26%) of the participants were in the

income category of Rs.15,000 – 20,000 , 18(29.50%) of the participants were in the income category of Rs.20,001–25,000 and 16(26.22%) of the participants were in the income category of above Rs. 25,000.

In regards to religion 44(72.13%) of the participants were Hindu, 1(1.63%) of the participants was Muslim, 14(22.95%) of the participants were Christian and 2(3.27%) of the participants were from other category.

13(21.31%) of the participants were born in rural area, 35(57.37%) of the participants were born in urban areas and 13(21.31%) of the participant were born in semi urban area.

Table 2: Assessment of pre test level of knowledge and attitude among nursing students.

Table 2.1: Frequency and percentage distribution of nursing students according to pre test level of knowledge n=61

Sl. No	Pre Test Level of Knowledge	F	%
1.	Inadequate knowledge	4	6.56
2.	Moderate knowledge	50	81.96
3.	Adequate knowledge	7	11.48
	Total	**61**	**100**

Table 2.1 Shows that majority of the participants 50(81.96%) were having moderate knowledge, 7(11.48%) were having adequate knowledge and 4(6.56%) were having inadequate knowledge.

Table 2.2 shows that 34(55.74%) of the participants were having favourable attitude, 27(44.26%) were having neutral attitude and none of them were having unfavourable attitude.

Table 2.2: Frequency and percentage distribution of nursing students according to pre test level of attitude. n=61

S. No	Pre Test Level of Attitude	F	%
1.	unfavourable attitude	-	-
2	Neutral attitude	27	44.26
3	Favourable attitude	34	55.74
	Total	**61**	**100**

Table 3: Assessment of post test level of knowledge and attitude among nursing students.

Table 3.1: Frequency and percentage distribution of nursing students according to post test level of knowledge n=61

Sl. No	Post test level of knowledge	F	%
1.	Inadequate knowledge	1	1.64
2	Moderate knowledge	23	37.70
3	Adequate knowledge	37	60.66
	Total	61	100

Table 3.1. shows that majority of the participants 37(60.66%) were having adequate knowledge, 23(37.70%) were having moderate knowledge and 1(1.64%) of them were having inadequate knowledge.

Table 3.2. shows that majority 50(81.97%) of the participants were having favourable attitude, 11(18.03%) were having neutral attitude and none of them were having unfavourable attitude.

Table 3.2: Frequency and percentage distribution of paramedical students according to post test level of attitude. n=61

S. No	Post test level of attitude	F	%
1.	unfavourable attitude	-	-
2	Neutral attitude	11	18.03
3	Favourable attitude	50	81.97
	Total	**61**	**100**

Table 4 shows that the post test mean of knowledge score (13.83) was higher than the pre test mean of knowledge score (11.60). This difference between the pre test and post test mean scores are significant.

Table 4: Range, mean and SD of knowledge among nursing students

Knowledge level	Range	Mean	SD
Pre test	7-14	11.60	1.72
Post test	7-17	13.83	1.52

Table 5: Mean, SD and t-value of pre test and post test knowledge score n=61

Scores	Mean	SD	t-test
Pre test	11.60	1.72	**10.09**
Post test	13.83	1.52	

$t_{(60)}$=2.00 (p<0.05)

Significance of Difference between Pre Test and Post Test Knowledge Scores of Nursing Students.

To find out the true difference between means of pre test and post test knowledge scores, t value is calculated. To test the level of significance at 0.05 level null hypothesis was stated as:

H_0: There is no significant difference between the pre test and post test level of knowledge regarding hepatitis among the paramedical students. The data is shown in Table 5.

Table 5 shows that the post test score is more than the pre test score. The 't' value was found to be significant; t_{60}=10.09. This indicates that the structure teaching programme was effective in improving the knowledge regarding hepatitis.

Table 6 shows that the post test mean of attitude score (62.06) was higher than the pre test mean of attitude score (57.21). This difference between the pre test and post test mean scores are significant.

Table 6: Range, mean and SD of attitude among nursing students n=61

Attitude level	Range	Mean	SD
Pre test	49-68	57.21	4.47
Post test	50-72	62.06	5.43

Table 7: Mean, SD and t-value of pre test and post test attitude score

Scores	Mean	SD	t-test
Pre test	57.21	4.47	7.23
Post test	62.06	5.43	

$t_{(60)}$=2.00 (p<0.05)

Significance of Difference Between Pre Test and Post Test Attitude Scores of Nursing Students.

To find out the true difference between means of pre test and post test attitude scores, t value is calculated. To test the level of significance at 0.05 level null hypothesis was stated as :

H_0: There is no significant difference between the pre test and post test level of attitude regarding hepatitis among the paramedical students. The data is shown in table 7.

Table 7 shows that the post test score is more than the pre test score. The 't' value was found to be significant; t_{60}=7.23. This indicates that the structure teaching programme was effective in improving the attitude regarding hepatitis.

Table 8: Assessment of correlation between the post test level of knowledge and attitude regarding hepatitis among nursing students.

Variables	Mean	SD	Correlation	p-value
Knowledge	13.83	1.52	0.27	P<0.05
Attitude	62.06	5.43		

Table 8 shows the correlation between post test level of knowledge and attitude among paramedical students. Mean post test level of knowledge was 13.83 and SD was 1.52. Mean post test level of attitude was 62.06 and SD was 5.43. And the correlation between knowledge and attitude among paramedical students was found to be 0.27. It was found to be a weak correlation.

Table 9: Association between demographic variables with the knowledge and attitude among nursing students.

Table 9.1: Association between the post test level of knowledge regarding among nursing students and their selected demographic variable n=61

S. No	Demographic variables	Sample (n=61)		Pain				X^2 value	p-value
				≤median		>median			
		No.	%	No.	%	No.	%		
1.	**Age in years**								
	18-20	32	52.45	21	34.42	11	18.03	0.69	
	21-23	29	47.54	16	26.22	13	21.31	DF=2,	P<0.05
	Above 23	-	-	-	-	-	-	NS	
2.	**Gender**								
	Male	3	4.91	1	1.63	2	3.27	0.94	
	Female	58	95.08	36	59.01	22	36.06	DF=1	P<0.05
								NS	
3.	**Educational status**								
	2nd year	37	60.65	25	40.98	13	21.31	1.17	
	3rd year	24	39.34	12	19.67	11	18.03	DF=1	P<0.05
								NS	
4.	**Family income**								
	15,000-20,000	27	44.26	17	27.86	11	18.03	11.03	
	20,001-25,000	18	29.50	6	9.83	10	16.39	DF=2	P<0.05
	Above 25,000	16	26.22	14	22.95	3	4.91	S	
5.	**Religion**								
	Hindu	44	72.13	30	49.18	14	22.95	5.41	
	Muslim	1	1.63	1	1.63	-	-	DF=3	P<0.05
	Christian	14	22.95	5	8.19	9	14.75	NS	
	Others	2	3.27	1	1.63	1	1.63		
6.	**Domicile of birth**								
	Rural	13	21.31	7	11.47	6	9.83	4.62	
	Urban	35	57.37	25	40.98	10	16.39	DF=2	P<0.05
	Semi urban	13	21.31	5	8.19	8	13.11	NS	

Note: S-Significant at 5% level(i.e, p<0.05), NS- Not significant at 5% level(i.e, p<0.05)

Table 9.2: Association between the post test level of attitude among nursing students and their selected demographic variable n=61

S. No	Demographic variables	Sample (n=61)		Pain				X^2	p-value
				≤median		>median			
		No.	%	No.	%	No.	%		
1.	**Age in years**								
	18-20	32	52.45	13	21.31	20	32.78	0.25	
	21-23	29	47.54	13	21.31	15	24.59	df=3,	P<0.05
	Above 23	-						NS	
2.	**Gender**								
	Male	3	4.91	1	1.63	2	3.27	0	
	Female	58	95.08	25	40.98	33	54.09	df=2	P<0.05
								NS	
3.	**Educational status**								
	2nd year	37	60.65	14	22.95	26	42.62	0.60	
	3rd year	24	39.34	12	19.67	9	14.75	df=2	P<0.05
								NS	
4.	**Family income**								
	15,000-20,000	27	44.26	14	22.95	12	19.67	0.87	
	20,001-25,000	18	29.50	8	13.11	8	13.11	df=3	P<0.05
	Above 25,000	16	26.22	4	6.55	15	24.59	NS	
5.	**Religion**								
	Hindu	44	72.13	21	34.42	23	37.70	0.39	
	Muslim	1	1.63	1	1.63	2	3.27	df=4	P<0.05
	Christian	14	22.95	3	4.91	10	16.39	NS	
	Others	2	3.27	1	1.63	-	-		
6.	**Domicile of birth**								
	Rural	13	21.31	6	9.83	8	13.11	0.01	
	Urban	35	57.37	15	24.59	18	29.50	df=3	P<0.05
	Semi urban	13	21.31	6	9.83	8	13.11	NS	

Note: NS- Not significant at 5% level(i.e, p<0.05)

The above table shows the association between level of knowledge and selected demographic variables among paramedical students. The table suggest that there is a statistical association between level of knowledge with their monthly family income and other variables such as age, gender, educational status, religion, domicile of birth were not associated with their knowledge regarding hepatitis.

The above table shows the association between level of attitude and selected demographic variables among nursing students. The table suggest that there is no statistical association between level of attitude demographic variables such as age, gender, educational status, religion, monthly family income, domicile of birth .

Discussion

The study reveals that there was significant improvement in regards to the level of post test level of knowledge and attitude regarding hepatitis among nursing students. Based on pre test level of knowledge majority 50(81.96%)of the participant were had moderate knowledge, 4(6.56%) were had inadequate and 7(11.48%) were had adequate knowledge. And in regards to attitude 34(55.74%) of the participant were had favourable attitude, 27(44.26%) were had moderately favourable attitude and none of them were had in favourable attitude.

Based on post test assessment majority 37(60.66%) of the participant were moved adequate knowledge, 23(37.70%) were had moderate knowledge and 1(1.64%) of them were had inadequate knowledge and in regards to attitude majority 50(81.97%) of the participant were having favourable attitude, 11(18.03%) were having moderately favourable attitude and none of them were having in favourable attitude. The correlation between post test level of knowledge and attitude among paramedical students was found to be 0.27 and was found to be a weak correlation.

Based on the finding it is safe to conclude that Socratic method of teaching is highly effective in improving knowledge and attitude regarding hepatitis among paramedical students.

The finding of the study was supported by a study conducted on Comparing dental students' knowledge of and attitudes toward hepatitis B virus-, hepatitis C virus-, and HIV-infected patients in Taiwan. This study investigated and compared Taiwanese dental students' knowledge of hepatitis B virus (HBV), hepatitis C virus (HCV), and HIV infection, attitudes toward infected patients, and important factors associated with the willingness to treat infected patients. In 2001, a self-administered questionnaire survey was conducted on all 1930 dental students enrolled from seven dental schools in Taiwan, with a response rate of 54.4%. Multiple logistic regression analysis was applied to assess the relationship between multiple factors and willingness to treat. Multivariate analysis was used to compare knowledge levels and the willingness. Of the respondents, 80%, 75%, and 49% were willing to treat HBV-, HCV-, and HIV-infected patients, respectively, and differences among the percentages were statistically significant. Students were less knowledgeable about HCV infection compared to HBV and HIV infection. Factors significantly associated with willingness to treat HBV- or HCV-infected patients were: feeling morally responsible and being able to treat infected patients safely. Those feeling morally responsible (odds ratio [OR] = 33.0, 95% confidence interval [CI] = 15.2, 71.8) and those being able to treat infected patients safely (OR = 4.1, 95% CI = 1.7, 9.9) were more willing to treat HIV patients. Taiwanese dental students were more willing to treat HBV- and HCV-infected patients than to treat HIV-infected patients.

Conclusion

The present study findings reveal that Socratic Method of teaching is highly effective in improving knowledge and attitude regarding hepatitis among nursing students.

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An Experimental Study to Assess the Effect of Hot Water Foot Bath in Patients with Fever Admitted in Selected Hospitals of Pimpri Chinchwad Municipal Corporation, Pune

Stuti Sunar

Abstract

Pre Experimental design was adopted for the study to assess the effectiveness of Hot Water Foot Bath Therapy in patients with fever admitted in selected hospitals of PCMC area, Pune. Purposive sampling technique was used to collect the sample. The conceptual framework was based on Lydia E. Hall's Core, Care, and Cure Model. Data was collected through the observational check list. The Pre-test results showed that majority of the sample i.e. 84 %(28) had temperature in the range of 100 °F to 102.6 °F in both groups. Whereas in post test only 21% patients had temperature above 100 °F and rest have the temperature in range between 98.4°F to 99.8 °F in experimental group. Mean effect of hot water foot bath on fever at pre intervention was 101.04±0.04 whereas in at post intervention it was 99.37±0.58 in experimental group. Whereas there is no major difference in pre and post level of temperature in control group. The result indicated that the level of temperature reduced in experimental group hence it was proved that hot water foot bath was effective in reducing temperature. The findings on relationship of the selected variable of patients showed that none of the demographic variables was found to have significant association with temperature level.

Keywords: Effect; Hot Water Foot Bath; Fever.

Introduction

Hot water foot bath therapy (HWFBT) one of the hydrotherapeutic measure, which improves warmth, promotes muscle relaxation, relieves pain, dilates blood vessel and promotes circulation, relaxes the connective tissue and provides a soothing and healing effect. Hot Water Foot Bath is said to treat the underlying infection by activating the WBCs and immune system. Hot application to the skin increases the oxidation of the toxins and increases the blood flow through the peripheral vessels. It also increases the ability of the phagocytes to destroy the germs and detoxify the blood. Beneficial effect of increased blood flow to the tissue includes facilitation of drainage and "wash-out" effect, purging the tissue of debris and by products of tissue injury. Thus large quantities of bacterial poison can be eliminated.

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Need for the Study

Antipyretic therapy is an effective pharmacological measure to reduce fever. Along with pharmacological measures there are many non pharmacological measures like cold sponging, tepid sponging, external cooling, warm water therapy that are found to be effective in controlling the temperature. There is a controversy regarding the indication for and the use of the heat and cold therapy. But many studies have shown that, hydrothermal therapy is an effective method for treating fever (Glastar , 2004).

Warm application to the foot causes the congested blood to flow towards distant parts of the body and is brought to the dilated vessels of the foot and leg.

When Hot Water Foot Bath applied for 15-20 minutes the vessels in the feet starts expanding and gets improved circulation, neutralizing acid and killing bacteria, and relieving aches, tiredness and fever. The improved blood circulation resets the hypothalamic set points by heat transfer from higher heat area to lower heat area.

Statement of the Problem

"An experimental study to assess the effect of hot water foot bath on temperature among patients with fever admitted in selected hospitals of PCMC area, Pune."

The Objectives of the Study

- To assess the temperature of the patient before hot water foot bath therapy in both experimental and control group.
- To determine the effect of hot water foot bath therapy on fever among the patients in experimental group.
- To compare the pre and post test temperature in experimental and control group after hot water foot bath therapy.
- To correlate the temperature with demographic variables.

Hypothesis

H_0: There will be no significant difference on temperature after hot water foot bath therapy

Conceptual Framework

The conceptual framework is based on Lydia E. Hall's Core, Care, Cure Model.

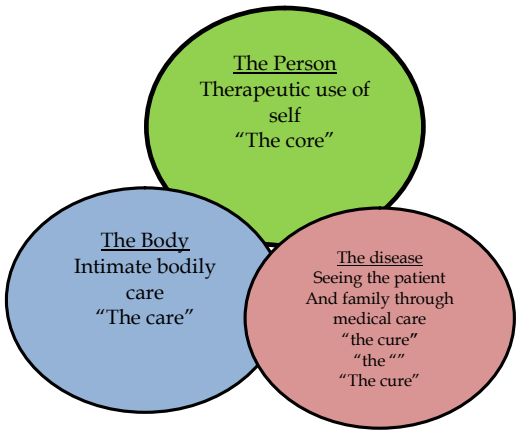

Fig. 1: Hall's three aspect of nursing

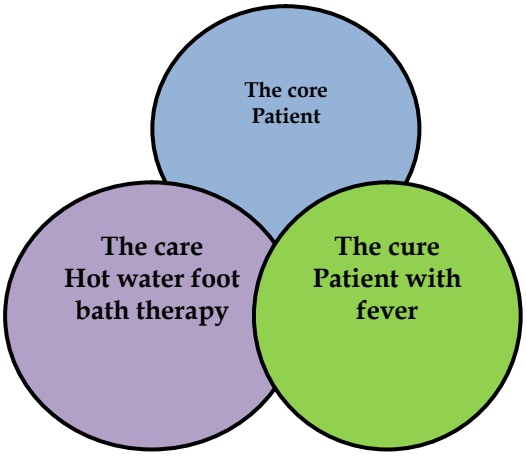

Fig. 2: care and core predominant

Methodology

In the present study, the design used was Pre Experimental. The independent variable in the study was hot water foot bath therapy in patient with fever and the Dependent variable in the present study was fever among adult group.

The study population consisted of the adult age group suffering from fever. Total 60 samples were taken with a non probability purposive sampling technique. For collection of the data, an observational checklist was developed for the assessment of effect of hot water foot bath in fever patients among adult group.

