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Contents

Volume 12, Number 2 **July-December 2024** **Page No.**

1. A Cross Sectional Study to Assess the Awareness and Practice Regarding Iron Deficiency Anaemia and its Prevention Among Adolescent Girls of Selected Schools of Bardoli 1
Mayuri Rabari, Rani Shetty, Manjunath Beth
2. Pilot study to evaluate the Effectiveness of Novel Designed Nebulizer (NDN) on Compliance among Preschoolers undergoing nebulization in selected Hospital, Salem 5
Stephina Immaculate V, Tamizharasi. K
3. Effectiveness of Video Assisted Teaching Programme on Knowledge Regarding Technique of Breast Self Examination Among Adolescent Girls at Maharani's Science College, Mysore 12
Nandaprakash. P
4. The Critical Problems Facing Nursing Care in African Countries 21
Haruna Abubakar H
5. Child Rearing Practices Among Working and Non Working Mothers Of Under Five at Selected Hospital, Salem 27
Nagalakshmi. E and K. Tamizharasi
6. The Factors Affecting on Productivity in Healthcare Sector 34
K*anwar Farrakh Humayun,Javeria Naveed,Naveed*

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A Cross Sectional Study to Assess the Awareness and Practice Regarding Iron Deficiency Anaemia and its Prevention Among Adolescent Girls of Selected Schools of Bardoli

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ABSTRACT

Introduction: Anaemia is a state in which the concentration of haemoglobin or red blood cells number is less than normal within the body.[1]Objectives of the study were to assess the awareness and practice regarding Iron deficiencyanaemia and its prevention among school adolescent girls and to find out the correlation between mean score of awareness and practice.

Methodology: A quantitative study approach and cross-sectional research design was adopted to assess the awareness and practice regarding iron deficiency anaemia and its prevention among adolescent girls. The sample consisted of 237 girls who were school going adolescents. The samples were selected using non probability consecutive sampling technique. The data was collected through the administration of structured questionnaire, which consists of 14 demographic questions, 20 knowledge questions and 20 practice questions (checklist). Data was analysed by using statistical and inferential methods.

Result: This study results revealed that, 11% of samples had good awareness where as 17% of samples had poor awareness and three percent of samples had good practice where as 13% of samples had poor practice regarding Iron deficiency anaemia and its prevention. The correlation between mean score of awareness and practicewere 9.07 and 8.74.

Conclusion: Based on the findings of the study, it was concluded that the samples were having less awareness and practice regarding iron deficiency anaemia and its prevention. Interventional measures will help to improve their practice and awareness.

Key words: Awareness, Practice, Iron deficiency anaemia, Prevention

INTRODUCTION

Anaemia is a state in which the concentration of haemoglobin or red blood cells number's is less than normal within the body.Haemoglobin is required to carry oxygen and if people have very less or not enough haemoglobin or abnormal red blood cells, it will be a reduced capacity of the blood to carry oxygen to the body's tissues and results in symptoms likeweakness, fatigue, dizziness and shortness of

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breath, among others. The highest concentration of haemoglobin is required to meet physiological needs, which vary by age, gender, elevation of residence, pregnancy status and smoking behaviours. Worldwide, Anaemia is a significant public health problem which particularly affects young children, menstruating adolescent girls and women, pregnant and postpartum women. WHO make an estimate that 40% of children 6–59 months of age, 37% of pregnant women, and 30% of women 15–49 years of age worldwide are anaemic. Anaemia caused 50 million years of healthy life lost due to disability in 2019.[1]

Iron is a main micronutrient that is vital for several functions in human body. It is required for oxygen binding, immune function, cellular growth and differentiation, enzymatic reactions, transport and storage, mental and physical growth , cognitive function etc. So, lack of iron due to either pathological or physiological basis can affect physical and mental growth resulting in reduced work productivity and learning capacity. Iron Deficiency Anaemia is identified by a fault in haemoglobin synthesis, developing in microcytic and hypochromic red blood cells. It can result either because of blood loss or increase demand due to any reason and less nutritional supply.[2]

In adolescent girls, there are several reasons of iron deficiency anaemia. There may be insufficient intake or absorption of iron, heavy blood loss in menstruation, parasitic infestation, increased need in adolescence etc. More than 50% of the world's underweight community population lives in India.[3] Even though Iron Deficiency Anaemia occurs at all age group and include both gender, adolescent girls are more susceptible to it. According to the World Health Organization (WHO) adolescent period is between the age group of 10-19 years.[4].With regard to adolescent females, three fourth of them do not fulfil the dietary requirements.[5]

In adolescents, anaemia has been linked to affecting physical disorders, growth, and mental retardation, and also increases reproductive morbidities among adolescent girls during their womanhood.[6] Iron deficiency lead to anaemia may impair mental development and physical growth, reduce physical fitness, school performance and work capacity, and decrease infection resistance.[7] Besides, once adolescent girls with anaemia become pregnant, they are exposed not only to the threat of maternal mortality and morbidity but also the prevalence of early delivery, perinatal mortality and low birth weight, and also infant born by anaemic mother have a significant risk of anaemia in the first six months of their life.[8]

India is home to 253 million adolescents 10–19 years of age, among the largest cohorts globally. Limited nationally representative nutrition survey data exist for this age group. National Family Health Surveys (NFHS) cover only the 15- to 19-year age group and limited nutrition indicators. From 2005~2006 to 2019~2021, NFHS estimates indicate that anaemia prevalence among Indian adolescents aged 15~19 years has slightly increased (girls: 55.8% to 59.1%, boys: 30.2% to to 31.1%).[9]

According to UNICEF, In India, anaemia affected 40% of girls and 18% of boys. Anaemia among adolescents adversely affects growth, work productivity and cognitive development, resistance to infections.[10] As per the National Family Health Survey-3 (NFHS-3) data shows that the anaemia prevalence in adolescent girls is 56 per cent. According to Findings from Global Burden of Disease study 2021, the global prevalence of anaemia across all ages was 24·3% (95% uncertainty interval [UI] 23·9–24·7), corresponding to 1·92 billion (1·89–1·95) prevalent cases, compared with a prevalence of 28·2% (27·8–28·5) and 1·50 billion (1·48–1·52) prevalent cases in 1990.[11] Iron deficiency is a preventable cause. In India, high prevalence of anaemia (Haemoglobin <12 gm%) among adolescent girls, causes 1.8% loss of GDP. Daily need of iron for adolescent girl is 0.8 mg/1000 Kcal of dietary energy.[12] Indian government has set a goal to decrease the burden of anaemia in girls and women by 50% in 12th five year plan. A study was conducted to identify the prevalence of anaemia among 200 adolescent girls with result of 50% anaemic from of the total, 43.3% of them were mild anaemic and 3.3% were found moderate and severe anaemicrespectively.[13]

Another study shows that, in general, prevalence of anaemia was identified 48.63%

(n = 124). The most of the (55.64%, n = 69) girls had mild anaemia, 188 (73.73%) were from the age group (10–14 years) of early adolescent among 255 girls. In late adolescents and low socioeconomic class, the prevalence of anaemia was high, (52.24%).[14]

Another study show that, in general, compare to adolescent boys the anaemia was more prevalent in adolescent girls (20% vs. 8.7%).[10] Another study show that among 1000 adolescent girls 60 percent found to be anaemic, 18.4 percent as mild 41.3 percent as moderate , and 0.4 percent was having severe anaemia.[6]

Hence the objectives of this study were to assess the awareness and practice regarding Iron deficiency anaemia and its prevention among school adolescent girls and to find out the correlation between mean score of awareness and practice.

MATERIAL AND METHODS

This cross sectional study was conducted using quantitative research approachto assess the awareness and practice regarding iron deficiency anaemia and its prevention in selected school of Bardoli among school going adolescent girls whose age between 10 to 19 years. The researcher obtained permissionbefore conducting the study. Adolescent girls who were willing to participate in study and who knows Gujarati, Hindi and English based on the inclusion criteria and using Raosoft sample size calculator sample size was determined. A total of 237 samples were recruited using the non probability consecutive sampling technique.Tool was validated by 7 experts and reliability of knowledge questionnaire was found to be 0.78 using correlation coefficient formula and inventory checklist was found to be 0.77 using split half method. Socio-demographic data,knowledge questionnaire and inventory checklist tools and self-reported technique was used for data collection. Data was analysed using mean,standard deviation, range and median to identification of the level of awareness and practice regarding iron deficiency anaemia and its preventionand karl Pearson test for correlation between mean score of awareness and practice regarding iron deficiency anaemia and its prevention.

FINDINGS

Table 1: Identification of the level of awareness and practice regarding iron deficiency anaemia and its prevention. N = 237

	Awareness	Practice
Good	11%	2.5%
Average	60.7%	69.1%
Poor	16.8%	13%

Awareness: 11% of samples had good awareness whereas 17% of samples had poor awareness regarding Iron deficiency anaemia and its prevention.

Table 2: Range, mean, standard deviation, median of awareness and practice regarding iron deficiency anaemia and its prevention. N = 237

	Range	Mean	SD	Median
Awareness	1-16	9.07	3.05	9
Practice	2-15	8.74	2.17	9

Practice: Three percent of samples had good practice where as 13% of samples had poor practice regarding Iron deficiency anaemia and its prevention.

Table 3. The correlation between mean score of awareness and practice regarding iron deficiency anaemia and its prevention.

Variables	Mean score	SD	R value	P value
Awareness	9.07	3.05	0.936	0.05
Practice	8.74	2.17		

Regarding correlation between mean score of awareness and practice: The mean score of awareness and practice were 9.07 and 8.74. The calculated correlation value was 0.936 at p value of 0.05. so the awareness was significantly correlated with practice. Therefore moderately positive correlation present between awareness and practice.

DISCUSSION

The study finding was supported by the study conducted in rural district in Ghana among early adolescents. The study result found that about 40% had knowledge of iron deficiency anaemia, 29.4% knew anaemia causes, 86% knew symptoms of anaemia, and 35% knew anaemia consequences. Although 41.2% of participants knew its prevention as eating iron-rich foods,

31.4% knew the food sources of iron, and 4.4% mentioned animal-based foods as rich sources, with the bulk (27%) mentioning plant-based foods instead. Moreover, 18.2% knew iron enhancers, while 0.7% knew iron inhibitors.[15]

CONCLUSION

Based on the findings of the study, it was concluded that the samples were having less awareness and practice regarding iron deficiency anaemia and its prevention. Interventional measures such as nutritional supplementation,counselling and education will help to improve their practice and awareness. The community health nurse act as a resource person. She gives health education, perform counsellingand provide nutritional supplementation. She can also perform the demonstration on preparation of iron rich diet.

Conflict of interest

There was no conflict of interest reported.

Source of funding

This study was a self-funded.

Ethical Clearance

The permission was obtained from the Taluka Health officer, Bardoli, Surat, Gujarat. The Researcher had taken consent from school going adolescent girls meeting the inclusion criteria. The researcher got ethical clearance from ethical committee of Maniba Bhula Nursing College on 16thMay, 2023 with a reference no. MBNC/025/2023-24.

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Pilot study to evaluate the Effectiveness of Novel Designed Nebulizer (NDN) on Compliance among Preschoolers undergoing nebulization in selected Hospital, Salem.

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ABSTRACT

The present pilot study is as a part of Ph.D. Programme under THE TAMILNADU Dr. M.G.R Medical University. The study was designed to assess the effectiveness of Novel Designed Nebulizer (NDN) Compliance among Preschoolers undergoing nebulization in selected Hospital, Salem. Quasi experimental research design was adopted. 20 children (10 experimental, 10 control group) who were admitted in pediatric wards with respiratory conditions and receiving nebulization between the age group of 3 to 6 years were selected by purposive sampling. Nebulization was given to experimental group with Novel Designed Nebulizer (NDN) and control group with routine nebulization. The results showed that the post test scores reveal that experimental group all 10(10%) the preschoolers were having high level of compliance and in control group all 10(10%) the preschoolers were having Medium level of compliance to nebulization procedure.The Friedman test value is 9.235 which is greater than the table value which indicates that the Novel designed nebulization is effective in increasing the compliance in experimental group.overall mean and SD in Experimental group is 2.31±0.23and the overall mean and SD in control group is 4.19 ±0.46. The mean difference is 1.88. The Z value is 3.800 which is higher than the table value which shows that the Novel designed nebulization is effective in improving the compliance among Preschoolers in experimental group.

Keywords: Novel Designed Nebulizer, Preschoolers, Nebulization, Compliance.

OBJECTIVES

1. To assess the compliance among children undergoing nebulization in experimental and control group.
2. To determine the effectiveness of Novel Designed Nebulizer on compliance among children undergoing nebulization in experimental group.
3. To associate the compliance among children undergoing nebulization in experimental and control group with selected demographic variables.