The structured interview schedule questioner consist of demographic variables

a. Section I : consisted of 5 items on demographic variable consist of age ,sex, educational status , family income per month, history of past fever if any.

b. Section II : consist of temperature record sheet. It comprised of questions on following broad aspects.
   - Temperature before intervention
   - Temperature after intervention (after 30 minutes.)

c. Section III : consist of observational check list

d. Section IV: Profile For hot water foot bath

The investigator obtained permission from the concerned authority of the D Y Patil Medical College Hospital. Informed consent was taken from the patients admitted with fever. According to the inclusion and exclusion criteria and by purposive

sampling method the samples were selected. The sample was randomly allocated into two groups, (Control Group) group-I and (Experimental Group) group-II, based on previously prepared random allocation Table. Group–I received routine management and Group-II received warm water foot bath therapy for 10- 15 minutes and the temperature of water was 41-42°F. The investigator used basin for the immersion of foot ankle. The temperature of the water is measured by a lotion thermometer. As the water become cool, hot water was added to maintain the temperature of water. The temperature measured by a clinical thermometer for both group. An interview schedule was used to elicit the demographic Performa.

In this study the reliability was determined by administering structured interview schedule to 10 adult age group in Bhosari Hospital in PCMC area

The reliability was done by inter-ratter method. calculation was done by Karl Pearson's Product Moment Correlation Formula and the reliability co-efficient was found to be (0.91), Reliable which is highly significant. Hence the tool is reliable.

The analysis of the demographic profile revealed that majority (36.7%) in experimental group and (43.3%) in control group belonged to the age group of 20-22 years.

Maximum 50% in experimental group and 60% in control group were males and remaining in both the groups were females. 40% in experimental group and 36.7% in control group had education upto secondary level, 30% in experimental group and 23.3% in control group had education upto higher secondary level.

Maximum 43.3% in experimental group and 40% in control group had monthly family income of Rs. 3001-6000 per month, 30% in experimental group and 40% in control group had monthly family income of Rs. 6001-9000 per month.

30% in experimental group and 43.3% in control group had past fever history.

Table 1: Percentage wise distribution of patients according to their demographic characteristics n = 30

Sr. No.	Variable	Experimental		Control	
		Frequency	Percentage	Frequency	Percentage
1	**Age (yrs)**				
	17-19 years	9	30%	8	26.7%
	20-22 years	11	36.7%	13	43.3%
	23-25 years	10	33.3%	9	30%
2	**Gender**				
	Male	15	50%	18	60%
	Female	15	50%	12	40%
3	**Educational Qualification**				
	Illiterate	0	0%	5	16.7%
	Primary	5	16.3%	3	10%
	Secondary	12	40%	11	36.7%
	Higher Secondary	9	30%	7	23.3%
	Graduation & above	4	13.3%	4	13.3%
4	**Family Income Per Month (Rs)**				
	Below 3000	4	13.3%	3	10%
	3001-6000	13	43.3%	12	40%
	6001-9000	9	30%	12	40%
	9001-above	4	13.3%	3	10%
5	**Past Fever History**				
	Yes	9	30%	13	43.3%
	No	21	70%	17	56.7%

Majority of the sample 84%(28) have temperature in the range of 100^{0}F to 102.6^{0}F in pre test in both group.

Mean temperature of the patients before hot water foot bath therapy in experimental group was 101.04±0.72 whereas in control group it was 101.05±0.72. By using unpaired t test no significant difference was found in the temperature of the patients before hot water foot bath therapy in both the groups (t=0.07,p-value=0.94).

However, majority of the sample 84%(28) had temperature in the range of 100 to 102.6 ^{0}F in pre test in experimental group. whereas in post test only 21% (7) patients had temperature above 100^{0}F and rest have the temperature in range between 98.4^{0}F to 99.8^{0}F .

Mean effect of hot water foot bath on fever at pre intervention was 101.04±0.04 whereas in at post intervention it was 99.37±0.58. By using 'paired t test' statistically significant difference was found in the temperature of the patients at pre and post intervention (t=13.97, p-value=0.000).

Table 2: Analysis related to the effect of hot water foot bath on fever among patient in experimental group n=30

	Mean	Standard Deviation	Range	Mean Difference	t-value	p-value
Pre Intervention	101.04	0.72	99.80-102.60	1.66±0.65	13.97	0.000
Post Intervention	99.37	0.58	98.40-100.60			S,p<0.05

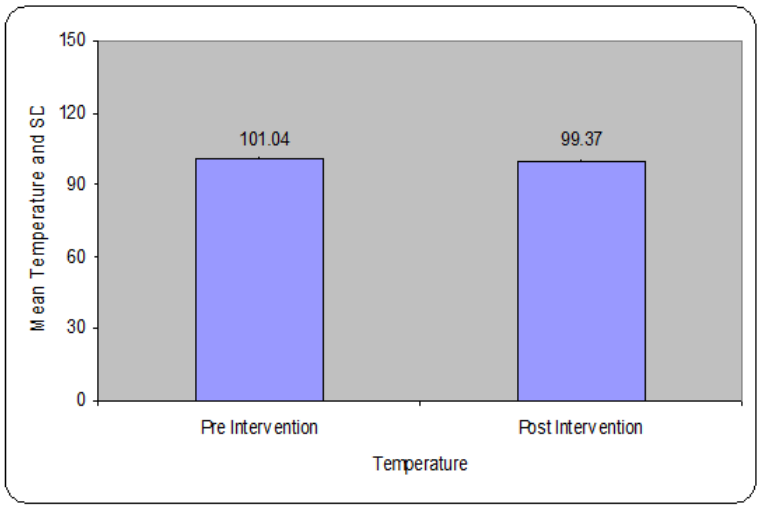

Fig. 3: Analysis related to the temperature of the patient after hot water foot bath in both experimental and control group n = 30

- *Data analysis related to compare the pre and post test in experimental and control group after hot water foot bath therapy.*

The result showed that majority of the sample 84%(28) had temperature in the range of 100^{0}F to 102.6^{0}F in pre test in both group. whereas in post test only 21% (7) patients had temperature above 100^{0}F and rest have the temperature in range between 98.4^{0}F to 99.8^{0}F in experimental group. Mean effect of hot water foot bath on fever at pre intervention was 101.04±0.04 whereas in post intervention it was 99.37±0.58 in experimental group. Whereas there was no major difference in pre and post level of temperature in control group, which indicated that the level of temperature is reduced in experimental group and hence it was proved that hot water foot bath is effective in reducing temperature.

The p value was 0.028 at 0.05 level of significance which indicated that there was a significant difference in the pre and post level of temperature in experimental group and the null hypothesis(H_0) was rejected and research hypothesis (H_1) was accepted.

The findings on relationship of the selected variable of patients showed that none of the demographic variables was found to have significant association with temperature level.

Discussion

The present study findings have implications for nursing practice, nursing education, nursing administration, and nursing research

Nurses could explain advantages of Hot Water Foot Bath to patients with fever as it can be of immense help to improve quality of life, reduce the fever and prevent complications and side effects of anti pyretics medications and it is also safe and cost effective.

Hot water foot bath application for fever management can be included as nursing procedure to provide care during hyperthermia. Hot water foot bath is considered as complimentary alternative therapy and can be imparted to nursing students to improve their skill in providing alternative therapy and to update their knowledge on evidence based practices.

Hot water foot bath application for fever management can be included as nursing procedure

to provide care during hyperthermia. Hot water foot bath can be considered as complimentary alternative therapy and can be imparted to nursing students to improve their skill in providing alternative therapy and to update their knowledge on evidence based practices.

The nursing administration can initiate Hot water foot bath practices to reduce the fever through in service education and continuing educational programmes and prepare written policies about evidence based practices.

The same study can be replicated on a large number of samples. Hot water foot bath can be advocated as a simple and safer means for reducing body temperature in home set up as well as in a hospital.

Conclusion

The following conclusions were drawn from the following findings of the study. When the samples were taken for the study the therapy was highly effective in patients with fever.

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A Comparative Study on Career Awareness and Career Preference Regarding Nursing between Pre University Students of Selected Colleges of Urban and Rural Areas in Trivandrum

Jinu K. Rajan

Abstract

Background of the Study: Nursing is one of the most delightful arts, which needs blending of knowledge, skills and values. A mere desire for nursing does not make a good nurse but it must be built upon knowledge, which is our power. Nursing is a noble profession, which requires loving heart and desire for compassionate care. Today there are numerous vocations and occupations available to an individual to choose. But vocational interest and choice of a career do not appear all of a sudden. They emerge as a result of a developmental process. The profession of nursing is very noble indeed and predominantly a female profession. The increasing number of graduates seeking admission to the nursing programme at the University reveals that the changing image of the profession now makes nursing an appealing career *Objectives of the Study:* 1. To determine the level of career awareness of nursing among Pre-University students of selected colleges of urban and rural areas in Trivandrum. 2. To determine the career preference regarding nursing among Pre-University students of selected colleges of urban and rural areas in Trivandrum. 3. To compare the career awareness and career preference regarding nursing between Pre-University students colleges of urban and rural areas in Trivandrum. 4. To find out association between career awareness, career preference and selected demographic variables of Pre-University students towards nursing. *Setting:* The study was conducted in selected pre-university colleges of urban and rural areas in Trivandrum. *Sample and Sampling Technique:* The sample for the study comprised of 120 Pre-University college students i.e, 60 female students each from urban and rural colleges. Cluster sampling technique was used to select samples for the study. *Tool:* The tool consisted of an open-ended knowledge, image and opinion rating scale, career preference/non preference checklist and a career choice ranking scale. Validity and reliability of the tool was established. Reliability for knowledge questionnaire was established by Test-retest method and the reliability co-efficient rho for knowledge questionnaire and was found to be 0.824. Split half method using Karl Pearson's coefficient correlation was used to calculate the reliability of image and opinion rating scale and it was found to be 0.823 which has statistically significant. *Major Findings of the Study:* All the students (100%) in the selected pre-university colleges of rural areas and urban areas preferred for the further study. Maximum of the students in the selected pre-university colleges of rural areas (58.3%) and urban areas (61.6%) gave the reason for further study as for securing a good job. Majority of the students in the selected pre-university colleges of rural areas (95%) and urban areas (86.6%) expressed 'Parents' as their influencing persons for selecting a career. There was significant association between career awareness and religion ($\chi^2_{(2)}$=10.36), education of father ($\chi^2_{(2)}$=39.67) occupation of father and

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family income ($\chi^2_{(1)}$=11.6) of PUC students in colleges of rural areas at 0.05 level of significant except for mothers education and occupation. There was significance association between career preference and occupation of father ($\chi^2_{(2)}$=6.96) and family income ($\chi^2_{(1)}$=7.73) of PUC students in colleges in rural at 0.05 level except religion, fathers education and mothers education and occupation. There was significant association between career preference and family income ($\chi^2_{(1)}$ = 5.45) and mothers' education ($\chi^2_{(1)}$=3.93) of PUC students in colleges in urban areas at 0.05 levels except for religion, mothers occupation and fathers education and occupation. *Interpretation and Conclusion:* The present study shows that the knowledge of PUC students about nursing was very poor. But they had a positive image and opinion about nurse and nursing. Only a minimum percentage of PUC students preferred nursing as their career choice. This study explores the need for a career guidance programme among the potential candidates thus increasing their knowledge about nursing.

Keywords: Comparative Study; Career Awareness; Career Preference; Nursing; Pre University Students Urban and Rural Areas.

Introduction

Nursing is one of the vocations developed out of social needs. A' nurse' is defined as someone who nourishes or fosters some quality of a person usually a woman, charged or trained for the care of the sick or decrepit.

Career choice is a complex developmental process consisting of distinct stages (Ginzberg et al. 1951). Occupational choice may be viewed as a decision making process involving a series of compromises, balancing interests, preferences, attitudes and capabilities against available opportunity. The expectations of others as well as other dimensions of the social environment affect decisions.

As Susan (1994) suggests the process of selection and attainment of career goals is influenced greatly by factor over which the individual has little, if any control. The opportunity to select a career to receive formal preparation and to work in that occupation is embedded in the culture of a society. The status of women and the value on women's work are major determinants of career opportunities for women and the public images of specific occupations.

In India, the picture of nursing profession is changing day by day. While nursing profession still suffers a mild degree of so called 'stigma' in certain states of the country, the interest in nursing education is on the rise and is pushing the current educational systems to the point of explosion. This increased interest has been attributed to the increasingly positive image of nursing. It is very essential that we must target a younger population If we have to attract students, we must emphasize life-long learning and possibilities that abound with further education and credentialing (Lea, 1993).

In1997, Sigma Theta Tau International commissioned a study on the image of nursing in the media. The results showed that "nurses often are invisible in newspaper stories about health care". Because television and movies generally portray only the one-dimensional image of nurses at the beside, the professions' many facets are tested on the public and potential nursing students. We need to change this image so that nursing is seen for what it is a vital, dynamic, multifaceted profession, grounded in a strong foundation, yet evolving and maturing so meet the future health care needs of the public.

Statement of the Problem

A comparative study on career awareness and career preference regarding nursing between Pre-university students of selected colleges of urban and rural areas in Trivandrum.

Objectives

1. To determine the level of career awareness of nursing among Pre-University students of selected colleges of urban and rural areas in Trivandrum.
2. To determine the career preference regarding nursing among Pre-University students of selected colleges of urban and rural areas in Trivandrum.
3. To compare the career awareness and career preference regarding nursing between Pre-University students colleges of urban and rural areas in Trivandrum.
4. To find out an association between career awareness, career preference and selected demographic variables of Pre-University students towards nursing.

Operational Definitions

Career Awareness

It refers to the response of the pre-university students to the questionnaire regarding their knowledge about nursing and to the image and opinion rating scale regarding their image and opinion about nurse and nursing.

Career Preference

It refers to response of the students to checklist regarding their reasons for preference and non-preference to nursing and to a ranking scale regarding their choice of profession.

Image of Nursing

It refers to the response of the students to the rating scale regarding their beliefs, ideas and attitudes about nurse and nursing.

Selected Variables

It refers to the religion of students, their parent's education, occupation and income.

Pre-University College Students

It refers to the female students studying in final year pre-university with science group from selected of urban and rural areas in Trivandrum .

Assumptions

The investigator assumed that,

1. Students will have some awareness regarding nursing.
2. Students need guidance while choosing a particular career.
3. Students will give frank answers to the questions.

Hypotheses

H_1: There will be a significant difference between mean scores of career awareness and career preference of pre-university students of selected colleges of urban and rural areas in Trivandrum.

H_2: There will be a significant association between career awareness and selected demographic factors among pre-university students of selected colleges of urban and rural areas in Trivandrum.

Delimitations

The study is delimited to final year female Pre-University college students who have chosen science group and in the academic year of 2010.

Materials and Methods

Research Approach

A comparative survey approach was considered most suitable for the study, as the aim was to find out and compare the career awareness and career preference regarding nursing among pre-university students of selected colleges of rural and urban area.

Research Design

The study comprised of comparing the level of career awareness and career preference regarding nursing among pre-university college students of urban and rural areas in Trivandrum

Setting

Variable Under Study

A variable is any phenomena or characteristic or attribute under study. Variables are the measurable characteristics of a concept and consist of a logical group of attribute (Polit and Hungler 1995).Research variables in the study are career awareness and career preference regarding nursing among pre-university college students.

Extraneous Variables

Variables such as parents' education and occupation, religion and family income were treated as extraneous variables of the study.

Population

The target population of the study included the 2nd year students (girls only) of pre-university colleges of Trivandrum who have taken science as their optional subject.

Sample

The sample for the study comprised 120 pre-university college students, i.e. 60 female students each from urban colleges and rural colleges. Cluster sampling technique was used to select samples for the study. List of all the colleges in Trivandrum district was collected from the district Pre-

University college office. Three colleges each with final year Pre-University science group and with girl students were selected from urban and rural areas in Trivandrum district by using simple random sampling. From the six selected colleges, 20 samples were drawn from each college using simple random sampling.

Sampling Technique

Simple random sampling technique was found appropriate to select the sample for the study.

Sampling Criteria

Female students who are doing 2nd year PUC during the academic year of 2010-2011. Female students who had opted Science group of educational stream.

Exclusion Criteria

Female students who have health professionals in their families or as: relatives.

Findings

The data collected were organized and analyzed under 6 sections as the following

Section -1

Sample Characteristics of Subjects

The data were collected form 120 PUC students of selected colleges of urban and rural areas which were selected using cluster sampling. The data on sample characteristics were analyzed using the descriptive statistics.

The sample characteristics are described under the headings of age, religion, number of family members, order of birth, siblings, educational status and occupational status of father and mother, family income, preference for further study and persons influencing choice of career.

The data in Table 1 show the distribution of subjects according to age, religion, family size, educational and occupational status of mother, educational and occupational status of father and monthly income of family.