HYPOTHESES

1. There is a significant difference in the level of compliance after Novel Designed Nebulization among the children undergoing nebulization in the experimental group and control group at $P \leq 0.05$ level.

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2. There is a significant association between compliance among children undergoing nebulization in experimental and control group with selected demographic variables at P <0.05 level.

BACKGROUND OF THE STUDY

Nebulizers are ubiquitous in the world of medicine. Any child diagnosed with asthma, pneumonia, cystic fibrosis, chronic obstructive pulmonary disorder (COPD), or any other severe lung disease often use a nebulizer in order to deliver medication to the lungs. The most commonly used nebulizers today are bulky, and produce lot of noise. These aspects of the nebulizer make it difficult to use even in an hospital environment and decrease the compliance of the child to the treatment.[5] Respiratory conditions are the most common in childhood and the leading causes of childhood morbidity from chronic disease (GINA 2016). Inhaled aerosolsis foundation of asthma treatment and all other respiratory conditions which was recommended both in Global Initiative for Asthma (GINA) and Chinese paediatric asthma diagnosis and treatment guideline[1]. National Parents of Asthmatic Children KAP Project Team (China) showed that 66.0% asthmatic children had asthma attacks in the past 12 months, 26.8% asthmatic children had visited the emergency department and 16.2% asthmatic children had been hospitalized. (Asthmatic Children KAP project team, 2013). A few studies showed an increased risk of uncontrolled asthma or an asthma exacerbation in children with lower compliance (Jentzsch NS, 2012; Milgrom H, 1996). Poor compliance to inhaled aerosol therapy may also contribute to high mortality (GINA 2016).[1] Nebulizer therapy has been recommended in GINA and Chinese Paediatric asthma diagnosis and treatment guideline. Compared to other inhalers, delivering medications through nebulizer therapy need minimal patient's cooperation and normal breathing pattern (Deborah Elliott, 2011), but there are no studies to show the compliance of nebulizer therapy inclinical practice. So the investigator aim to investigate the compliance of the treatment during the procedure in the admitted Preschoolers in hospital. The reality strongly suggests that, despite medical advances and competence and progress in both therapy and technology which permit the administration of simple to use medicines such as aerosols, greater commitment and compliance is required in order to obtain better results which are consistent with the current availability of such technological and therapeutic measures.[2] Compliance with medical treatment was evaluated in 89 children with respiratory diseases using two methods of assessment: a double blinded covert recording of the use of an air compressor for nebulization of drugs and the determination of theophylline levels in serum. However, 72% prescribed doses which were substantially below the recommended amount of drug according to age and weight. It is, therefore, concluded that compliance of medication is based on the child's adherence to the treatment procedure, which depends on the efficacy of the drug.[3]

MATERIALS AND METHODS

Quasi experimental research design was adopted. Ethical clearance was procured from the Institutional Ethical committee of Sri Gokulam Hospital, Salem on 16.08.2021. (Ref No: 1400246) Written permission was obtained from the Managing Director of Ramalingam's Hospital, Salem. 20 children (10 experimental, 10 control group) who were admitted in pediatric wards with respiratory conditions and receiving nebulization between the age group of 3 to 6 years were selected by Convenient sampling. Informed consent and assent was obtained from parents and children respectively. Purpose and importance of the study was explained and also reassurance was given regarding the confidentiality of data. Data was collected using Semi structured interview schedule to collect the Socio demographic data and compliance scale was used to assess the level compliance during nebulization. Nebulization was given to experimental group with Novel Designed Nebulizer (NDN) - a modified treatment instrument to children during nebulization in experimental group and routine nebulization for control group. The researcher uses visual and auditory play model as treatment device

(Nebulizer) from which glowing lights and rhymes of child's choice are played to distract the child. And nebulizer itself is modified like a toy. The compliance of the child was assessed during the procedure

RESULTS

The table 1 and 2 depicts that, in control group, the overall post test mean, SD was 2.31 +0.24 and the mean percentage was 46 where as experimental group overall post test mean, SD was

Table 1 : Frequency and percentage distribution of Preschoolers according to their Demographic variables

	Control group (n=10)		Experimental group (n=10)	
Demographic variables	**f**	**%**	**f**	**%**
1.Age of the preschooler in years:				
3.1-4 years	1	10	6	60
4.1-5 years	7	70	1	10
5.1-6 years	2	20	3	30
2.Gender of the child:				
Male	7	70	4	40
Female	3	30	6	60
3.Birth order of the child:				
First	6	60	5	50
second	4	40	5	50
Third and above	0	0	0	0
4.Previous exposure of nebulization:				
Yes	1	10	1	10
No	9	90	9	90
4.1.If yes, frequency of exposure:				
Once	1	100	0	0
Twice	0	0	1	100
Thrice	0	0	0	0
5.Associated Illness:				
Fever	4	40	1	10
vomiting	3	30	2	20
Any other	2	20	1	10
None	1	10	6	60
6.Presence of IV line:				
Yes	6	60	3	30
No	4	40	7	70
7. Accompanying Person:				
Father	5	50	4	40
Mother	5	50	6	60
Guardian	0	0	0	0

Demographic variables	Control group (n=10)		Experimental group (n=10)	
	f	%	f	%
8.Age of the parent/Guardian:				
18-22 years	0	0	3	30
23-27 years	4	40	1	10
28-32 years	4	40	6	60
32 and above	2	20	0	0
9. Education of the parent / Guardian:				
No formal education	0	0	0	0
Primary education	5	50	7	70
Secondary education	3	30	3	30
Higher secondary	1	10	0	0
Graduate	1	10	0	0
Post graduate	0	0	0	0
Health professional	0	0	0	0

Table 2 : Overall and Domain wise Post test mean, SD and mean% of Compliance during nebulization among Preschoolers in experimental and control group

Compliance Scale	Max score	Control group- post test scores			Experimental group- Post test scores			Difference in Mean%
		Mean	SD	Mean%	Mean	SD	Mean%	
Day-1	5	2.27	0.39	45	3.85	0.57	77	32
Day-2		2.35	0.39	47	4.22	0.36	84	37
Day-3		2.30	0.19	46	4.50	0.71	90	44
Overall		2.31	0.24	46	4.19	0.46	84	38

4.19+0.46and mean percentage was 84, revealing a difference in mean % of 38. It shows that there is significant difference in compliance after using a Novel Designed nebulizer.The above tables depict that there is significant increase in mean from day1 3.85±0.57.77 to day 3 4.50±0.71and the mean difference is 0.375 and 0.275 on day 1 and day 3 respectively in the experimental group. The Friedman test value is 9.235 which is greater than the table value which indicates that the Novel designed nebulization is effective in increasing the compliance in experimental group.