Section 2

Career Awareness of PUC students of selected colleges of rural and urban area

Knowledge of Pre-university college students in rural and urban area regarding nursing

This section deals with the analysis and interpretation of the data with regard to the knowledge of PU college students in rural and urban areas about Nursing. The areas included were:-

Table 1: Frequency and percentage distribution of sample characteristics N=120

Sl. No	Variable	Classification	Respondents in Rural PU College		Respondents in Urban PU college	
			Frequency (f)	Percentage %	Frequency (f)	Percentage %
1	Age(in years)	14-16	56	93.3	58	96.7
		17-19	4	6.7	2	3.3
		20-22	-	-	-	-
		23 and above	-	-	-	-
2	Religion	Hindu	35	58.3	41	68.3
		Muslim	11	13.3	8	13.3
		Christian	11	18.3	8	13.3
		Buddhist	3	5	3	5
3	Family Size	3-5	40	66.7	50	83.3
		6-8	18	30	9	15
		9-11	1	1.6	1	1.6
		Above 10	1	1.6	-	-
4	Order of birth	First	34	56.6	31	50
		Second	13	21.6	19	31.6
		Third	7	11.6	6	10
		Fourth	2	3.3	4	6.6
		Fifth and above	4	6.6	-	-
5	Educational status of the mother	Illiterate	-	-	-	-

		Primary	5	8.3	11	18.3
		Secondary	13	21.6	13	21.6
		PUC	25	41.6	18	30
		Graduation	17	28.3	9	15
		Post graduation	-	-	4	6.6
		Professional	-	-	5	8.3
6	Occupational status of the mother	Unemployed	41	68.3	46	76.6
		Govt. Employee	6	10	5	8.3
		Private	5	8.3	2	11.6
		Business	-	-	-	3.3
		Unskilled labour	2	3.3	-	-
		Retired	-	-	-	-
7	Educational status of the father	Illiterate	-	-	-	-
		Primary	6	10	8	3.3
		Secondary	20	33.3	8	2.3
		PUC	25	41.6	12	20
		Graduation	2	3.3	11	18.3
		Post graduation	1	1.6	10	16.6
		Professional	6	10	11	18.3
8	Occupational status of the father	Unemployed	3	5	-	-
		Govt. Employee	12	20	23	38.3
		Private employee	15	25	19	31.6
		Business	22	36.6	11	18.3
		Unskilled labour	5	10.3	4	6.6
		Retired	3	5	3	5
9	Monthly income of the family in rupees	>2000	-	-	-	-
		2000-3000	5	8.3	3	5
		3000-4000	7	11	1	1.6
		4000-5000	9	15	7	11.6
		>5000	39	65	49	81.6

1. Nursing courses conducted in India.
2. Minimum qualification for joining nursing.
3. Duration of diploma nursing course.
4. Duration of degree nursing course.
5. Settings of nurses work.
6. Post of a nurse with GNM certificate.
7. Universities offering undergraduate nursing course in Kerala.
8. Subjects taught in Nursing.

The knowledge scores obtained were tabulated in a master data sheet and total score of each sample was obtained. Data regarding knowledge scores were analyzed using descriptive and inferential statistics and are presented in the form of tables and graphs.

The data related to the knowledge of Pre-university students in colleges of rural and urban areas regarding nursing is presented in Table 2.

The data presented in Table 4 indicates the mean knowledge score of PUC students of colleges in rural and urban areas. All the PUC students in colleges of rural areas (100%) had 'below average' scores. Most of the PUC students in colleges of urban areas (96.6%) had 'below average' scores. This shows the lack of knowledge of both urban and rural pre-university students regarding nursing.

The data is also represented in the form of frequency polygon (Figure 1).

Knowledge Score

Fig 1: Frequency polygon showing the knowledge score of students in rural and urban pre-university colleges Frequency polygon showing the knowledge

Table 2: Frequency, mean, mean percentage and standard deviation of knowledge scores of PUC students in colleges of rural and urban areas N=120

Knowledge Score	Respondents in Rural PU College				Respondents in Urban PU College			
	Frequency	Mean	SD	Mean Percentage	Frequency	Mean	SD	Mean Percentage
Above Average	-				-			
Average	-	3.32	1.739	5.53	2	2.7	8.501	4.5
I Below Average	60				58			

Maximum possible score = 20

score of students in rural and urban pre-university colleges are presented in Figure 1. The mean (2.7 and 3.3 respectively) and median (2 and 3 respectively) lie close to each other showing that they are near normally distributed.

The data was further analyzed to determine the knowledge of the respondents in relation to specific content areas of Nursing.

The above Table 3 indicates that highest mean percentage of knowledge scores of rural and urban pre-university college students was in their knowledge about 'minimum qualification 'for joining nursing. Majority of the PUC students in colleges of rural areas and in urban had a mean percentage (70% and 60% respectively) in this area.

Image and Opinion of the PUC Students of Rural and Urban Area about Nurse and Nursing

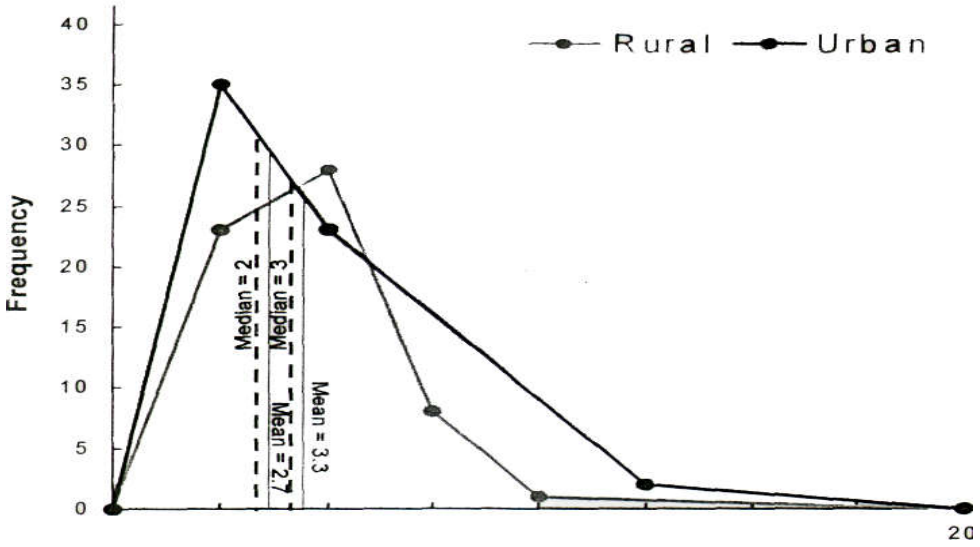

Fig. 1: Frequency polygon showing the knowledge score of students in rural and urban pre-university colleges

Table 3: Area wise distribution of knowledge scores of PUC students in colleges of rural and urban areas regarding nursing N=120

Sl. No.	Specific content Area	Maximum Score	Respondents in Rural PU College		Respondents in Urban PU College	
			Mean Score	Mean Percentage	Mean Score	Mean Percentage
1	Nursing courses conducted in India	6	1.22	20.3	0.33	5.5
2	Minimum Qualification for Joining nursing	1	0.75	75	0.6	60
3	Duration of Diploma nursing courses	1	0.5	50	0.28	28
4	Duration of Degree Nursing Course	2	0.25	12.5	0.13	6.5
5	Nurses work setting in India	4	0.56	14	0.88	22
6	Post of a nurse with GNM certificate	1	0.06	6	0.13	13
7	Universities Nursing Courses in Kerala	2	0.01	5	0	0
8	Subjects taught in Nursing	4	0.16	0.4	0.35	8.75

This section deal with the analysis and interpretation of the data related to the image and opinion of the pre-university college students of rural and urban area about nurse and nursing, based on their scores obtained. Data regarding image and opinion scores were analyzed using descriptive statistics. The data related to the image and opinion of pre-university college students of rural and urban area about nurse is presented in Table 4.

Data in Table 4 show that all the PUC students in rural areas (100%) and most of them in urban areas (98.3%) had positive image about nurse.

Only one student in urban PU college had negative image and opinion about nurse.

Section 3

Career preference of PUC students in colleges of rural and urban to nursing

This section deals with the analysis and interpretation of the career Preference of the pre-University college students of rural and urban areas

Table 4: Distribution of PUC students of rural and urban area according to their image and opinion about nurse N = 120

Sample characteristics	Rural PUC students		Urban PUC students	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Positive Image	60	100	59	98.3
Uncertain	-	-	-	-
Negative Image	-	-	1	1.7

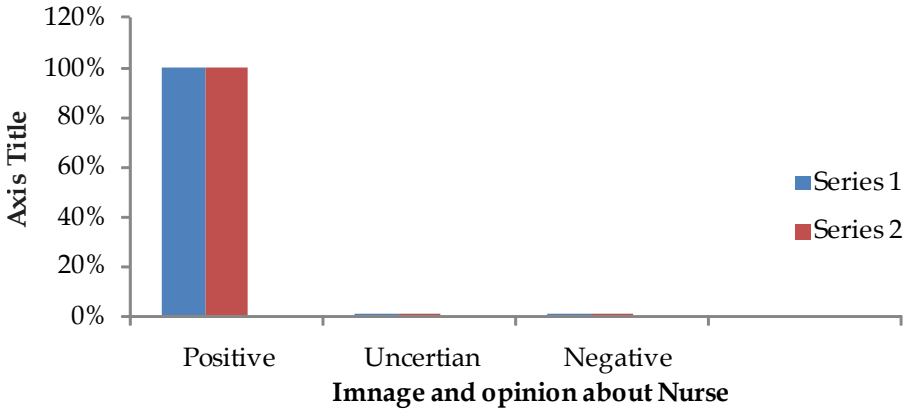

Fig. 2: Image and opinion of PUC students in rural and urban areas about nurse

to nursing. Data regarding career preferences and the reasons for preference and non-preference to nursing were analyzed using descriptive statistics

Data in Table 5 indicates that majority of the PUC students in colleges of rural areas (61.7%) and in urban areas (80%) were not preferring nursing. Only 38.3% of PUC students in colleges of rural area and 20% in urban areas preferred nursing as a career.

Reasons for Preference to Nursing among PUC Students in Colleges of Rural and Urban Areas

Distribution of the rural and urban students according to their reasons for preference to nursing were analyzed using descriptive statistics.

Data in Table 6 indicate that majority of PUC students in colleges of rural areas (60.8%) and in urban areas (75%) stated the reason for their preference to nursing as 'to serve the sick and needy'. Further the table show that nearly half of PUC students in colleges or rural areas (43.5%) and more than half in urban areas (58.3%) also gave the reason

Table 5: Distribution of students in rural and urban pre-university colleges according to their preference to nursing N=120

Sample Characteristics	Respondents in Rural PU Colleges		Respondents in Urban PU Colleges	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Preference to Nursing	23	38.3	12	20
Non-Preference to Nursing	37	61.7	48	80

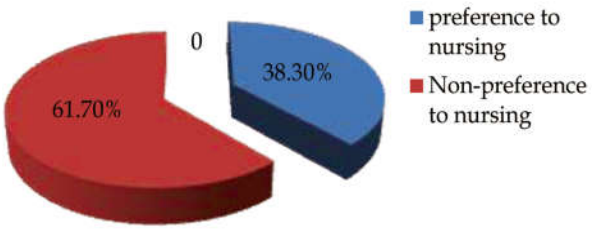

Fig. 3: Distribution of pre-university college students of rural according to their preference and non-preference to nursing

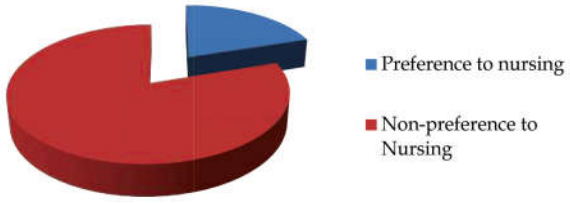

Fig. 4: Distribution of pre-university college students of urban areas according to their preference and non-preference to nursing

for preference to nursing as 'nursing is a noble profession'.

Reasons for non-preference to nursing by PUC students of urban and rural areas according to their reasons for non-preference to nursing.

Data in Table 7 shows that majority of the PUC

Table 6: Distribution of pre-university students of urban and rural according to their reasons for preference to nursing.

N (R) =23
N (U) =12

Reasons for Preference	Respondents in Rural PU Colleges		Respondents in Urban PU Colleges	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Nursing is a Nobel Profession	10	43.5	7	58.3
It is a Vocation	3	13.04	1	8.3
I can get job easily	11	47.8	1	8.3
I want to serve the sick and Needy	14	60.8	9	75
I would be good at Nursing	5	21.7	-	-
My Parents want me to join this Profession	3	13.04	-	-
It gives security in service	3	13.04	-	-
I can improve the economic Status of my family	4	17.4	-	-
Nursing is a service to humanity	7	30.43	4	33.3
There is a provision of getting Higher education in nursing	3	13.04	-	-
I can be a mature, responsible Person	3	13.04	-	-
I can have respect from the society	2	8.6	-	-
I can go abroad	2	8.6	-	-

students in rural areas (81.1%) and most of them (95.8%) in urban areas gave their reason for not preferring nursing as 'they are not interested'. Data in the table also shows that more than half of PUC students (59.5%) in rural and nearly in urban areas (43.75%) also give the reasons as 'I am aiming higher then Nursing'.

Section 4

Career choice of Pre-university students of rural and urban area according to their choices of various vocations The students were instructed to rank 29 careers listed in the order of 1-29 ranks. A score of I was given to the 1st rank and a score of 29 to the last rank (30 if a respondent also responded to 'any other'). The cumulative rank order was computed from the cumulative score for each choice. The career with the lowest cumulative score was ranked first.

Data in Table 8 show the cumulative score and

Table 7: Distribution of pre-university college students of urban and rural areas according to their reasons for non – preference to nursing

N(R) = 37
N (U) = 48

Sl. no	Reasons for non Preference	Respondents in Rural PU Colleges		Respondents in Urban PU Colleges	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1	I am not interested	30	81.1	46	95.8
2	Nursing demand hard work	3	8.1	7	14.5
3	Nursing has odd duty hours	3	8.1	8	16.6
4	Nursing gives no autonomy and independence	6	16.2	7	14.5
5	My parents do not want me to join this profession	5	13.5	5	10.5
6	I am aiming higher than nursing	22	59.5	21	43.75

rank order for the different careers as scored by the PUC students in colleges of rural and urban areas. It is evident from the data that 'Doctor' was preferred first by PUC students in college of both urban and rural areas. The career 'Engineering' was preferred second by the students of colleges of urban and rural areas. Nursing got fourth place of preference by the PUC students of colleges of rural areas while it was given seventeenth place by urban PUC students. This reveals that PUC students of colleges in rural areas nursing more to that of urban PUC students.

Section 5

Comparisons of career awareness and career preference of PUC students in colleges of urban and rural areas.

This section presents the comparison of career awareness and career preference of PUC students in college of rural and urban areas. In order to find out the significant difference between career awareness and career preference of rural and urban PUC students of rural and urban college students the following null hypothesis were stated.

H_1: There will be no significant difference between the mean career awareness scores of PUC students in colleges of rural and urban areas in Trivandrum.

H_2: There will be no significant difference between career preference between PUC students in colleges of rural and urban areas in Trivandrum.

H_3: There will be no significant difference between the mean awareness scores and career preference of PUC students in colleges of rural areas in Trivandrum.

H_4: There will be no significant difference between the mean career awareness scores and career preference of PUC students in colleges of urban areas in Trivandrum.

Unpaired t-test was computed in order to find out the significant difference between mean career awareness scores of PUC students of rural and urban area.

Data in Table 9 indicate the comparison of mean career awareness scores between rural and urban PUC students. Since the calculated t-value (t = 4.23) is greater than the tabbed value (t_{118} = 1.980), there is a significant difference between the mean career awareness scores of PUC students of colleges in rural and urban area. Hence the null hypothesis (H_1) is rejected.

Comparison of career preference between PUC students of colleges in rural and urban area This part deals with the career preference between PUC students of colleges in rural and urban areas.

Chi-square test was computed in order to determine the significance of association between career preference score of rural and urban PUC students.

Data in Table 10 show that the computed chi-square value for career preference to find out the significant association between career preference of

Table 8: Ranking of career in terms of the cumulative score N=120

Sl. No.	Career	Respondents in Rural PU Colleges		Respondents in Urban PU Colleges	
		Cumulative Score	Rank	Cumulative Score	Rank
1	Nurse	567	4	1001	17
2	Teacher	534	3	680	6
3	Receptionist	991	19	1267	25
4	Accountant	997	18	1073	18
5	Business Person	839	9	838	8
6	doctor	215	1	269	1
7	Agriculturist	1059	22	1150	21
8	Scientists	767	8	679	5
9	Engineer	528	2	428	2
10	Lawyer	918	15	935	14
11	Dentist	621	6	490	3
12	Physiotherapist	711	7	974	15
13	Fashion Designer	864	10	901	10
14	Computer Programmer	897	12	1143	29
15	Librarian	1184	26	1284	26
16	Microbiologist	610	5	676	4
17	Photographer	1139	25	1156	22
18	Musician	955	17	880	9
19	Artist	1192	27	990	16
20	Social Worker	87	11	918	12
21	Modeling	1248	28	1222	23
22	Film Star	910	14	1236	24
23	IAS Officer	1092	24	682	7
24	Marketing Executive	1389	29	1294	28
25	Pharmacist	1328	20	1289	27
26	Journalist	947	16	1101	19
27	Speech Therapist	1083	23	1119	20
28	Airhostess	909	13	902	11
29	Defence Service	1050	21	933	13

Table 9: Unpaired t-test showing the significant difference between mean career awareness scores of PUC students of rural and urban area N=120

Variable	Area	Mean	SD	t	df	Inference
Career Awareness	Rural	221.5	9.31	4.23	118	Significant
	Urban	211.9	15.86			

't' value = 1.980

PUC students of rural and urban area. The data indicates that the computed chi-square value for career preference ($\chi^2_{(1)}$=4.9, P ≤ 0.05) is greater than the tabled value which shows that there is significant association between the career preference of PUC students in colleges of urban and rural area. Hence the null hypothesis (H_2) is rejected.