The table 4 depicts that the overall mean and SD in Experimental group is 2.31±0.23and the overall mean and SD in control group is 4.19 ±0.46. The mean difference is 1.88. The Z value is 3.800 which is higher than the table value which shows that the Novel designed nebulization is effective in improving the complaince among Preschoolers in experimental group.

The table 5 depicts that there association found post test score of Compliance and Gender of the child in experimental group. And there is no association found between post test scores of Compliance and selected demographic variables like Age of the Preschooler, Birth order of the child, Previous exposure to nebulization, Associated illness, Presence of IV Line, Person accompanying, Age of the parent/Guardian and Education of Parent/Guardian in both experimental and control group.

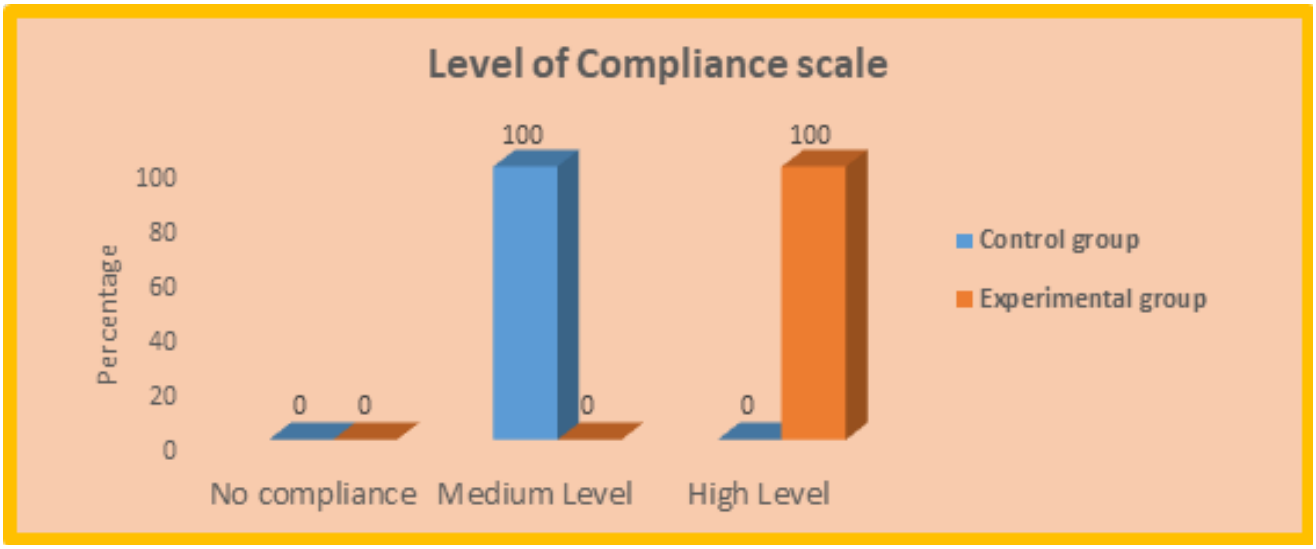


Fig. 1: Post test level of Compliance to nebulization in both Experimental and Control group.

Table 3: Effectiveness of Novel Designed Nebulization on Compliance among Preschoolers in Experimental group.

Experimental group Compliance scale	SCORE		Day-1 Vs Day-2		Day-1 Vs Day-3		Day-2 Vs Day-3	
	Mean±SD	MEDIAN (IQR)	Mean Difference	'Z' value p-value	Mean difference	'Z' value p-value	Mean difference	'Z' value p-value
Day-1	3.85±0.57	3.75(4.12-3.25)	0.375	z=1.465 p=0.143 (NS)	0.65	z=2.275 p=0.023* (S)	0.275	z=1.529 p=0.126 (NS)
Day-2	4.22±0.36	4(4.56-4)						
Day-3	4.50±0.71	5(5-4)						
Friedman test	F=9.235 , p=0.01** , HS							

Table 4: Mann Whitney "u"test to assess the Effectiveness of Novel Designed Nebulization on Compliance among Preschoolers in Experimental and Control group.

Level of Compliance scale	Control group		Experimental group		Mean difference	'Z'-value	P-value
	Mean±SD	MEDIAN (IQR)	Mean±SD	MEDIAN (IQR)			
Day-1	2.27±0.39	2.12 (2.43-2)	3.85±0.57	3.75 (4.12-3.25)	1.575	3.829	p<0.001***(HS)
Day-2	2.35±0.39	2.25 (2.75-2)	4.22±0.36	4(4.56-4)	1.875	3.820	p<0.001***(HS)
Day-3	2.30±0.19	2.25 (2.31-2.25)	4.50±0.71	5(5-4)	2.2	3.922	p<0.001***(HS)
Overall	**2.31±0.23**	**2.25 (2.60-2.08)**	**4.19±0.46**	**4.37 (4.60-3.75)**	**1.88**	**3.800**	**p<0.001***(HS)**

Table 5: Association between the post test level of Complaince among Preschoolers in Experimental and control group with selected Demographic variables

Demographic variables	Experimental			Control		
	χ2-value	df	Table value	χ2-value	df	Table value
Age of Preschooler in years	1.14	2	5.99	2.85	2	5.99
Gender of the child	4.28	1	3.84	2.85	1	3.84
Birth order of the child	0	1	3.84	0.47	1	3.84
Previous exposure to nebulization	1.11	1	3.84	0.476	1	3.84
4.1 If yes frequency of exposure	0	1	3.84	0	1	3.84
Associated illness	4.33	3	7.81	6.03	3	7.81
Presence of IV line	1.67	1	3.84	0.023	1	3.84
Person Accompanying	0.40	1	3.84	1.27	1	3.84
Age of the parent/Guardian	3.0	2	5.99	3.65	2	5.99
Education of parent/Guardian	5.2	3	7.81	0.02	2	5.99

p <0.05*

DISCUSSION

The results of the study showed that the post test scores of compliance in the experimental group all 10(10%) the preschoolers were having high level of compliance and in control group all 10(10%) the preschoolers were having Medium level of compliance to nebulization procedure.The Friedman test value is 9.235 which was higher than the table value which indicates that the Novel designed nebulization is effective in increasing the compliance in experimental group. The overall mean and SD in Experimental group is 2.31±0.23and the overall mean and SD in control group is 4.19 ±0.46. The mean difference is 1.88. The Z value is 3.800 which is higher than the table value which shows that the Novel designed nebulization highly is effective in improving the compliance among Preschoolers in experimental group.

CONCLUTION

Procedural anxiety is children is unavoidable and seen commonly in preschoolers. Play therapy has proven in reducing the anxiety of the children , yet during the procedure the sound and appearance of nebulizer is not accepted by the children. So when the nebulizer itself is modified and there visual and auditory distraction during the procedure the children accepted the procedure well and compliance of the child for the treatment improved. The results of the Pilot study suggest that Novel designed Nebulizer is very effective in reducing in improving the compliance among children during the procedure. This kind of Nebulizer is easily modified, economical, and acceptable by the children and is highly recommended for future use.

Ethical Clearance: Ethical clearance was procured from the Instituti onal Ethical committee of Sri Gokulam Hospital, Salem on 16.08.2021. (Ref No: 1400246) Written permission was obtained from the Managing Director of Ramalingam's Hospital, Salem.

Source Funding: Self

Conflict Of Interest: Nil.

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Effectiveness of Video Assisted Teaching Programme on Knowledge Regarding Technique of Breast Self Examination Among Adolescent Girls at Maharani's Science College, Mysore

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ABSTRACT

The study was conducted to determine the level of knowledge on the Technique of Breast Self-Examination among adolescent girls. One group pre-test and post-test design without a control group with an evaluative research approach was used. It was conducted at Maharani's Science College, Mysore. Selected 50 adolescent girls by using the Purposive Sampling Technique. The Findings revealed that the effectiveness of VATP in the post-test knowledge score was 43.72% (Mean - 21.86) of subjects was significantly higher than the mean percentage of pre-test knowledge of 25.56% (Mean - 12.78), Hence, the findings suggest that the calculated paired "t" test value (2.04) was more than the table values 1.96 at 0.05,

The findings related to the association between the post-test level of Knowledge and selected demographic variables revealed that non-significant in the Type of family - $\chi 2 = 0.56$, $P>0.05$, Religion - $\chi 2 = 2.37$, $P>0.05$, Family monthly income- $\chi 2=2.07$, $P<0.05$, Food pattern- $\chi 2=2021$, $P<0.05$, Source of health-related information - $\chi 2 =6.16$, $P<0.05$. were less than the table value ($\chi 2 = 3.841$) under respective degrees of freedom. Therefore the hypothesis (H2) was rejected and concluded that there is no significant association between these variables and the pre-test level of knowledge.The Video Assisted Teaching Programme has been effective in increasing the knowledge of Aoloscent.

Keywords: (Breast Self-Examination, Video Assisted Teaching Programme, Adolescent, Validity, Reliability)

INTRODUCTION OR BACKGROUND

Breast Self-Examination enables a woman or girl to detect changes in her breasts. The examination should be done each month soon after the menstrual period ends as normal physiological changes that confuse results occur in the premenstrual period. This method of self-examination is useful in the early detection of breast cancer.[1]

Breast Self-Examination is easily detected by an adolescent girl so the priority is given to teaching all girls how and when to examine their breasts. It is estimated that only 25% - 30% of women perform Breast Self-Examination proficiently and regularly each month. Breast cancer is a common cause of cancer morbidity and mortality in women. Breast Self-Examination (examination of the breasts by the individual) or clinical breast examination (examination of the breasts by a doctor or a nurse) have been promoted for many years as screening methods to diagnose breast cancer at

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an early stage to decrease the risk of dying from breast cancer.[2]

Approximately one million new cases of breast cancer are diagnosed each year worldwide. It is the commonest malignancy in women and comprises 18% of all female cancers and it accounts for nearly 1 in 4 cases of cancer among all. Fifty-fiveper cent of cases occurred in more industrialized countries and the rest in less industrialized countries. The estimated incidence rate of breast cancer in Malaysia in the year 2000 was about 35 per 100 000.[3]

During the clinical experience, the investigators found that Breast self-examination is an ideal, safe, effective and cost-free method, which can be done by every woman at her leisure time with little training. Breast self-examination helps adolescent girls to find their breast cancer early. Despite an increase in women's literacy rate and knowledge about breast cancer, there are certain barriers to practising breast self-examination, like worry about breast cancer, embarrassment, lack of time, unpleasant procedure, lack of privacy, fear of discovering a lump and unfavourable attitude towards breast self-examination. Hence the investigator felt that the study would help students, as are source of information to society need to be provided with necessary information on breast self-examination.

MATERIAL AND METHODS

Aim: To Improve the Knowledge of Adolescent girls regarding the technique of breast self-examination

Objectives of the study

1. To assess the Knowledge of Adolescent Girls regarding the Technique of Breast Self-Examination at Maharani's Science College, Mysore.
2. To Conduct an assisted Teaching Programmeregarding the Technique of Breast Self-Examination among Adolescent Girls at Maharani's Science College, Mysore.
3. To Evaluate the Effectiveness of Video Assisted Teaching Programmeregarding the Technique of Breast Self-Examination among Adolescent Girls at Maharani's Science College, Mysore.
4. To findan association between the level of pre-test Knowledge score and selected Demographic Variables (Age of the student, type of family, Age at menarche, Religion, Occupation of the mother, Occupation of the father, Family monthly income, Food pattern, Source of Health Information and Have you ever performed Breast self-examination etc.,)

HYPOTHESES

H_1 There will be a significant difference between the mean pre-test knowledge score and the mean post-test knowledge score among Adolescent Girls regarding the Technique of Breast Self-Examination.

H_2 There will be a significant association between the level of Knowledge among Nursing Personnel regarding Adolescent Girls regarding the Technique of Breast Self-Examinationand their selected Socio-demographic Variables.

RESEARCH APPROACH

- An evaluative Quasi-Experimental approach was considered appropriate to accomplish the objectives.

RESEARCH DESIGN

- Pre-experimental with one group pre-test and post-test design, in which pre-test is conducted followed by Video Assisted Teaching Programme and then conducting post-test for the same group after 7 days on 50 subjects.

Pre Test	Treatment	Post Test
Assessment of Know-ledge	Video-Assisted Teaching Programme	Assessment of Know-ledge
O_1	X	O_2

O_1 : Pre-test the knowledge regarding the Technique of Breast self-examination among adolescent girls.