Comparison between career awareness and career preference of rural PUC students.

Table 10: Chi-square value computed for career preference between PUC students of rural and urban areas. N=120

Variable	Area	DF	Chi-Square value	Inference
Career Preference	Rural Urban	1	4.9	Significant

$\chi^2_{(1)}$ =3.841, P≤0.05

Chi-square test was computed in order to determine the significant association between mean career awareness scores and career preference of rural PUC students**.**

Data in Table 11 show that the computed chi-square value between career awareness and career preference of rural PUC students (χ^2= 0.12) is less than the table value ($\chi^2_{(1)}$= 3.841, P ≥0.05). Hence there is no significant association between career awareness and career preference of PUC students in rural area. Hence the null hypothesis (H_3) is accepted.

Data in Table 12 shows that the computed chi-square value between career awareness and career preference of urban PUC students (χ^2=1.64) is less

Table 11: Chi-square vale computed between career awareness with career preference of rural PUC students N=120

Variables	DF	Chi-Square value	Inference
Career awareness Career Preference		0.12	No Significance

($\chi^2_{(1)}$ =3.841, P ≥0.05

Table 12: Chi-square value computed between career awareness with career preference of urban PUC students N=120

Variables	DF	Chi-Square value	Inference
Career awareness Career Preference	1	1.64	No Significance

($\chi^2_{(1)}$=3.841, P ≥ 0.05

than the tabled value ($\chi^2_{(1)}$=3.841, P ≥0.05). Hence there is no significant association between career preference and career awareness of PUC students in urban area. Hence the null hypothesis (H_4) is accepted.

Section-6

Association between career awareness, career preference and selected demographic variables

This section presents the association of career awareness and career preference with selected demographic variables such as religion, educational and occupational status of mother, educational and occupational status of these and family income. In order to find the significant association between these variables and career awareness, the following null hypotheses were stated.

H_5: There will be no significance association between career awareness score of PUC students of rural area regarding with variables: religion, educational and occupational status of mother, educational and occupational status of father, and family income at 0.05 level of significance.

H_6: There will be no significant association between career awareness score of PUC students of urban area regarding with variables: religion, educational and occupational status of mother, educational and occupational status of father, and family income at 0.05 level of significance.

Chi-square test was computed in order to determine the significant association between career awareness score of rural and urban pre-university college students with religion, educational and occupational status of father and mother and family income.

Chi-square value compared between demographic variables with career awareness scores of rural and urban student regarding nursing

The findings that computed chi-square value between career awareness score and selected demographic variables of PUC students of rural area at $df_{(2)}$ for religion ($\chi^2_{(2)}$=10.36, P < 0.05), education of father ($\chi^2_{(2)}$=39.67, P < 0.05), occupation of father ($\chi^2_{(2))}$ =11.6, P < 0.05) and at $df_{(1)}$ for family income was significant at 0.05 level of significance.

It is interpreted that career awareness scores of PUC students of rural area are dependent on religion, mother's occupation, educational and occupational status of father, and family income. Hence the null hypothesis H_5 is rejected.

Further, the findings in table show that the computed chi-square value between career awareness score and selected variables of PUC students of urban area at $df_{(2)}$ for religion ($\chi^2_{(2)}$ = 1.71, P < 0.05), mother's occupation ($\chi^2_{(2)}$ = 0.36, P < 0.05), education of father ($\chi^2_{(2)}$ = 1.46, P < 0.05), occupation of father

($\chi^2_{(2)} = 0.36$, $P < 0.05$) and at $df_{(1)}$ for family income ($\chi^2_{(1)} = 1$, $P < 0.05$) was not significant at 0.05 level of significance.

It is interpreted that career awareness scores of PUC students of urban area are independent of religion, educational and occupational status of mother and father, and family income, but dependent on mother's education. Hence the null hypothesis (H_6) was rejected in favor of research hypothesis in relation to the variable mother's education. In relation to other variables null hypothesis was accepted.

Career Preference and Demographic Variables

This section presents the association between career preference and religion, educational and occupational status of mother and father and family income of PUC students of rural and urban areas. In order to find the significant association between these variables and career preference, the following null hypothesis were stated.

H_7: There will be no significant association between career preferences of PUC students of rural area with variables: religion, education and occupation of father and family income at 0.05 level of significance.

H_8: There will be no significant association between career preference of PUC students of urban area with variables: religion, education and occupation of father and family income at 0.05 level of significance.

Chi-square test was computed in order to determine the significance of association between career preference of PUC students of rural and urban area with religion, education and occupation of father and family income.

Chi-square value compared between career preference and selected demographic variables of pre-university students of colleges of rural and urban area

The findings that computed chi-square value for career preference of PUC students of rural area at $df_{(2)}$ for occupation of father, ($\chi^2_{(2)} = 6.96$, $P < 0.05$), and family income ($\chi^2_{(2)} = 7.73$, $P < 0.05$), was significant at 0.05 level. It is interpreted that the career preference of PUC students of rural area was dependent on occupation of father and family income. Religion, mother's education and occupation and education of father were not associated with career preference of PUC students of rural area. So the null hypothesis (H_7) was rejected in favor of the research hypothesis in relation to the variables occupation of father and family income. In relation to other variables null hypothesis H_7 was accepted.

Further, the chi-square value for career preference of urban PUC students at df (1) for family income ($\chi^2_{(1)} = 5.45$, $P < 0.05$) mothers education and occupation ($\chi^2_{(1)} = 9.03$) and ($\chi^2_{(1)} = 3.93$) respectively was significant at 0.05 level.

It is interpreted that the career preference of PUC students of urban areas was dependent on family income, education and occupation of mother. Religion, education and occupation of fathers were not associated with career preference of PUC student's urban area. So null hypothesis H_8 was rejected in favor of the research hypothesis in relation to the variable family income and mother's education and occupation. In relation to other variables null hypothesis H_8 is accepted

Discussion

The findings of the study were discussed as per objectives and hypotheses with the findings of other studies.

Baseline Proforma

Majority of the students was in the age group of 14-16 years. But Sudame (1983) in a study on career awareness towards nursing among high school Girls in Bhutan showed that majority of the students were in the age group of 17-19 years. In the present study majority of the students in rural and urban PU colleges were Hindus. Similar findings were found in Uplankar (1989) who studied on educational and occupational aspirations of college students. Majority of the PUC students in rural and urban areas belonged to families with 3-5 members. This finding was in contrast to the findings in the study of Sudame (1983) where majority of the students belonged to families consisting of 6-8 members. Majority of the students in PU colleges of rural and urban area belonged to 1st order of birth. Maximum number of mothers of PUC students in rural and urban areas had education up to PUC. This is in contrast to the findings of Sudame (1983).

Majority of the fathers of PUC students in colleges of rural areas had education up to PUC and that of urban areas had education up to secondary. Majority of the mother of PUC students in colleges of rural areas and urban areas were unemployed. This is in consistent with the findings of Sudame (1983).

Majority of the fathers of PUC students in rural areas were businessmen whereas that of urban PUC students were Govt employees. The findings in urban students are in consistent with the findings of Sudame (1983).

All the PUC students in colleges of rural and urban areas had preference for further study. Similar findings were found by Sudame (1983).

The findings related to reasons for further study and persons influencing choice of career were 'for securing a good job', and 'parents'. These findings are in contrast to the findings of Sudame (1983).

Knowledge about Nursing

Majority of PUC students in colleges of urban and rural areas had below average knowledge scores, which shows their lack of knowledge about nursing. This finding is similar to the findings of Sudame (1983).

Image and Opinion about Nurse and Nursing

The findings related to image and opinion about nurse and nursing showed that all the students in PUC colleges of rural areas and majority in urban areas had positive opinion about nurse, and all the students in rural and urban area had positive image about nursing. These findings are similar to the findings of Giri (1988), Grossman and Northrpp (1993, Bough and Lentini (1999) who reported that students had favorable image and opinion about nurse and nursing.

Career Preference/Non Preference to Nursing

In the area of career preference to nursing, only 38.3% of PUC students in colleges of rural area and 20% in urban areas preferred nursing. This shows that urban PUC students had less preference to nursing than rural students. These findings are similar to the findings of Brown and Foskett (1999).

Reasons for Preference of Non Preference to Nursing

Majority of the PUC students in colleges of rural areas (60.8%) and urban areas (75%) stated the reason for their preference to nursing as to 'serve the sick and needy'. Nearly half of the students in rural PUC colleges (43.5%) and more than half in urban areas (58.3%) also gave the reasons for preference to nursing, as 'nursing is a noble profession'. These findings are similar to the findings of Sudame (1983), Grossman and Northrop (1993), Brown and Foskett (1988), and Williams, Wertenberger and Gushaliak (1997).

Reasons for non preference to nursing show that majority of the PUC students in rural areas and in urban areas gave their reason for non preference as 'they are not interested'. These findings are, consistent with the findings of Hemsley and Foskett (1999).

Career Choice of Various Vocations

While ranking among the 29 careers listed, 'doctor' got the first rank of preference by PUC students in colleges of rural and urban areas. Nursing got fourth place of preference by the PUC students of colleges of rural areas. This finding is consistent with that of Sudame (1983). Nursing was given seventeenth rank by the urban PUC student. This shows that rural PUC students gave better status to nursing as a career than the urban students.

Only 30% of the rural PUC students and 13.3% of urban PUC students preferred nursing as their first three preferences among 29 careers listed. This finding is in contrast to the findings of Sudame (1983).

Comparison of Career Awareness and Career Preference of PUC Students in Colleges of Rural and Urban Areas

There was significant difference between the mean career awareness scores of PUC students of colleges in rural and that of urban areas. This reveals that the rural students are more aware about nursing than urban students.

There was a significant association between career preference of rural and urban PUC students at 0.05 level of significance.

There was no significant association between career awareness and career preference of PUC students in rural area.

There was no significant association between career preference and career awareness of PUC students in urban area.

Association between Career Awareness and Career Preference

There was significant association between religion, education and occupation of father and family income of the PU college students of rural area.

There was no significant association between career awareness and selected variables like religion, education of father, occupation of father and family income of PUC students of urban areas. These findings indicate that the career awareness of PUC students in urban areas is independent of religion, education of father, occupation of father and family income. There was significant association between career preference and occupation of father and family income. These findings indicate that the career preference of PUC students of rural area were dependent on occupation of father and family income, whereas the career preference of PUC students of urban colleges was dependent only on family income. Similar findings were reported by Sudame (1983) and she found out that there was significant association between career preference and father's occupation and family income.

Limitations of the Study

- The study was confined to specific geographical areas (PUC colleges of urban and rural areas in Trivandrum), which imposes limits on generalization.
- The data collection tools used in the investigation were prepared for this purpose and used for the first time; available time did not permit extensive standardization of the tool.
- The present study 'is limited to career awareness and career preference of girl students in PU colleges of rural and urban area

Recommendations

- A similar study may be replicated in a larger sample.
- A study can be conducted among nursing professionals to find out their preference of sending their children for nursing.
- An experimental study can be undertaken on PUC students to find out the effect of planned guidance and counseling programme on choice of career.
- A study can be carried out to find out the public image of nursing in Trivandrum.
- A study can be taken up to find out the opinion of parents of PUC students towards nursing as a profession.
- A comparative study on career awareness and career preference to nursing can be conducted between adolescent boys and girls .

Conclusion

The present study shows that the knowledge of PUC students about nursing was very poor. But they had a positive image and opinion about nurse and nursing. Only a minimum percentage of PUC students preferred nursing as their career choice. This study explores the need for a career guidance programme among the potential candidates thus increasing their knowledge about nursing

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A Descriptive Study to Assess the Knowledge and Attitudes Regarding No Scalpel Vasectomy [NSV] among Married Men in Selected Village of Byahatti PHC, Dharwad District, Karnataka

Panduranga Sankappanavar*, Meenakshi Devangamath**

Abstract

A descriptive study was carried out to know the knowledge and attitude regarding 100 married men in the selected village (Sulla) of Byahatti PHC, Dharwad district, Karnataka. A descriptive survey design with structured knowledge interview schedule and 5 point likert scale was employed to collect the data. Using probability simple random sampling technique data was collected. The result revealed that the overall knowledge scores of married men was majority of 75(75%) had average knowledge, 11(11%) had good knowledge and 14(14%) had poor knowledge and, the overall attitude scores of married men was 62(62%) had favorable attitude, 32(32%) had positive attitude and 06(06%) had negative attitude. The results can be used for further generalization of findings large population.

Keywords: No Scalpel Vasectomy; Knowledge and Attitude.

Background of the Study

Population growth affects the size and age composition of population. A young population is dependent population. The dependence burden is very high in India in terms of providing social welfare services like education, health & other facilities. Population growth adversely affected our per capita income. More than 40% India's population lives below poverty line. Poverty leads to sickness & sickness leads to poverty: this is a vicious circle, prevalent in all developing countries.

A WHO expert committee has defined five methods in 1975 to evaluate the success of family planning programmes. One of them is the evaluation of knowledge, attitude motivation and behavior among people. The knowledge and attitude of people towards family planning methods are important determinants in the adaption of family planning by them. It is an essential & known factor of both partners, have equal responsibilities towards formation of small happy family, but little is known about men's role in the family planning methods. Males have often been neglected both family planning programs and surveys used to design and evaluate such programs. But the RCH programme of the government of India has felt the need for involving men in family planning programs.

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Objectives of the Study were:

1. To assess the knowledge regarding No Scalpel Vasectomy among married men.
2. To assess the attitudes regarding No Scalpel Vasectomy among married men.
3. To find out the correlation between knowledge and attitudes scores regarding No Scalpel Vasectomy among married men.
4. To find out association between knowledge

scores regarding No scalpel Vasectomy among married men and their socio demographic variables.

5. To find out the association between attitude scores regarding No Scalpel Vasectomy among married men and their socio demographic variables.

Methods and Materials

Research Approach: Survey

Research Design: Descriptive survey design.

Research Setting : selected (Sulla) village of Byahatti PHC

Sample Size : 100 (hundred)

Sampling Technique: Probability simple random sampling.

Instrument I: Structured Interview Schedule.

Section I: Socio demographic variables.

Section II: Knowledge items regarding NSV.

Instrument II: Attitude scale-items on attitude towards NSV.

Procedure of Data Collection

The formal permission was obtained from the medical Officer, Byahatti PHC., and Hubli Taluk. The Selection of subjects made by using probability simple random Sampling. The investigator introduced himself to the subjects and notifies aims, objectives and steps of the study and took written consent from the subject. The data collected by investigator himself. Data analyzed and interpreted by using descriptive and inferential Statistics.

Results

Findings Related to socio Demographic Variables

The results revealed that, majority of subjects 69(69%) belonged to 40-60 years age group, while 31(31%) belonged to 20-40 years age group. Majority of the subjects 74(74%) belonged to Hindu religion, while 24(24%) belonged to Muslim religion. In terms of educational qualification, majority of the subjects 51(51%) had primary education, 23(23%) had PUC, 15(15%) had higher secondary, and 11(11%) had secondary education. In terms of occupation majority of the subjects 99(99%) were having agriculture as occupation, while 01(01%) were having occupation as a private employee. Majority of the subjects 92 (92%) belonged to nuclear family, 08(08%) belonged to joint family. Family income of the most of the subjects 43(43%) less than 5000Rs, 29(29%) having between 5000-10000Rs, 23(23%) having between 10000-20000Rs, and 5(5%) had 20000Rs and above. Majority of the subjects 43(43%) were having two children, 34(34%) having three children, 18(18%) having one child, and 5(5%) having 4 and above children. Majority of the subjects 55(55%) adapted family planning, while 45(45%) not adapted family planning. Majority of the subjects 69(69%) got information through health personnel, 24(24%) got information from others, and 7(7%) got information from mass media.

Knowledge and Attitudes Scores:

Majority of subjects 75(75%) have average knowledge, 11(11%) have good knowledge, 14(14%) have poor knowledge regarding NSV.

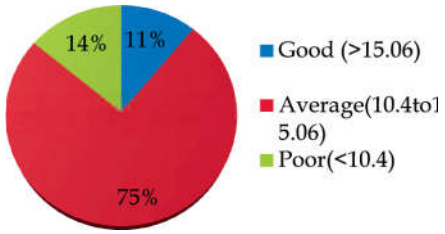

Fig. 1: Pie graph showing the percentage distribution of knowledge scores of married men regarding NSV according to their level of knowledge.

Majority of subjects 62(62%) have favourable attitude, 32(32%) have positive attitude, 06(06%) have negative attitude towards NSV.