X : Video-assisted teaching programme onTechnique of Breast self-examination.

O_2 : Post-test knowledge regarding Technique of Breast self-examination.

SETTING: This study was conducted in Maharani's Science College, Mysore City Mysore.

- **TARGET POPULATION:** Adolescent girls (18 - 20 years) studying First Degree (Undergraduate) at Maharani's Science College, Mysore city Mysore.

SAMPLING TECHNIQUE: The purposive sampling technique was adapted to select the sample for the study.

SAMPLE AND SAMPLE SIZE: The sample of this study comprised 50Adolescent girls.

CRITERIA FOR SELECTION OF SAMPLE

- Adolescent girls (18 - 20 years) studying First Degree (undergraduates) at Maharani's Science College, Mysore city Mysore.

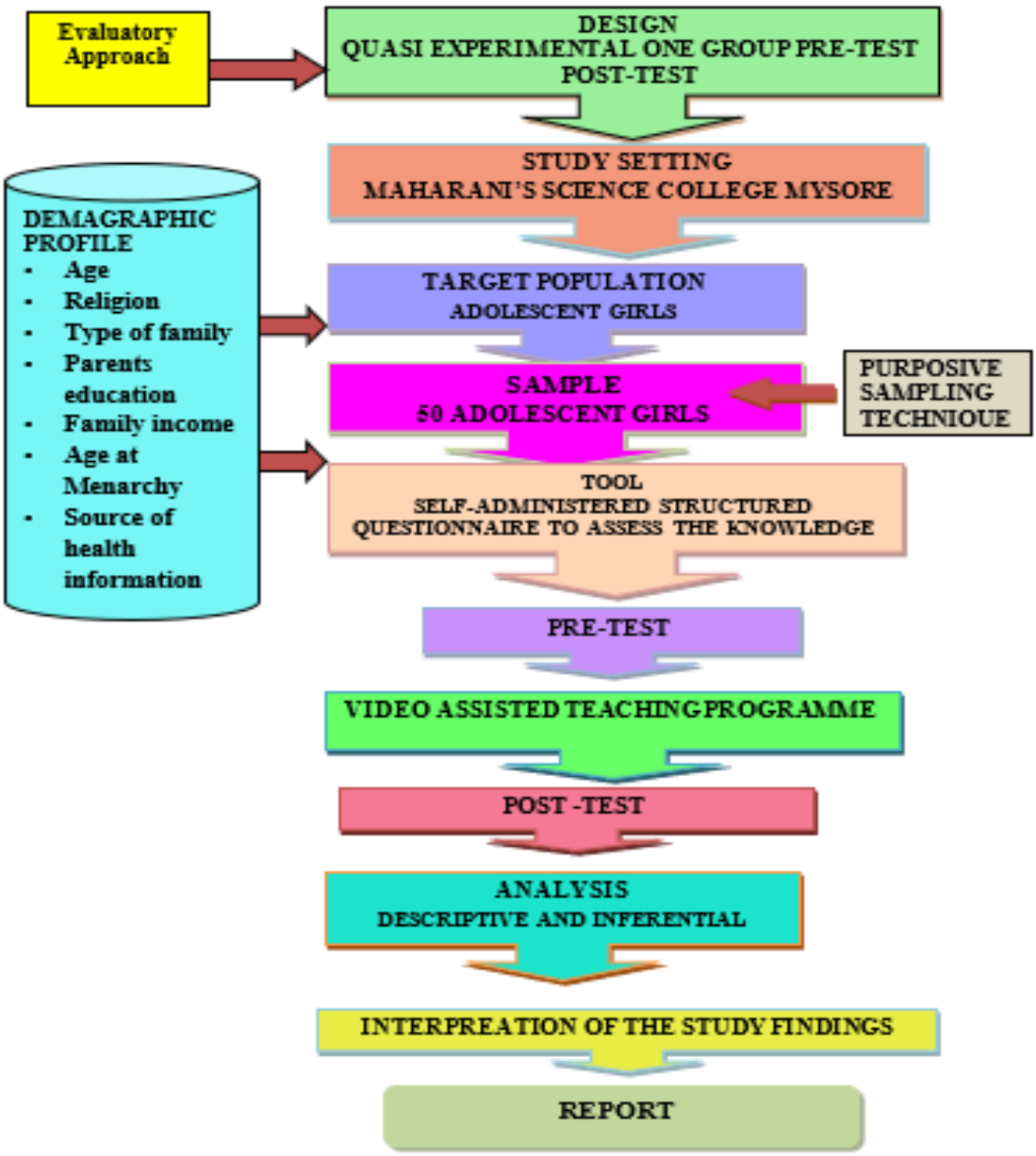


Fig . 1: Research Design Flowchart

- Adolescent girls who are present at the time of data collection.

Exclusion Criteria

- Adolescent girls who are not present at the time of data collection.
- Adolescent girls who are sick and not willing to participate in the study

Development of the Video-Assisted Teaching Programme

- Video-assisted teaching plan was developed based on Objectives, Review of Literature and consulting with experts. The steps adopted in the development of the Video-AssistedTeaching Programme were:

Preparation of First Draft

- Video-assisted Teaching plan was prepared based onthe review of the literatureon Knowledge regardingthe Technique of Breast self-examination.

Development of a Criteria Checklist to Evaluate the Video-Assisted Teaching Programme

- ◆ Identification and Stating of Objectives in Behavioural Terms
- ◆ Selection of the Content

The content of Quality Assurance in Nursing Services was selected through a literature search and in consultation with the subject experts.

- Content Validity of the Video-Assisted Teaching Programme

The initial draft of the Video-Assisted Teaching Pro1grammewas given to 10 experts in the field along with the tool. The necessary modifications were incorporated into the video-assisted teaching plan based on the suggestions of experts.

Content validity of the tool: The tool was validated by subject experts and corrections were made based on their recommendations and suggestions after consultation with the guide. The statistical validity coefficient of the tool was found to be 0.95.

RELIABILITY OF THE TOOL

The Reliability of the tool is the degree of consistency with which it measures the attribute it is supposed to be measuring. The reliability of the tool was obtained by split half method. The tool was administered to 10 adolescent girls of Mysore Maharani's Degree College, Mysore after obtaining formal permission from the Principal. Karl-Pearson correlation coefficient was utilized to find out the reliability of the half test and Spearman-Brown prophesy formula was used for the full test.

$$r = \frac{\Sigma x}{\sqrt{\Sigma x^2 \times \Sigma y^2}}$$

Spearman Brown prophecy formula was used to find out the reliability of the full test.

$$R = \frac{2r}{1+r}$$

R - Reliability co-efficient of whole test

r - Reliability co-efficient of correlation of half test

A value of r= 0.84 for self-administered structured knowledge questionnaire. Hence the tools were considered to be reliable.

PREPARATION OF THE FINAL DRAFT

- The final draft of the tool of the study was prepared by considering the suggestions of validators.

DESCRIPTION OF THE TOOL

A thorough review of literature related to the topic was done to develop a structured knowledge questionnaire. The tool consisted of two parts: part I includes the Demographic characteristics and part II consists of knowledge questions on the Technique of BSE.

PART I: DEMOGRAPHICAL CHARACTERISTICS

Baseline Characteristics consisted of 9 items to collect the information regarding age, religion,type of family, food pattern, education of the parents, monthly income of the family, age at Menarche and source of health information.

Table 1: Blue Print for Knowledge Questionnaire Regarding Breast Self-Examination

Sl No	VARIABLES	No. of Items	Items No	Total Marks
1	Socio-Demographical Variables	10	1-10	Nil
2	Introduction and definition	8	11 to 18	8
3	Purposes of BSE	2	19, 20	2
4	Criteria	6	21 to 26	6
5	Position BSE	3	27 to 29	3
6	Technique	11	30 to 40	11

PART II: STRUCTURED KNOWLEDGE QUESTIONNAIRE

This section of the tool consisted of 30 multiple choice questions covering four areas of Technique of BSE with four alternatives each. The four areas were Introduction and definition, purpose of BSE, criteria for BSE, position of BSE & Technique of BSE.

The respondents were instructed to place a tick mark against the most suitable single answer. A score of "one" was given for every correct response and for every wrong response a "zero" was awarded. Therefore the maximum score was 30 and minimum score was zero for the knowledge questionnaire.

Table 2: Classification Of Level Of Knowledge Of Adolescent Girls

Slno	Grade of Knowledge	Score
1	Poor	1-8
2	Average	9-15
3	Good	16-22
4	Excellent	23-30

PILOT STUDY

Pilot study is a small preliminary investigation of the same general characters as the major study, which is designed to acquaint the researcher with the problem that can be corrected in preparation for a larger project.

Formal administrative approval was obtained. The inclusion criteria were checked and 10 students were selected for the pilot study. The purpose of the study was explained to the subjects and consent was taken from the students. Pre-testing was done on 14-08-2017 by administering the structured knowledge questionnaire to determine the knowledge of the students regarding the Technique of BSE. The average time taken for the pre-test was 30 minutes, Then the planned Video-assited teaching programme was given in a classroom for a period of 45 minusing an LCD projector and the students were informed about conducting a post-test after 7 days. Post-test was conducted after seven days using the same questionnaire on 20-8-2017 to determine the knowledge of the students. The average time taken for the post-test was 30 min. The study was found to be feasible and practicable and therefore no modifications were made in the tool after the pilot study.

The data collected was compiled for analysis. Data analysis was done by using descriptive and inferential statistical methods. The findings of the study revealed that the pre-test knowledge scores of the students ranged from 9-17 and that of the post-test score range from 25-33 which showed that the Video Assisted Teaching Programme (STP) was much more effective in improving the knowledge of the students regarding Technique of Breast Self-Examination.

DATA COLLECTION METHOD

The investigator obtained permission from the Principal, of Maharani's Science College, Mysore,before the collection of data. The data collection period was extended from 21/8/2018. Post-test was conducted after seven days using the same questionnaire on 28/8/2017 to determine the knowledge of the students.The purpose of the study was explained to the subjects and informal consent was obtained. Confidentiality was assured to all the subjects to get the cooperation.

MAJOR FINDINGS OF THE STUDY:

I: Findings related to the Subjects' Characteristics:

- Majority of respondents were age groups of below 20years (72%).
- The majority of the respondents 34 (66.%) belong to the Nuclear family.
- The majority of the respondents46 (920%) were Hindus.
- The majority of the respondents 20 (40%) have a Family monthly income of Rs. 5,0001 to Rs. 15,000.
- The majority of respondents 37 (74.0%) were using a mixed diet.

I: FINDINGS RELATED TO THE EFFECTIVENESS OF VIDEO-ASSISTED TEACHING PROGRAMME

Data in the tableshowed that the level of pretest knowledge of adolescent girls regarding the technique of Brest Self-Examination Majority 56% of subjects had average knowledge, 30% had good and 14% had poor knowledge and 0% (Table 3).

Further post-test knowledge of adolescent girls regarding the technique of Brest Self-Examination Majority 48% had good and excellent knowledge 4% had average knowledge and 0% poor knowledge (Figu2.

II: THE MEAN PERCENTAGES OF PRE AND POST-TEST KNOWLEDGE SCORES OF SUBJECTS

The mean percentages of pre and post-test knowledge scores of subjects on the Technique of Brest Self Examination were also found out in each area and data is presented.

The Table 4 & Below shows that the pretest knowledge scores ranged from 07 to 15 whereas the post-test knowledge scores ranged from 2 to 24.

The mean post-test knowledge score of 43.72% was higher than the mean pretest knowledge score of 25.56%. The median of the post-test knowledge score (22 with sd 3.49) was also higher than the median of the pre-test knowledge score (13 with sd 4.12).

Table 3: Frequency and Percentage Distribution of pretest knowledge level of subjects on Brest Self Examination

Grade of Knowledge	Score	Pre-test		Post-test	
		Frequency	Percentage	Frequency	Percentage
Poor	1-8	7	14%	0	0%
Average	9-15	28	56%	2	4%
Good	16-22	15	30%	24	48%
Excellent	23-30	0	0	24	48%