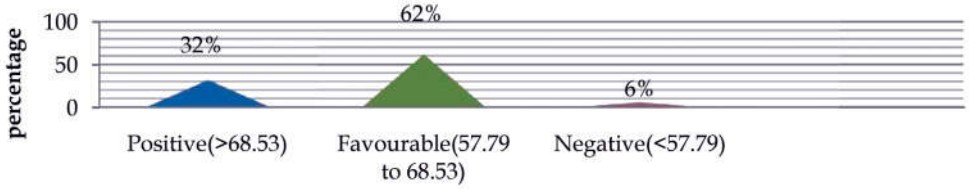

Fig. 2: Staked pyramid graph showing percentage distribution of attitudes scores of married men regarding NSV according to their level of attitude

Correlation between Knowledge and Attitude Scores:

Test	Cal value	Table value	DF	Inference
Karl's Pearson's Correlation Coefficient	**0.88**	**0.195**	**98**	High positive correlation

Table 1 below reveals that Pearson's correlation value computed between knowledge and attitudes scores of married men towards NSV is 0.88 greater than table value, hence significant correlation between knowledge and attitude scores. Hence H_{01} was rejected

Association between Knowledge and Attitude Scores with their Selected Socio Demographic Variables

The chi-square value was lesser than table value, in between knowledge score with selected socio demographic variables like age (in years), religion, educational qualification , occupation, type of family, family planning adapted in these cases H_{02} was accepted at 0.05 level of significance and the chi-square value was greater than table value in cases of family income , number of children, sources of information regarding NSV in these cases H_{02} is rejected at 0.05 level of significance.

In the study, the chi square value is lesser than table value between attitude scores with selected socio demographic variables like age (in years), educational qualification , occupation , sources of information regarding NSV in these cases H_{03} is accepted at 0.05 level of significance and the chi – square value was greater than table value, in cases of religion, type of family, family income, number of children, family planning adapted in these cases H_{03} is rejected at 0.05 level of significance.

Discussion

In the present study, majority of the subjects 69(69%) belonged to the age group 40-60 years and 31(31%) belonged to the age group 20-40 years. These findings were supported by a study was conducted by Iribhogbe O I, Akpamu U, Nwaopara AO, Osifo UC, Otamere HO, Okhiai, et al, showed that 61% of subjects belonged to age group 40-60 years and 39% belonged to the age group 20-40 years..

In the present study, majority of the subjects 74(74%) belonged to the Hindu religion, and 26(26%) belonged to the Muslim religion, the findings were supported by the study conducted by Dutta M, Kapilashrami MC & Tiwari VK showed that 78.5% belonged to the Hindu religion and 21. 5% belonged to Muslim religion.

In the present study majority of, majority of the subject 51(51%) had primary education and 11(11%) had secondary education, these findings were supported by a study conducted by Mahondwa E, showed that 56.1% had primary educational and 20% had secondary education.

In the present study, majority of the subjects 99(99%) had agriculture as a occupation and 01(01%) had private employee has occupation.

In the present study, majority of the subjects 92 (92%) belonged to nuclear family, and 8(8%) belongs to joint family.

In the present study majority of the subjects 43(43%) had family income /month, less than 5000 rupees and 05 (05%) had income 20000rupees and above, these findings were supported by Jayalakshmi MS, Kiran A, Prabhakar PK, and Puspanjali S, showed that 34.2% had family income less than 5000 rupees/month and 3% had income 20000 rupees and above [9].

In the present study, majority of the subjects 43(43%) had two children and 5(5%) had four and above children, the findings were supported by study conducted by Jayalakshmi MS, Kiran A, Prabhakar PK, and Puspanjali S, showed that 41.6% of subject had two children and 5.8 % of subject had four and above children.

In the present study, majority of the subjects 55 (55%) had adapted family Planning and 45(45%) not adapted family planning method, These findings were supported by a study was conducted by Sumana B, Anoop K and Salil K B, showed that 56.0 were adapted family planning and 44% had not adapted family planning method.

In the present study, majority of the subjects 69(69%) had got information through health personnel and 7(7%) got health information from mass media, these findings were supported by a study conducted by Sumana B, Anoop K and Salil K B, showed that 60% of subjects got information through health personnel and 10% of subjects got health information through mass media

Findings Related to the Knowledge and Attitude Scores of Married Men Regarding NSV

In the present study, majority of the subjects

75(75%) had average knowledge, 11(11%) good knowledge and 14(14%) had poor knowledge regarding NSV, the findings were similar to the study conducted by Alemayehu B showed that 75 % subjects had average knowledge about, 11(11%) had good knowledge and 14(14%) had poor knowledge about NSV [5].

In the present study, majority of them 62(62%) had favourable attitude towards NSV, the findings were similar to the study conducted by Neelu S, Seema S , Seema C, Gaur DR, Pandy SM, showed that 63.2% had favourable attitude towards NSV [5].

Conclusion

Based on the findings of the study, the following conclusions were drawn

1. The majority of subjects 75(75%) had average knowledge about NSV and majority of the subjects 62(62%) of had favorable attitude towards NSV.
2. The results revealed that, there was significant correlation between the variables i.e. knowledge and attitude.
3. The results revealed that there was no significant statistical association between knowledge scores with their selected socio demographic variables in cases of age (in year), religion, educational qualification, occupation, type of family, family planning method adapted.
4. The result revealed that there was no significant statistical association between attitude scores with their selected socio demographic variables in cases of age (in years), educational qualification, and sources of information regarding NSV.

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Clinical Evaluation of Severe and Chronic Diarrhea: A Study

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Abstract

Introduction: Severe and chronic diarrhea is the most severe form of diarrhea in infancy and has also been defined as intractable diarrhea. Its etiology is poorly defined. *Objective:* Retrospectively evaluated the etiology, the outcome, and the risk factors of 38 children, admitted with chronic diarrhea and need for hospitalization from 2010 to 2014. *Methods:* Children with anatomic abnormalities and/or primary immunodeficiency were excluded. There was an inverse relationship between the number of patients and the age of diarrheal onset (mean age, 2.9±3.5 months). *Results:* Etiology of chronic diarrhea was an enteric infection in 18 cased (eight Salmonell, there Staphylococcus, five rotavirus, one adenovirus, one Cryptosporidium), multiple alimentary intolerance (eight cases), familial microvillour atrophy (two), autoimmune enteropathy (two), celiac disease, lymphangectasia, eosinophilic enteropathy, intestinal pseudoobstructiopn, and intestinal neurodysplasia (1 case each). Etiology was not detected in three cases. Overall, 12 children died, five are presently being treated, and 21 had full remission. *Conclusion:* Comparative evaluation of risk factors between children with chronic diarrhea and a control population of children with diarrhea but without the need for hospitalization showed that low birth weight, no breast feeding, history of fatal diarrhea in a relative and early onset of diarrhea had a significantly higher incidence in the former. Social background was similar in the two populations. We conclude that at specific etiology can be identified in the majority of cases of chronic diarrhea. The etiologic spectrum of chronic diarrhea is broad, but an enteric infection is the most common cause of chronic diarrhea. The severity of this condition is related, at least in part, to establish risk factors.

Keywords: Intractable Diarrhea; Parenteral Nutrition; Enteric Infection; Food Intolerance; Congenital Enteropathy.

Introduction

Severe and chronic diarrhea has become a relatively common disease in developing countries in recent years. Some author's refer to this condition as intractable diarrhea, a term proposed in 1968 by Avery et al. to define a diarrhea that lasts > 2 weeks in an infant younger than 3 months, with three negative stool cultures [1]. There is no agreement on this definition. Some authors prefer the term protracted or persistent diarrhea, defined as the syndrome of chronic diarrhea and malnutrition [2,3]. This may be confusing, as chronic, protracted, or persistent diarrhea refers to the duration of diarrhea (not <2 weeks), rather than to its severity. The opportunity to limit the definition of intractable diarrhea to younger infants is also uncertain. Several authors included infants up to 1 year of age [4,5,6] and even older children [7]. Finally, the opportunity to exclude children with infectious

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diarrhea or with another established etiology has been questioned. Rossi and Lebenthal suggested including in the definition of intractable diarrhea syndrome all cases of prolonged diarrhea, even though a specific etiology is identified [8]. Others included also infants with documented intestinal infections [9,10].

Whatever the etiology of the diarrhea and the age of patient, diarrhea is always severe and usually requires total hospitalization. Thus we have defined our patients as affected by chronic diarrhea requiring hospitalization.

We have reviewed the clinical records of children admitted in the years 2010-2014, with chronic diarrhea and need for hospitalization, to see the pattern of etiology. We also examined the risk factors for chronic diarrhea and the patients' outcome.

Methods

The clinical records of patients admitted in the period 2010-2014 with diarrhea and need for hospitalization at the Department of Pediatrics of the RAMA Hospital & Research Centre were reviewed. The Department has a special unit for children with diarrhea needed isolation, with established experience and advanced technology in diarrheal diseases.

Children with anatomic abnormalities and those with primary immune deficiency, including human immunodeficiency virus (HIV) infection, were excluded from this study. Diarrhea was defined as three or more loose or liquid stools per day. Consideration for employing hospitalization was based on the persistence of the diarrhea, it's worsening with oral or enteral feeding, and the failure of pharmacologic therapy, but virtually in the cases, hospitalization was started because of the life-threatening condition of the patient. All children were severely malnourished as a consequence of the diarrheal disease when they were admitted to the hospital. We refer to these children as patients with chronic diarrhea.

The main diagnostic tools are Intestinal endoscopy and abdominal ultrasound. Microbiological analysis depended on the time of admission, too. In all cases it included search for Salmonella, Shigella, enteropathogenic E. coli, Giardia lamblia, and Entamoeba histolytica, Rotavirus, Tersinia enterocolitica and Campylobacter jejuni, Clostridium difficile and enterotoxigenic E. coli, Cryptosporidium and enteric viruses. Microbiological methods have been described or referred to in previous works [11,12]. Assessment of intestinal function included xylose oral load and the determination of fat, nitrogen, and carbohydrate fecal excretion.

The secretory or the osmotic nature of the diarrhea was assessed by the osmolal gap [13] or by the persistence of large fecal volumes while during hospitalization. Blood parameters were systematically monitored. Radiographs, ultra sounds, and computed tomography (CT) scan were performed in selected patients, if needed.

According to the etiology of the diarrhea, the patients were divided into four groups:

a. Children with infectious diarrhea.
b. Those with multiple alimentary intolerance (MAI.)
c. Those having a primitive intestinal disease other than infections or food intolerance.
d. Those in which the etiology remained undetermined.

The social background of the family was also considered as a risk factor for chronic diarrhea. The incidence of these features was compared with that of children with diarrhea, but without the need for hospitalization, matched for the time of hospital admission, but otherwise randomly selected. This was done by reviewing the clinical records of patients admitted with diarrhea. The statistical difference between children with the need of hospitalization and those not needing hospitalization was assessed by the χ^2 test.

Results

Overall, 38 patients were admitted with chronic diarrhea and were hospitalized from 2010 to 2014. Approximately one to three new cases were admitted each year. All but three children had already been hospitalized elsewhere before being admitted to our unit. Fifteen children came from slums with mean age at the onset of symptoms was 2.9±3.5 months, median age was 2 months (range, 1 to 14 months). The number of patients admitted with chronic diarrhea was inversely related to age in the first 12 months of life. Onset of diarrhea after 12 months of age was recorded only in one of the 38 cases, who were seen with eosinophilic enteropathy at 14 months. Most patients had diarrhea for at least 1 month before being hospitalized: mean duration of diarrhea before hospitalization was 2±2 months

(median, 1 months; range, 15 days to 9 months). Mean duration of hospitalization was 3 5 months (median duration, 2 months; range, 1 month to 3 years).

Etiologic Diagnosis

An etiologic diagnosis was established in all but three patients. The first group of patients included those with infectious enteritis. In all 18 cases diagnosed as infectious diarrhea, the responsible microorganism was repeatedly detected during the course of the illness, and its disappearance from stools was associated with full and permanent recovery of the patient. The following enteric pathogens were detected. Salmonella (eight cases), coagulase-positive Staphylococcus (three), rotavirus (five), adenovirus (one) and Cryptosporidium (one). (Table1).

The second group includes eight children classified as having MAI, because they were not able to tolerate milk or elemental diets without a clear worsening of the diarrhea. No enteric pathogen or other specific intestinal disease was detected in these children. Children with MAI were challenged with cow's milk after several months of elimination diet, and all showed positive reaction to milk protein, thereby confirming the diagnosis according to the ESPGAN protocol [14]. Afterwards, each of them did well on a elimination diet, and eventually all patients but one (who died) were able to return to a free diet.

The third group of patients included nine children with various primitive intestinal diseases other than infections or food intolerance. There were two cases of familial microvillous atrophy. Two children had disorders of intestinal motility: one case of idiopathic intestinal pseudo obstruction and one of neuronal intestinal dysplasia. The other five children had a primitive intestinal disease related to an immune/ inflammatory disorder. The fourth group included three children in whom the etiology of the diarrhea was not detected.

Outcome

Twenty-one of the 38 children (55%) fully recovered. Two children leave suddenly. Two children are presently maintained on restricted diets. One is taking chronic anti-inflammatory treatment.

Twelve children (32%) died: death was associated with overwhelming infections (most of which related to the central line) in eight children, with the lack of vascular access in two and with liver failure in two. Overall, the worst outcome was in children with a primitive intestinal disease. Indeed, in these children, the mean duration of hospitalization was significantly more protracted than in children with other diarrheal etiology, and the fatality rate was increased.

Incidence of Risk Factors in Children with Severe Chronic Diarrhea and in Those with Diarrhea without the Need for Hospitalization

The comparative evaluation of risk factors between the 38 children with chronic diarrhea and 76 children (two for each case of chronic diarrhea) with diarrhea but without the need for hospitalization is reported. Among the risk factors considered familial history of fatal enteropathy, low birth weight, no breast feeding, and early onset of diarrhea showed a significantly greater prevalence in children with chronic diarrhea than in those with diarrhea without the need for hospitalization. On the contrary, the prevalence of familial atopy was significantly greater in control children. Finally, the social background was similar in the two groups considered (Table 2).

Table 1: Etiological diagnosis and outcome in children with severe and chronic diarrhea

Etiology	Total cases	Full remission	Dead	Presently on treatment
Enteric infection	18	13	4	1-recurrent hospitalization
Food intolerance	8	7	1	
Autoimmune enteropathy	2	-	1	1(azathioprine)
Familial microvillous atrophy	2	-	2	
Celiac disease	1	-	-	1(Gluten-free diet)
Eosinophilic enteropathy	1	-	1	
Lymphangectasia	1	-	-	1(fat-restricted diet)
Pseudoobstruction	1	-	-	1(home food)
Neurodysplasi	1	-	1	
Unknown	3	1	2	
Total	38	21	12	5

*****Responsible microorganism were salmonella(eight Cases), Coagulase-positive staphylococcus (three), rotavirus(five), Adenovirus(one) and Cryptosporidium(one)

Table 3: Comparative evaluation of risk factors in 38 children with severe and chronic diarrhea and in 76 controls with diarrhea but without the need for hospitalization

Risk factor	Cases n	%	Controls n	%	P value
Low birth weight	9	24	2	3	0.001
No breast feeding	27	71	27	35	0.0007
Atopy	9	24	36	47	0.02
Familial fatal diarrhea	6	16	-	-	0.001
Early onset (<1 month)	17	45	22	29	Not Significant
Early onset (<3 month)	29	76	26	34	0.0005
Social class I – III	11	29	20	26	Not Significant
Social class IV-VI	24	63	43	56	Not Significant
Social class unknown	3	8	13	17	Not Significant

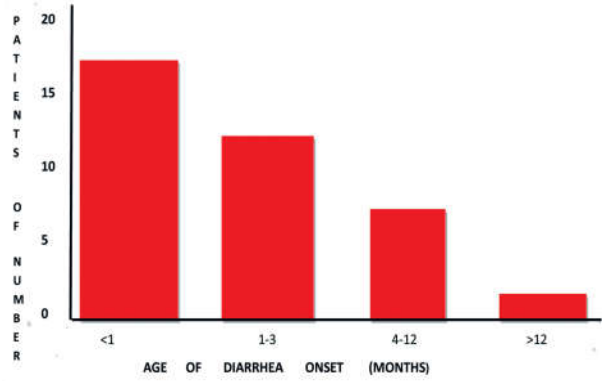

Table 1: Age of onset of severe protracted diarrhea. A clear inverse relationship between the number of patients and increasing age is observed.

Discussion

Severe chronic diarrhea of infancy is a syndrome rather than a disease. We have defined the children with chronic diarrhea as patients with an extremely severe diarrheal disease, which threatened their survival and required long-term hospitalization. Some authors refer to those children having intractable diarrhea [1,2,4,6-8]. Each of our patients had unsuccessfully received several therapeutic or dietetic trails (including continuous enteral nutrition) before being hospitalized, which indicates that our population included only children with a most severe form of diarrhea. This is probably the reason that the fatality rate in our series was greater than that reported in other recent works (Table 3).

Indeed, it has been shown that the fatality rate decreased from 45-70 to 0-10% from the original reported of children with intractable diarrhea [1,15,16] to other more recent series [2,8]. However, the outcome may be greatly affected by the criteria of patients' enrollment.

We have shown that the risk for chronic diarrhea decreases with increasing age in the first year of life. However, selected cases of chronic diarrhea may be seen beyond 1 year of age, shown by our and other observations [7,10].

It is well known that persistent diarrhea is related to poor socioeconomic background, at least in developing countries.[17]This may explain the lack of association between low social background and chronic diarrhea.

The probability that diarrhea may become severe and protracted was related to each of the risk factors considered, with the exception of social background and of familial atopy. These markers could be therefore used to evaluate the risk of developing chronic diarrhea.

In most patients, the etiology of the diarrhea had not been identified before admission to our unit. We showed that the accuracy of etiological diagnosis was related to the availability of advanced techniques. Indeed, when the etiology is investigated by a more thorough diagnostic approach, a broad spectrum of specific intestinal diseases is observed. When series of children with chronic diarrhea were reviewed, it was found that food intolerance and enteric infections were the most common etiologies of chronic diarrhea, whereas other rarer specific intestinal diseases were usually not detected [1-3,5,10,18,19]. However, in the population studied by us, infectious enteritis was the single most frequent cause of chronic diarrhea, being responsible for approximately half of the cases of chronic diarrhea.

Several children had MAI. However, the diagnosis of MAI, even if proved by a pathology [14], does not necessarily mean that intolerance to food is the basis cause of the diarrhea. The postulated mechanism of food intolerance involves an immune response to food antigens, triggered by an increased absorption of macromolecules through damaged intestinal epithelium [20,21]. Therefore, food intolerance may be secondary to a primitive, not detected, intestinal disease. This further supports the need for a

comprehensive diagnostic approach to decrease the number of children inappropriately diagnosed as having primitive MAI.

The third group of patients included three major classes of primitive intestinal diseases: familial enteropathies, disorders of intestinal motility, and immune/inflammatory diseases. This group included a broad spectrum of enteric disease, for whose identification a combined approach with sophisticated instrumental and laboratory techniques was usually required.

Each of the etiologies described has been previously reported as a cause of chronic diarrhea [22-28] but their relative importance in inducing chronic diarrhea was unknown. An increasing number of observations suggest that the frequency of both familial enteropathy and disorders of intestinal motility is greater than previously recognized [22,31,15,25]. Children in this group had the longest duration of hospitalization and the worst outcome. It is likely that many cause of really intractable diarrhea are due to congenital enteropathies or to permanent intestinal diseases such as those we have described. In these cases, there is no treatment, and survival depends on hospitalization [26]. A fourth group of children included three children without an etiologic diagnosis. The prevalence of cases of chronic diarrhea of undetermined etiology ranges from 0 to 100% in published series [1-7]. The difference depends largely on the enrollment criteria and on the availability of diagnostic techniques.

Conclusion

Overall, our data show that an etiology diagnosis can be achieved in the majority of cases of chronic diarrhea. Because the number of children with chronic diarrhea is relatively low, these patients should be referred to centers in which the experience in clinical nutrition is associated with the availability of advanced technology for the diagnosis of diarrheal diseases.

Finally, the definition of intractable diarrhea appears to be confounding and inappropriate in the light of the progress in this field. We believe that an operational definition of this syndrome should include children with a severe and protracted diarrhea and chronic nutritional failure, for whom the common pharmacologic and dietetic treatment had been unsuccessful and who need long-term hospitalization.

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A Reviewed Article on Reason for Failure to Educate Rural Population of India in Health Aspect

Satish Kumar Avasthi*, Rishi Dutt Avasthi**

Abstract

In health & education of rural areas are so backward due to lack of awareness, lack of infrastructure & ignorance by the government. In health education aspect all the health progamme & policies are success in urban areas but all failure rate of programme came through rural areas because lack of facilities, awareness & most of population do not know about how to approach, & availability of resources. Reason for failure to educate rural population of India in health sector shortages of work force, faulty health education intervention, lack of total coverage, lack of quality assurance / approach framework, shortage of basic health infrastructure, lack of effective span of control and poor management, low education level, shortage of the basic facilities, shortage of financial resources, and lack of awareness among population.

Keywords: Health Education; Rural Population; Health Aspect.

In India, though health education has been a lowest priority. Thus it has been an integral part of all national programmes. Lack of information is the major barrier to the effective access to services. However, various efforts have been made by the government to improve health through Information Education Communication activities.

Four Population Education Projects at Schools, Universities, Adult and Technical Education level (through NCERT, DAE, UGC, DGE&T) with UNFPA assistance remained under operation in States/UTs for integrating population issues in various curricula for school students, youth and women, live entertainment programmes, Family Planning counselling, HIV/STD counselling and distribution of educational materials.

New Delhi (2015): Prime Minister Narendra Modi said the prime reason for India's backwardness was neglect of the two major sectors of health and education.

"I agree with the contention of Nobel laureate Amartya Sen that the neglect of health and education sectors since independence was the prime reason for backwardness of the country," he said after giving away awards to the winners of the Maulana Azad Essay Competition.

Need of the Study

- In India 72% population stays in rural areas. Where as rural India is under-developed and lack of resources as compared to urban area.
- There is huge differences and gap in development in between rural & urban areas in each and every aspect. In health scenario & education pattern of rural areas are so backward due to lack of awareness, lack of infrastructure & ignorance by the government.
- In health education aspect all the health program & policies are success in urban areas

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but all failure rate of programme came through rural areas because lack of facilities, awareness & lack of approach most of population do not know about how to get the things, & availability of resources.

- Failure of health education due to illiteracy is most common factor on rural India due to lack of women education in respected areas.
- So to make effectiveness & efficiency of programme & policies it is necessary to find out reasons of failure of health education in rural India.

Reason for Failure to Educate Rural Population of India in Health Sector

Shortages of Work Force

Prof Mohan Rao, PhD, Dr Krishna D Rao, (January 2011) human resources for health in India, the Lencet, India has a severe shortage of human resources for health. It has a shortage of qualified health workers and the workforce is concentrated in urban areas. Bringing qualified health workers to rural, remote, and underserved areas is very challenging. Many Indians, especially those living in rural areas, receive care from unqualified providers.

Many rural areas experience shortages of health care workers including, among others, physicians, dentists, nurses and pharmacists. As a way to reduce such shortages, the Federal government, as well as state and local entities, have developed programs to encourage individuals to pursue education in health profession fields by offering programs to assist with the cost of education. These programs can take the form of grants, loans, fellowships, scholarships and loan repayment programs. Some programs have special conditions such as a specified term of service in an underserved area. General student financial aid is also available to qualified applicants.

Faulty Health Education Intervention

A reviewed article of recent health education articles indexed in CINAHL and MEDLINE revealed that most of the current health education interventions are only knowledge based interventions rather than based on skill based. As per the best of our knowledge we could find only a valid intervention that used community diagnosis and participation in planning the intervention and another one that used information, motivation and behavioural skills model in designing the intervention.

Most of the campaigns and health information dissemination in the government sector as well as the non-governmental sector use newspapers, posters, internet and pamphlets.

Almost 42% percent of the Indian population is illiterate and use of print media to impart health messages is not useful for them. Further, 60% of promotions do not exhibit adequate complete and comprehensive information. Hence the information dissemination campaigns fall short in reaching the vulnerable sections of the community

Lack of Total Coverage

Mass media campaigns have not been successful in reaching rural populations living in far hilly, desert, forest and vulnerable areas. Gupta and Sharma (2011) found that only one fourth of health education functionaries in the government sector were placed at the rural level while three fourths of the population is rural. This big gap of allocation of resources is a weakness of the health education in India.

Lack of Quality Assurance / Approach Framework

A article reviewed of Bruce (2014) Fundamental elements of the quality of care: a simple framework, Studies in Family Planning, revealed that even though having a large manpower of functionaries that perform health education but there is no quality assurance. That is another weakness of health education in India. The system of continuing education is largely but non existent.

The system of continuing education is largely disorganized with no association or holding of annual meetings. Educators and colleagues have pointed out weakness of postgraduate medical and health education in India. They observe that training is in apprenticeship style format rather than appraisal style format and selection of assessment tools is not guided by modern educational theory. This is also a weakness of health education in India, where more emphasis on current theories in teaching health education needs to be done.

Shortage of Basic Health Infrastructure

A article reviewed of Ashok Vikhe Patil, R. C. Goyal (2002) Current health scenario in rural India revealed that about 75% of health infrastructure,

medical man power and other health resources are concentrated in urban areas where 27% of the population live. Contagious, infectious and waterborne diseases such as diarrhoea, amoebiasis, typhoid, infectious hepatitis, worm infestations, measles, malaria, tuberculosis, whooping cough, respiratory infections, pneumonia and reproductive tract infections dominate the morbidity pattern, especially in rural areas.

Delivery of health education programs as vertical programs relying on techno-managerial approaches has been pointed by some thinkers particularly Banerji as a potential threat. Banerji points out that delivery of several programs such as Universal Immunization Program (UIP), control of diarrheal diseases, acute respiratory infections, AIDS, tuberculosis, leprosy, malaria have been a dismal failure because these programs fail to build the essential infrastructure at the grassroots level and merely provide "band-aid" kind of token solutions.

Lack of Effective Span of Control and Poor Management

The reluctance of health teams to serve in rural areas has become a major impediment in the Government's ability to provide health education to the rural population. A study conducted by the World Bank showed absenteeism ranging from 40% to 45% among health team members working in primary health centers. Lack of professional approach, low pay and lack of appreciation also deter trained and skilled personnel to work for the government, and even when hired, there is high absenteeism.

Low Education Level

Based on a Study undertaken by Mrs. Sarita on Education aspects of meeting demand for family planning, in 2 districts of Maharashtra, it has been noted that education is the most important variable which affects fertility. To control the escalating population the need of the hour is to make women aware of their reproductive rights. Education in terms of reproductive responsibility is of crucial importance for all adolescent students in High schools who are prospective parents.

The Major Findings of the Study are as Under:

- 62.5% of women and 28.2% men in the villages in Maharashtra are illiterate. Education in terms of good living, social studies, community living and hygiene canbe imparted through radio programmes.
- Women who had gone to school for 8 years are the ones who are mothers of 4 children. Those with no years of school are generally found to have 4 or more children. It is proved that higher school education provides a mental maturity to young girls who would be prospective mothers.
- Man who had more than 8 years at school are fathers of less than 3 children. Those with less than 5 years of education are mostly fathers of more than 4 children. Thus, for effective family planning both men and women should be educated.

Shortage of the Basic Facilities

The calculations in also show that the number of health facilities needed is far in excess of what is provided in the rural areas . Moreover, the available PHCs and CHCs lack several infrastructural facilities. If the health education service is to be qualitatively satisfactory, the health facilities should be strengthened not only in terms of quantity, but also in terms of numerous essential infrastructures. Thus, the costing of the facilities needs serious upward revision and the budget provision should be realistic to reflect better infrastructure accompanying the creation and installation of new facilities.

We have assumed that the maintenance, improved management, better mass communication, public awareness campaign, cost of medicines and kits, and other operating charges for infrastructural facilities are, Rs.40 thousands for a sub-centre, Rs.0.5 million for a PHC, and Rs.3 million for a CHC. We present our estimates of additional requirement of expenditure.

Shortage of Financial Resources

The total additional requirement of financial resources in the health sector is estimate excludes the cost of training and increasing the supply of doctors, specialists, and paramedical personnel in the rural areas. Moreover, we have again worked out these estimates applying the current levels of remunerations and salaries of the medical and paramedical personnel.

It is interesting to compare this additional requirement with the existing budget allocation in the two states for health and related sectors. Data provides the similar budget allocation for All-India, (Centre & States) combined for the year 2013-14. in

particular, allocates only Rs.1683 per capita to social sectors and only Rs.280 per capita to medical and public health. Recognizing the problems arising out of deficiency of fiscal capacity and low expenditure preference, the i.e., roughly six times the current per capita health spending. It is, therefore, possible to generate some resources by carefully reallocating the budget, particularly by cutting unproductive expenditures. The Indian government too should step in and increase its programs. The remaining amount can be generated through international funding of specifically designed projects to scale up the healthcare services in rural areas

Lack of Awareness among Population

A reviewed study conducted by Thakur. V. (2012), Reasons of less coverage of immunization under UI Programme. In study on the Immunization Coverage relating to the six vaccine preventable diseases was carried out in an urban, semi urban and rural area and the results from the three areas were compared and discussed. The percentage of fully immunized children was similar in all the three areas and it was quite high. Coverage of measles vaccine was high in the Health Unit, where health education activities were carried out by the interns. The awareness about vaccine preventable diseases was more in the urban and semi-urban areas. The drop out rate for DPT and OPV was also less in urban and semi-urban than in the rural areas. More than 50% of the households in urban, semi-urban and rural areas were unaware of the diseases prevented by DPT vaccine. Intense Health Education Campaign can definitely improve the immunization coverage further in a state which has already attained total literacy.

Discussion

The percentage of children who were fully immunized was almost similar in all the three areas and it was above 75%. In a similar study in Calcutta (3) only 30-40% of urban children and 11-18% of rural children were fully protected by immunization. In the present study, the percentage of partially immunized children was lower in the urban area when compared to semi-urban and rural areas. This indicates that those children who received immunizations in urban area were more regular in completing the doses than the children of semi-urban and rural areas.

Podder (2011) in a comparative study on the immunization status of children in rural and urban areas, reported that the mother's knowledge as well as their children's full immunization coverage with individual vaccines was more in the semi-urban and 142 rural areas than in the urban areas. In the semi-urban area, the coverage of measles vaccine was more than 90% in contrast to the low coverage (18%) reported (3). This remarkably high coverage of measles vaccine as compared to other parts of the country might be the outcome of the intense health education activities undertaken by the interns and the periodic immunization camps arranged in different areas as part of the interns training programme. The drop out rate of DPT and OPV was also more in the urban and rural areas as compared to the semi-urban areas. This is also in contrast to the results reported earlier. An attempt was also made to assess the awareness about the vaccine preventable diseases in the households. There was adequate awareness about measles and poliomyelitis, even though half of the households could not mention the diseases prevented by DPT vaccine.

Conclusion

Hence it prove that reason for failure to educate rural population of India in health aspect as mentioned above if any government take initiative to improve health aspect through health education, government should short out all the reasons and improve workforce shortage, proper infrastructure, effective coverage, appropriate quality approach framework, improve basic facilities, proper financial resources, my motto to this review this article to improve health aspect if country and provide statically proved concept to different reviewers as concern to reasons behind the failure to educate rural population if country in health aspect.

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The Era to Monitor Tuberculosis

Sujatha T.

Abstract

Tuberculosis is ranking one of the top 10 causes of mortality worldwide in 2016. The global and Regional TB statistics is alarming us to work on the preventive measures to control and manage tb to eliminate TB globally. some of the measures like public awareness, Tb surveillance, notification by health workers, Tb financing, health insurance and social protection and DSM management can be undertaken to control TB.

Keywords: Tuberculosis; Mortality; Prevention.

Introduction

Tuberculosis (TB) has existed for millennia and remains a major global health problem. It causes ill-health in millions of people each year and in 2015 was one of the top 10 causes of death worldwide, ranking above HIV/AIDS as one of the leading causes of death from an infectious disease.

This is despite the fact that with a timely diagnosis and correct treatment, most people who develop TB disease can be cured. It is estimated that there were 1.4 million TB deaths in 2015, and an additional 0.4 million deaths resulting from TB disease among HIV-positive people. In terms of cases, the best estimates for 2015 are that there were 10.4 million new TB cases (including 1.2 million among HIV-positive people), of which 5.9 million were among men, 3.5 million among women and 1.0 million among children. Overall, 90% of cases were adults and 10% children, and the male:female ratio was 1.6:1.

From 2000 to 2015, global and national efforts to reduce the burden of tuberculosis (TB) disease were focused on achieving targets set within the context of the Millennium Development Goals (MDGs). Target 6c of MDG6 was to "halt and reverse" TB incidence [1].

Global TB Statistics

In 2015 an estimated 1.4 million people who were HIV negative died of TB. In addition there were 0.4 million deaths resulting from TB disease among people living with HIV. So there were a total of 1.8 million TB related deaths.

In 2012 more than 10 million children were orphaned as a result of their parents death from TB.There were also in 2015 an estimated 480,000 new cases of MDR-TB and an additional 100,000 people with rifampicin resistant TB (RR-TB). People with rifampicin resistant TB are eligible for the same treatment as people with MDR TB.

Regional TB Statistics

Globally it is thought that fewer than two-thirds (63%) of TB cases are notified. The WHO figures for the estimated incidence, prevalence and number of deaths from TB in each WHO region are given below.

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Table 1: Estimated WHO Regional TB statistics for 2015

Region	Population (in Million)	HIV negative TB Mortality	HIV positive TB Mortality	HIV Positive TB incidence	Total TB incidence
Africa	989	450,000	300,000	834,000	2,720,000
Americas	991	19,000	5,900	32,000	268,000
Eastern Mediterranean	648	80,000	3,000	13,000	749,000
Europe	910	32,000	4,900	27,000	323,000
South-East Asia	1,930	710,000	74,000	227,000	4,740,000
Western Pacific	1,860	89,000	5,700	34,000	1,590,000

TB Epidemic in India

Each year about 2.2 million people develop TB in India and an estimated 220,000 die from the disease.

People living with HIV accounted for 1.2 million (11%) of all new TB cases. Six countries accounted for 60% of the new cases: India, Indonesia, China, Nigeria, Pakistan and South Africa. Global progress depends on major advances in TB prevention and care in these countries. Worldwide, the rate of decline in TB incidence remained at only 1.5% from 2014 to 2015. This needs to accelerate to a 4–5% annual decline by 2020 to reach the first milestones of the End TB Strategy. In 2015, there were an estimated 480000 new cases of multidrug-resistant TB (MDR-TB) and an additional 100000 people with rifampicin-resistant TB (RR-TB) who were also newly eligible for MDR-TB treatment. Although the number of TB deaths fell by 22% between 2000 and 2015, TB remained one of the top 10 causes of death worldwide in 2015 [1].

TB treatment & care in India is provided by the government's Revised National TB Control Programme (RNTCP) as well as through private sector health providers. In 2015 the RNTCP covered a population of 1.28 billion .

TB Prevention Services

TB Surveillance

The ultimate goal of TB surveillance is to directly measure TB incidence from national case notifications in all countries. This requires a combination of strengthened Surveillance, better quantification of under-reporting (i.e. the number of newly diagnosed cases that are missed by surveillance systems) and universal access to health care (to minimize under-diagnosis of cases). A TB surveillance checklist developed by the WHO Global Task Force on TB Impact Measurement defines the standards that need to be met for notification data to provide a direct measure of TB incidence [3].

♦ *Notification by Health Care Workers*

The ratio of the TB notification rate among health-care workers to the TB notification rate in the general adult population is a good indicator of the impact of TB infection control in health facilities. In 2015, 9977 health-care workers were reported with TB from 67 countries; China accounted for 30% of these cases and South Africa for 21%. In 16 countries, the number of TB cases per 100 000 health-care workers was more than double the notification rate in the general adult population.

♦ *BCG Vaccination*

BCG vaccination should be provided as part of national childhood immunization programmes according to a country's TB epidemiology.

♦ *TB Treatment as TB prevention*

For TB prevention the World Health Organisation (WHO) recommends the drug isoniazid should be taken daily for at least six months and preferably nine months.

The main "target" groups for TB treatment for prevention, are those most at risk of progressing from latent to active TB. These include:

- Infants and children aged less than 4 years old;
- People infected within the previous two years;
- People infected with both TB and HIV;

♦ People who have certain clinical conditions, or conditions which compromise their immune system, such as people with diabetes, and people with chronic renal failure.

♦ *Active TB drug-safety monitoring and management*

DSM is the active and systematic, clinical and laboratory assessment of patients on treatment with new anti-TB drugs, novel MDR-TB regimens, or XDR-TB regimens, to detect, manage and report suspected or confirmed drug toxicities. The overall objectives of a DSM are to reduce risks from drug-related harms in patients on second-line treatment for drug-resistant TB and to generate standardized

data to inform future policy updates on the use of such medicines.

DSM Includes Three Essential Activities to Achieve These Objectives

- Patients targeted for a DSM should undergo active and systematic clinical and laboratory assessment during treatment to detect drug toxicity and adverse events (AEs). Proposed schedules have been developed for use in patients on shorter regimens or on new medications.
- All AEs detected should be managed in a timely manner, to deliver the best possible patient care.
- Standardized data should be systematically collected and reported for any detected serious adverse event (SAE) [4,5].

♦ *Universal Health Coverage & Social Protection*

Implications for TB In some high TB burden settings, emerging health financing schemes, including national health insurance, could lead to major reductions in out-of-pocket expenditures in low-income populations.

Social protection can be advanced through better models of care and social benefits. Many low- and middle-income countries have financed social and economic support for TB patients, but these support packages need to be better documented and evaluated. For overall impact and sustainability, using national social protection platforms is a priority [6].

♦ *TB Financing*

The BRICS countries (Brazil, the Russian Federation, India, China and South Africa), which collectively account for about 50% of the world's TB cases, rely mostly or exclusively (the exception is India) on domestic funding [7].

♦ *TB Education*

TB education is necessary for people with TB. People with TB need to know how to take their TB drugs properly. They also need to know how to make sure that they do not pass TB on to other people. But TB education is also necessary for the general public

♦ *Preventing TB transmission in households*

Actions to be taken

In order to reduce exposure in households where someone has infectious TB, the following actions should be taken whenever possible:

Houses should be adequately ventilated;

Anyone who coughs should be educated on cough etiquette and respiratory hygiene, and should follow such practice at all times;

♦ While smear positive, TB patients should:

- Spend as much time as possible outdoors;
- If possible, sleep alone in a separate, adequately ventilated room;
- Spend as little time as possible on public transport;
- Spend as little time as possible in places where large numbers of people gather together.

Cough etiquette and respiratory hygiene means covering your nose and mouth when coughing or sneezing. This can be done with a tissue, or if the person doesn't have a tissue they can cough or sneeze into their upper sleeve or elbow, but they should not cough or sneeze into their hands. The tissue should then be safely disposed of.

♦ *Households where someone has culture positive MDR TB*

In households with culture positive MDR TB patients, the following guidance should therefore be observed in addition to the measures given above.

- Culture positive MDR TB patients who cough should always practice cough etiquette (including use of masks) and respiratory hygiene when in contact with people. Ideally health service providers should wear respirators when attending patients with infectious MDR TB in enclosed spaces.
- Ideally, family members living with HIV, or family members with strong clinical evidence of HIV infection, should not provide care for patients with culture positive MDR TB;
- Children below five years of age should spend as little time as possible in the same living spaces as culture positive MDR TB patients [8].

♦ *TB Prevention in Health Care Facilities*

Doctors and other health care workers who provide care for patients with TB, must follow infection control procedures to ensure that TB infection is not passed from one person to another. Every country should have infection control guidance which clearly needs to take into account local facilities and resources, as well as the numbers of

people being provided with care. However, infection control guidance must not only be written but also implemented [9].

Conclusion

Despite , more efforts have been taken to end the global TB epidemic, with corresponding targets of a 90% reduction in TB deaths and an 80% reduction in the TB incidence rate by 2030, compared with 2015.Improved measurements through substantial investments in health information systems, TB surveillance will provide a firmer basis for monitoring progress towards the End TB Strategy targets and ultimate TB elimination.

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Juvenile Drinking

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Abstract

Consumption of alcohol by anyone under the age of 21 known as underage drinking remains a considerable public health challenge. Adolescent alcohol use is not an acceptable rite of passage, but a serious threat to adolescent development and health. Underage drivers and drinkers can cause great harm as they lack driving experience and the ability to handle alcohol with their penchant for risk taking behaviors. Parents have a superior accountability to ensure that children are cared properly and not indulged in alcohol drinking, if not curbed at initial stages. This issue needs to be addressed with great urgency to curb juvenile drinking in future.

Keywords: Alcohol; Underage; Behaviour; Adolescent.

Introduction

Alcohol is the drug of choice among children and young adults. In India, today drinking alcohol is still considered only a minor sin. Social drinking is slowly catching on and societal tolerance towards drinking is going up.

Consumption of alcohol by anyone under the age of 21, also known as underage drinking, remains a considerable public health challenge. Adolescent alcohol use is not an acceptable rite of passage, but a serious threat to adolescent development and health[1]. A Research conducted by CADD amongst 1,000 youth who go to pubs and bars, reveals nearly 62% of these youth are in the age group 14-21 years even though the minimum legal drinking across major cities varies between 21 -25 years [2]. Medical research shows that the developing adolescent brain may be particularly susceptible to long-term negative consequences of alcohol use [1].

Underage drivers and drinkers can cause great harm as they lack driving experience and the ability to handle alcohol with their penchant for risk taking behaviors. Behavioral patterns such as speeding, rash driving along with a tendency to underestimate the consequences of such behaviors and to overestimate their driving skill – contribute to the high crash rate among young drivers [2].

Data and Statistics

- Every day in the United States, more than 4,750 kids under age 16 have their first full drink of alcohol [3].
- Underage drinking accounts for 11% of all the alcohol consumed in the United States [1].
- Youth who start drinking before the age of 15 are five times more likely to develop alcohol dependence or abuse in their lifetimes than those who begin drinking at age 21 years or later [1].
- A study conducted among children in Delhi aged between 20 and 25 has revealed that 89.8 percent of boys and 64.6 of girls surveyed have consumed alcohol before they turned 18 [4].
- The survey found underage drinking has gone up by 22.5 percent since 2012 in the age group

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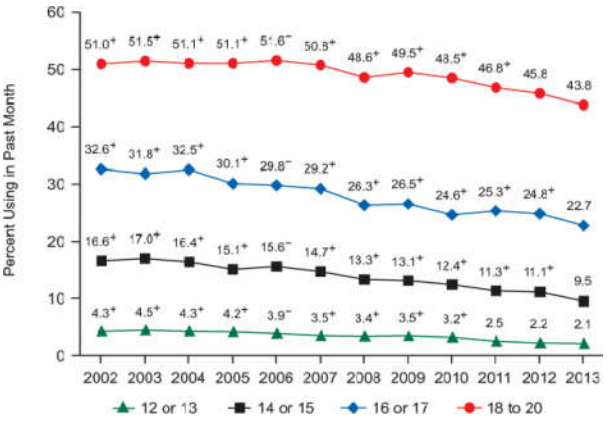
of 18-25 years [4].

- Reports of underage alcohol use were highest in the Northeast (28.3%) and lowest in the South (22.3%). Rates in the Midwest and West were both around 24.5% [1].

Alcohol Use among Persons Aged 12 to 20, by Age: 2002-2013 [5].

Risk Factors

Although adolescence brings increased risk for alcohol use, some factors put teens at higher risk for abusing alcohol. These include high levels of impulsiveness, novelty seeking, and aggressive behavior; having conduct or behavior problems; and a tendency not to consider the possible negative consequences of one's actions [1].



The Problem of Underage Drinking, Which Have Bearing on Policing Are [6]

- Traffic accident and fatalities.
- Alcohol related injuries.
- Property damages.
- Assaults, rape and other violent crimes.
- Disorderly conduct in public places.
- Rave Parties.
- Vandalism.
- Noise complaints in residential areas.
- Suicides, deaths

Reasons of Underage Drinking Can Be [6]

- Seeing drinking as a 'Rite of Passage' or fundamental part of adolescence and college life.
- Acceptable of underage drinking in society e.g. Peer groups, parents.
- To be as part of group.
- To reduce stress, worries, tension & to make them more socially confident.
- The advertisements of alcoholic drinks that are youth oriented with similar packaging.
- Availability in the form of vendors, pubs & restaurants serving alcohol.

Drunken Driving Law in India

The blood alcohol content (BAC) legal limit is 0.03% or 30 µl alcohol in 100 ml blood.On 1st March 2012, the Union Cabinet approved proposed changes to the Motor Vehicle Act. Higher penalties were introduced, including fines from 2,000 to 10,000 and imprisonment from 6 months to 4 years. Different penalties are assessed depending on the blood alcohol content at the time of the offence [7].

Dry Days

Dry Days are specific days when the sale of alcohol is not permitted. Most of the Indian states observe these days on major national festivals/occasions such as Republic Day (January 26), Independence Day (August 15) and Gandhi Jayanti (October 2). Dry days are also observed on and around voting days [7].

Conclusion

Parents have a superior accountability to ensure that children are cared properly and not indulged in alcohol drinking, if not curbed at initial stages. This issue needs to be addressed with great urgency to curb juvenile drinking in future. Awareness, Enforcements and laws can bring a substantial revolution only if drunken is made socially deplorable at the community level which would lead to better life situations in the future.

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Adult Onset Still Diseases

S.K. Mohanasundari

Abstract

Adult-onset Still's disease is an inflammatory disease that may affect many joints, internal organs, and other parts of the body. Adult Still's develops most often in people before age 45, but can first occur in later years as well. The cause of Still's is unknown and there are no known risk factors. It is thought that a virus or other type of infectious agent may trigger Still's disease, but there is no proof. Although some features are similar, adult-onset Still's disease is different than Still's in children. In children, Still's disease is considered a form ofjuvenile rheumatoid arthritis and referred to as systemic-onset juvenilerheumatoid arthritis. Less than one in 100,000 people develop adult-onset Still's each year and it is more common in women. It is manifested by fever, joint pain, warmth, and swelling, joint pain, warmth, and swelling, severe muscle ache, and sore throat. It can be diagnosed with blood test, imaging study. The treatment is Symptomatic as this disease as no cure as such.

Keywords: Adult;Aarthritis; Inflammation; Rash; Infection & Swelling.

Introduction

Adult Still's disease is a rare type of inflammatory arthritis that is similar to rheumatoid arthritis. It shares characteristics of systemic-onset juvenile idiopathic arthritis, but it begins in adulthood. Inflammation may affect a few joints at first, but may advance to include more joints over time. Some people may have only one bout of the illness followed by lasting remission, while others may develop chronic arthritis.

The cause of adult Still's disease is unknown. Some research suggests that it may be triggered by an infection.

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Definition

Adult-onset Still's Disease (AOSD) is a rare systemic inflammatory disease characterized by the classic triad of persistent high spiking fevers, joint pain and a distinctive salmon colored bumpy rash. This inflammation can destroy affected joints, particularly the wrists.

Incidence

- Fewer than 1 out of 100,000 people develop adult-onset Still's disease each year.
- Incidence peaking twice: once from 15 to 25 years and again from 36 to 46 years
- Most often in people before age 45, but can first occur in later years as well
- It affects women more often than men.

Risk Factor

- Age is the main risk factor for adult Still's disease, No other risk factor has been identified.

Causes

The cause of adult Still's disease is unknown

Symptoms

Almost all people with adult-onset Still's disease have fevers, joint pain, sore throat, and a rash. But the type, pattern, and severity of symptoms vary from person to person and even from month to month for the same person. For example, symptoms may come and go. And, at first patient may have just a few symptoms, then later patient may have more.

If you have a high fever, rash and achy joints,

- **A fever** (equal to or greater than 102 degrees) that comes on quickly once per day, usually in the afternoon or evening. For most people, these fevers resolve without treatment.
- **Joint pain, warmth, and swelling** affecting a few joints at first -- often knees and wrists, then several joints. Morning stiffness often lasts for several hours.
- **A salmon pink-colored skin rash** that usually comes and goes with the fever and usually doesn't itch. Flat spots or both flat spots and small, raised bumps may appear on your torso, upper arms or legs, or face.
- **Severe muscle aches**, which also may ebb with the fever.
- **A sore throat** that can be severe, constant, and burning
- Abdominal pain and swelling
- Pain when taking a deep breath
- Swollen glands (lymph nodes)
- Unexplained weight loss

see your doctor. Also, if you have adult Still's disease and develop a cough, difficulty breathing, chest pain or any other unusual symptoms, contact your doctor.

Investigations and Diagnostic Measures:

Adult-onset Still's disease can only be diagnosed after many other diseases (such as infections and cancer) are ruled out. You may need many medical tests before a final diagnosis is made.

A physical exam may show a fever, rash, and arthritis. The health care provider will use a stethoscope to listen for changes in the sound of your heart or lungs.

The following tests can be helpful in diagnosing adult Still's disease:

Blood test	Imaging studies
• Complete blood count (CBC), may show a high number of white blood cells and reduced number of red blood cells. • C-reactive protein (CRP), a measure of inflammation, will be higher than normal. • ESR (sedimentation rate), a measure of inflammation, will be higher than normal. • Ferritin level will be very high. • Fibrinogen level will be high. • Liver function tests will show high levels of AST and ALT. • Rheumatoid factor and ANA test will be negative.	• Other tests may be needed to check for inflammation of the joints, chest, liver, and spleen: • Abdominal ultrasound • CT scan of the abdomen • X-rays of the joints, chest, or stomach area (abdomen)

Treatment and Selfcare

Goal of the Treatment:

To control symptoms and the course of the disease.

To help prevent or lessen any complications.

Treatment

Early treatment for adult-onset Still's disease is aimed at controlling symptoms of arthritis with nonsteroidal anti-inflammatory drugs (NSAIDs). NSAIDs include ibuprofen (Advil, Motrin), naproxen(Naprosyn, Aleve), and high-dose aspirin. Analgesics, or pain drugs, may also be prescribed. if disease is severe or doesn't respond to NSAIDs, Patient may require corticosteroids, such as prednisone,

In case of chronic case of Still's, patient may need medications to suppress immune system and to control arthritis and other symptoms. Patient may take more than one medication at the same time and may need to take these for a long time. Few of these medications can be taken by mouth and others by injection.

These are examples of medications:

- Methotrexate (Rheumatrex)
- Hydroxychloroquine (Plaquenil)
- Sulfasalazine (Azulfidine)
- Azathioprine (Imuran)

- Cyclophosphamide (Cytoxan)
- Cyclosporine (Neoral)
- Anakinra (Kineret)
- Antitumor necrosis factor therapies: adalimumab (Humira), etanercept (Enbrel), infliximab (Remicade)

If adult-onset Still's disease affects your heart or lungs, doctor may also need to prescribe medication to treat these problems.

Self-care

With adult Still's disease, the medications may need to be taken even after symptoms go away. This is called maintenance therapy. It is important to keep the inflammation under control to prevent more damage to the body. If prednisone is taken for a long time, a doctor may recommend taking calcium and vitamin D to prevent thinning of the bones.

Complications

- Pericarditis
- Pleural effusion
- Macrophage activation syndrome
- Arthritis in several joints
- Liver disease
- Spleen enlargement

Prognosis and Recurrence

- It isn't yet possible to prevent Still's disease, and there is no cure.
- Some people have just one episode of adult Still's disease. In other people, the condition persists or recurs.
- 1 in 5 people have symptoms that go away and never come back.
- About 1 in 3 have symptoms that go away but come back several times over several years. These relapses are often less severe and shorter than the first episode.
- 1 in 2 people have symptoms that last a long time, with the disease sometimes affecting vital organs.

Differential Diagnosis

- Lyme disease,
- Crohn'sdisease

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Title	Frequency	Rate (Rs): India		Rate ($):ROW	
Community and Public Health Nursing	3	5000	4500	357	300
Dermatology International	2	5000	4500	357	300
Gastroenterology International	2	5500	5000	393	340
Indian Journal of Agriculture Business	2	5000	4500	500	450
Indian Journal of Anatomy	4	8000	7500	571	500
Indian Journal of Ancient Medicine and Yoga	4	7500	7000	536	500
Indian Journal of Anesthesia and Analgesia	4	7000	6500	500	450
Indian Journal of Biology	2	5000	4500	357	300
Indian Journal of Cancer Education and Research	2	8500	8000	607	550
Indian Journal of Communicable Diseases	2	8000	7500	571	500
Indian Journal of Dental Education	4	5000	4500	357	300
Indian Journal of Emergency Medicine	2	12000	11500	857	800
Indian Journal of Forensic Medicine and Pathology	4	15500	15000	1107	1050
Indian Journal of Forensic Odontology	2	5000	4500	357	300
Indian Journal of Genetics and Molecular Research	2	6500	6000	464	400
Indian Journal of Hospital Administration	2	6500	6000	464	429
Indian Journal of Hospital Infection	2	12000	9000	857	800
Indian Journal of Law and Human Behavior	2	5500	5000	393	350
Indian Journal of Library and Information Science	3	9000	8500	643	600
Indian Journal of Maternal-Fetal & Neonatal Medicine	2	9000	8500	643	600
Indian Journal of Medical & Health Sciences	2	6500	6000	464	410
Indian Journal of Obstetrics and Gynecology	4	9000	8500	643	600
Indian Journal of Pathology: Research and Practice	4	11500	11000	821	780
Indian Journal of Plant and Soil	2	65000	60000	4623	4100
Indian Journal of Preventive Medicine	2	6500	6000	464	410
Indian Journal of Research in Anthropology	2	12000	11500	857	800
Indian Journal of Surgical Nursing	3	5000	4500	357	300
Indian Journal of Trauma & Emergency Pediatrics	4	9000	8500	643	600
Indian Journal of Waste Management	2	9000	8000	643	579
International Journal of Food, Nutrition & Dietetics	3	5000	4500	357	300
International Journal of Neurology and Neurosurgery	2	10000	9500	714	660
International Journal of Pediatric Nursing	3	5000	4500	357	300
International Journal of Political Science	2	5500	5000	550	500
International Journal of Practical Nursing	3	5000	4500	357	300
International Physiology	2	7000	6500	500	450
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Case Report

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Optic Nerve Glioma in Child: A Case Study

S.K. Mohanasundari

Abstract

An optic nerve glioma is a type of brain tumor. There are multiple kinds of brain tumors and glioma's account for approximately one-third of brain tumors. They are typically named after the kinds of cells they affect. It is a rare kind of cancer, they are considered low-grade and do not grow as quickly as other types of brain tumors. They are found in the optic chiasm, where the optic nerves cross, or surround, the optic nerves. They are also referred to as optic glioma or juvenile pilocytic astrocytoma. It is rarely found in individuals over the age of 20. It has also been associated with the genetic disorder neurofibromatosis Type 1, or NF1. Evidence suggests that adult malignant gliomas (glioblastoma) are rare & almost always occur in adult males with a very poor prognosis & almost certain death within one year. Optic-nerve gliomas comprise about 1% of all intracranial tumors and Optic nerve glioma is a slow-growing tumour, which typically affects children. 30% of patients have associated neurofibromatosis type 1& those have better prognosis.However, optic nerve glioma of children is discussed in this article.

Keywords: Optic Nerve Glioma; Juvenile Pilocytic Astrocytoma; Brain Tumors; Malignant Gliomas (Glioblastoma) and Intracranial Tumors.

Introduction

A 7 ½ year old male child was admitted in the paediatric surgical ward on 12/02/2016 with the complaints of diminished vision from past 6 months and moderate to severehead ache on frontal area with one episode of vomiting. The child was apparently normal before 6 months, and his decreased in vision was reported by his school teacher that he is not able to see words in blackboard. He went for routine eye check-up and suggested for improving diet and no other treatment measures were used. The symptoms progress and the child vision worsen with which he started banging on walls and doors and thus continuous diminishing of vision for which he went for 2nd ophthalmologiccheck-up and he was referred to PGI Chandigarh and advised for MRI and the child was diagnosed for brain tumor. Therefore the clint came to AIIMS OPD for the same complaints and paediatric surgeon. The child underwent craniotomy and excision on 3rd march and the tumor was removed and culture was sent for histopathological examination. The incision from frontal area starting from right ear 13 sutures was made to close the incision. The conformation of diagnosis wasoptic nerve glioma. Postoperatively the child was complaining for diarrhoea and head ache.

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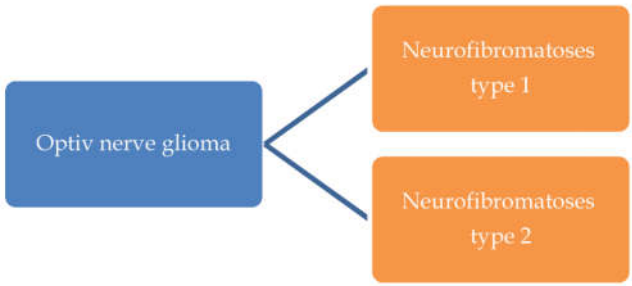
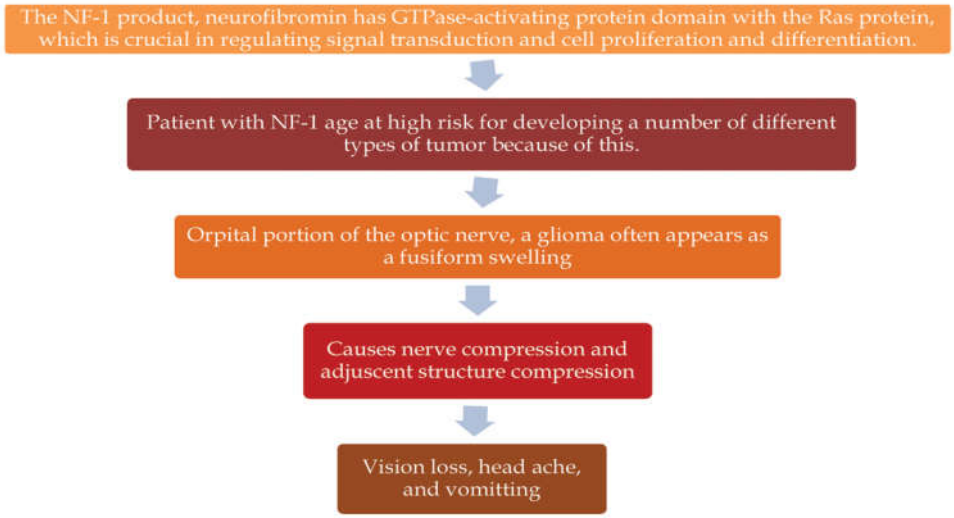
Disease Condition

Book picture	Patient picture
Definition: An optic nerve glioma (also called an optic pathway glioma) is a slow-growing brain tumor that arises in or around the optic nerve, which connects the eye to the brain. As the tumor progresses, it presses on the optic nerve, causing a child's vision to worsen. Blindness can occur, but only in about 5 percent of cases. the tumor sometimes produces additional symptoms as it grows. A low-grade form of this neoplasm, benign optic glioma, occurs most often in paediatric patients. While these are serious tumors, they have a high cure rate.	
Incidence: • Peak incidence occurs in individuals aged 6-7years. • Prevalence of 15% (range, 1.5–24%) • Benign optic glioma occur almost in children, better prognosis • Aggressive glioma occur almost in adult, poor prognosis. • Genetic disorder neurofibromatosis Type 1, or NF1is commonest type in children	Age 7 ½ years Sex: male Race: Asian
Types: 	• Neurofibromatosis type 1
Causes: Unknown chromosomal abnormalities/hereditary genetic disorder environmental or infectious causes can predispose	Unknown
Pathology: 	

Clinical manifestations • **Headache**: due to increased intracranial pressure or hydrocephalus. • **Nausea and Vomiting**: Classic projectile vomiting (frequently without nausea) • **Visionloss** ○ Children are frequently unaware of significant vision loss; nevertheless, this symptom reportedly occurs in 20-60% of paediatric patients with craniopharyngioma at presentation. ○ Anterior extension to the optic chiasm can result in a classic bitemporal hemianopsia, unilateral temporal hemianopsia, papilledema, or unilateral/bilateral decrease in visual acuity. Classically, vision loss starts with a superior temporal field cut. However, the eccentric growth of these tumors can result in varying patterns and severity of vision loss, including decreased acuity, diplopia, blurred vision, and subjective visual field deficits. Children are frequently inattentive to visual loss, and formal testing may be required. ○ **Balance problem** • **Seizures** due to Temporal lobe involvement • **Hyperactive** children with unusual eye movements and even blindness due to extrinsic compression of the hypothalamus. • **Endocrine deficiencies** leads to short stature, Weight gain, Lethargy, Fatigue, Cold intolerance, Dry skin, Dry brittle hair, Slow teething, Anorexia, Large tongue, Deep voice, Myxoedema, Delayed puberty, memory impairment, daytime sleepiness and growth delays	**Before surgery**: Head ache on frontal area Vomiting Partial Vision loss (bitemporal hemianopsia) Unusual eye movement **After surgery:** Head ache Diarrhoea
Diagnosis: • History • Physical examination with neurological exam. • Preoperative intellectual or psychological assessment. • Vision testing • Serum electrolytes levels • Hormonal studies • Skull radiography • Head CT scanning • Brain MRI • Cerebral angiography • Biopsies for Histological studies	• **History**: The child natal history was apparently normal. • **General appearance:** Oriented, conscious, moderate body built. • **GCS score:** Eye 4 verbal 5, and motor 6, • **Vital signs:** stable • **Anthropometr**y: height 154cm, weight 18kg, 1st degree malnutrition (according to Gomez classification). • **Growth and development** seems to be normal. And child was mild hyperactive and have hurried in speech. • **Head to foot:** after surgery suture line are present, partial visual acuity. Unusual eye movement, pupillary dilatation, partial optic atrophy. Extra ocular eye movement abnormalities. Slow teething and deep voice, weight loss. • No other abnormal physical findings. **Investigations:** • **Haematologicalinvestigation**: Hb: 11.3gm/dl, RBC 4.56mc/cum,TLC 7500cells/cumm,DLC-N 90%,E-01%, L-05%, m-04%, platelet – 3.11 lacks/c/cumm, Hematocrit 34.8%. • **Hormonal studies:**T3 level is elevated. • **MRI**: suggestive of possibilitiey of Craniopharyngiomas. • **Histopathologiclaexamination**: suggestive of optic nerve glioma

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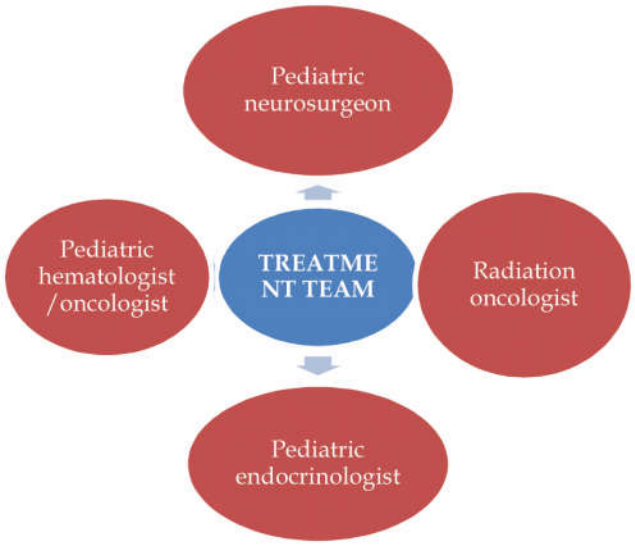
Treatment:

A treatment plan must be carefully individualized for each patient.This need consultation and team work.



- **Observation** only in presumed optic nerve glioma, particularly with good vision on the involved side; with careful follow up if the radiographic evidence**.**
- **Long-term hormone replacement** is the primary medical treatment: intranasal vasopressin (desmopressin acetate [DDAVP]), corticosteroids, thyroid hormones, growth hormones, and sex hormones.
- **Combination chemotherapy** using actinomycin D, vincristine, etoposide, bevacizumab and other agents has also been reported to be effective in patients with progressive chiasmal/hypothalamic gliomas To shrink the tumor and stabilize vision.
- **Radiation therapy** as the sole treatment is considered if the tumor cannot be resected (usually chiasmal or optic tract lesions) and if symptoms (particularly neurological) progress or if the tumor is resistant to chemotherapy
- **Alternative medicine**(acupuncture/acupressure, therapeutic touch, herbal medicine, etc.) to control pain and treatment side effect.
- **Surgical Care**-Surgery is usually not preferred for this type of tumor, but can sometimes relieve symptoms and/or improve vision. Surgical excision in case of rapid intraorbital tumor growth to isolate the tumor from the optic chiasm and thus prevent chiasmal invasion. The surgeon should use an intracranial approach to obtain tumor-free surgical margins.
- Radical surgery
- Conservative surgery alone
- Conservative surgery with postoperative radiotherapy

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- **Medical management**

Tab Valporate 200mg OD (morning)

Tab Veona CR 300 mg OD (evening)

Tab Pantop -20mg OD

Tab Sporlac 120mg TDS

- **Surgical management**

Craniotomy and excision was done

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Complications:

- Hormonal deficiency
- Cognitive difficulties,
- learning disabilities, and
- impairments in growth

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- TSH deficiency
- Diencephalic syndrome (hyperactive with unusual eye movements)

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Prognosisand recurrence	
• Variable • Optic nerve glioma recurrence may take place many years after initial treatment. • It usually recurs in the same place as the original tumor, but can also occur in other parts of the brain or spinal cord. • Local radiation therapy is the usual treatment if the patient has not previously been treated with this modality. • Chemotherapy and radiation therapy are options for patients who have only been treated surgically. • Child with NF-I tend to fare better with respect to growth and visual prognosis. • Most tumor grows slowly or having self limited growth. • Some tumors are more aggressive, resulting in a rapid increase in ispilateral proptosis and visual loss.	• Not evident till date

Nursing Assessment

- Identification of risk factors for exposure to radiation or chemicals that is carcinogenic.
- Identify the signs and symptoms are: headache, vomiting, and decreased vision or double vision.
- Identify any changes in client behaviour.
- Observation of hemiparesis or hemiplegia.
- Changes in sensation: hyperesthesia, parasthesia.
- Observation of sensory changes: asteregnosis (not able to feel the sharp edges), agnosia (not able to recognize objects in general), apraxia (not being able to use the tool properly), agraphia (can't write).
- Observation of vital signs and level of consciousness.
- Observation circumstances fluid and electrolyte balance.
- Psychosocial: personality and behavioural changes, difficulty making decisions, anxiety and fear of hospitalization, diagnostic tests and surgical procedures, a change in the role.

Possible Nursing Diagnosis

1. Ineffective tissue perfusion related to circulatory damage caused by a tumor suppression.
2. Impaired sensory perception decrease visual acuity related to optic nerve compression
3. Pain (Acute / Chronic) related to increased intracranial pressure.

Altered comfort irritability related to increased intracranial pressure

4. Fluid and electrolyte imbalance related to vomiting
5. Impaired family coping related to poor prognosis of the disease
6. Risk for injury related to poor visual acuity.
7. Risk for recurrence related to metastatic nature of the disease
8. Potential for complications vision loss related to poor prognosis of disease
9. Potential for neurological deficit related to poor prognoses and non availability of the chemotherapy and radiation therapy.
10. Knowledge Deficit: the condition and treatment needs related to the inability to know the information.

Conclusion

Having cancer as a child can be socially and emotionally stressful. You or your child may benefit from counselling or a support group. Being around peers his or her own age can be a big support.The survival rate for optic pathway gliomas is near 90 percent.

Older children and those with neurofibromatosis 1 have better outcomes. In fact, two-thirds of children with NF1 experience spontaneous remission of their optic pathway gliomas. Children may suffer a smaller field of vision, which means they do not have peripheral vision.

The odds of complete blindness from these tumors, however, are less than 5 percent. As there is chance of recurrence after treatment, follow-up visits with doctor are necessary to check for any side effects and ensure the cancer has not returned.

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