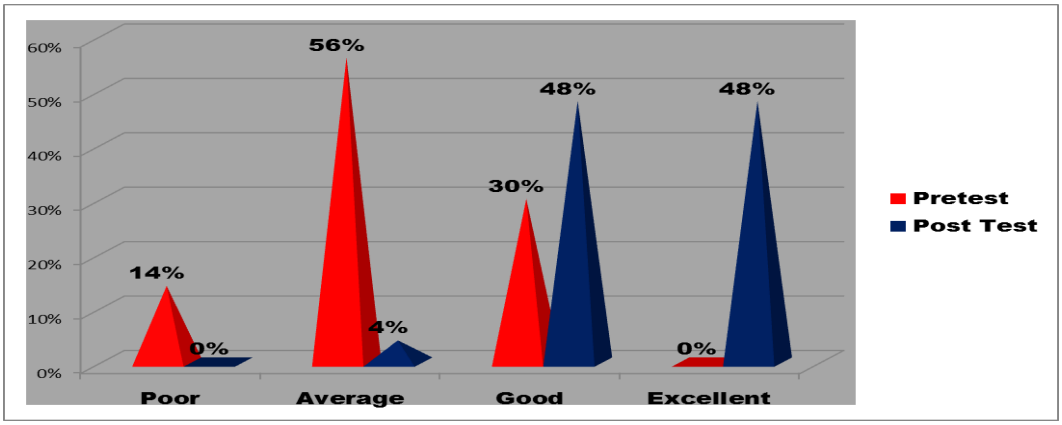


Fig- 2: Frequency and Percentage Distribution of pretest knowledge level of subjects on Brest Self Examination

Table 4: Pre-test and Post-test knowledge score of Adolescent Girls on Brest Self Examination

	Range	Mean	Median	SD	Mean Percentage
Pre-test	7 - 15	12.78	13	4.12	25.56%
Post-test	2 - 24	21.86	22	3.49	43.72%

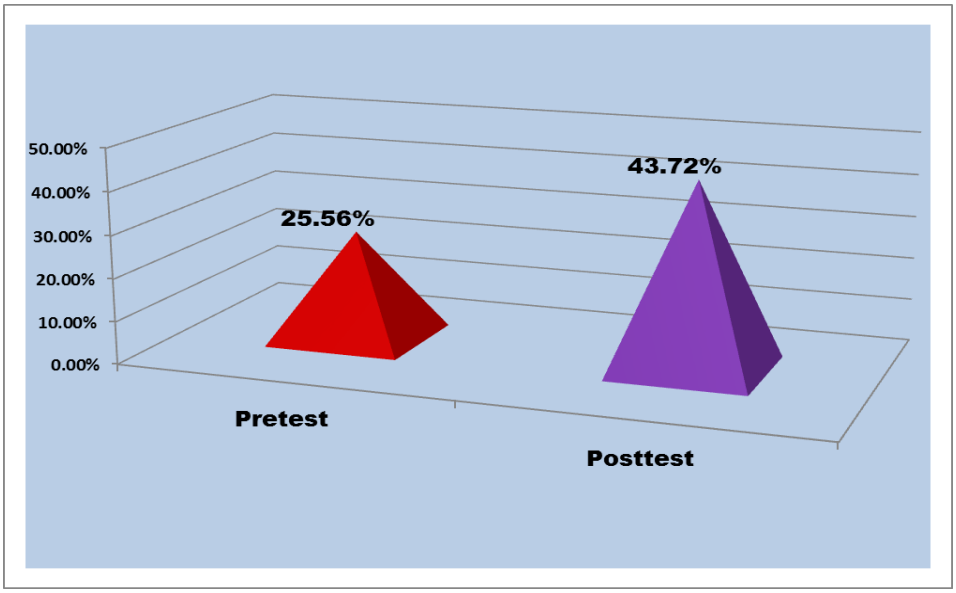


Fig 3: Pre-test and post-test knowledge score of adolescent girls on Brest Self Examination

SECTION - IV: ASSOCIATION BETWEEN POST-TEST LEVEL OF KNOWLEDGE OF SUBJECTS AND SELECTED DEMOGRAPHIC VARIABLES

This area consists of data related to selected demographic variables that are age, religion, educational qualification of parents, type of family, monthly income of the family, age at menarche, and source of health information regarding Technique of Brest self-examination (Table 5).

The data presented in above table shows that χ^2 values, calculated to determine the association between the pre-test knowledge level and ten of the selected demographic variables viz., age of the

Table-5: Chi-Square Test Showing Association of Pre-Test Knowledge Score with Selected Demographical Variables

Sl. no	Demographical Variables	χ^2_{Value}	df	Table value	Inference
1	Age of the student	0.58	1	3.84	Not significant
2	Type of family	0.56	1	3.84	Not significant
3	Age at menarche	0.65	1	3.84	Not significant
4	Religion	2.37	1	3.84	Not significant
5	Occupation of mother	2.68	1	3.84	Not significant
6	Occupation of father	1.46	1	3.84	Not significant
7	Family monthly income	2.07	1	3.84	Not significant
8	Food pattern	2.21	1	3.84	Not significant
9	Source of health-related information	0.96	1	3.84	Not significant
10	Have you ever performed breast self-examination?	2.21	1	3.84	Not significant

($\chi^2 = 3.841$, $p<0.05$)

student, type of family, Age at menarche, religion, occupation of the mother, occupation of the father, family monthly income of the family, Food pattern, source of health information and Have you ever performed breast self-examinationwere less than the table value (χ^2 **= 3.841)** under respective degrees of freedom. Therefore the hypothesis (H_2) was rejected and concluded that there is no significant association between these variables and the pre-test level of knowledge.

CONCLUSION

- This study aimed to assess the knowledge of adolescent girls on the Technique of Breast Self-Examination as well as to provide information to them about the prevention of breast cancer. among adolescent girls in all the areas like anatomy and physiology of the breast, meaning of the definition of breast cancer, Purpose of BSE, criteria for performing BSE, stage of performing BSE, stages of performing BSE, Technique of performing BSE, Position of performing BSE, steps involved in performing BSE, abnormal findings,
- On the whole, carrying out the present study was an enriching experience for the investigator. The various literature reviewed and the research process helped the investigator a great deal to explore and improve the knowledge of the researcher and the respondents. The constant encouragement and guidance by the guide, co-operation and interest of respondents in the study contributed to the fruitful completion of the study.

Conflict of Interest: Nil

Source of Funding: Self Or Other Source – Self

Ethical Clearance No: Gcon-20/Mmc/2016-17. Dated: 08/10/2016.

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The Critical Problems Facing Nursing Care in African Countries

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ABSTRACT

As study after study has pointed out, the health care systems in Africa pay little attention to the critical interface between education and good health, especially when it comes to the education of women and mothers, who are the primary line of defense against child diseases, and perform simultaneously most domestic chores and critical agricultural activities. While many medical educational institutions on the continent tend to perpetuate, at times, skewed and irrelevant Eurocentric health training, the national pyramidal health structure, weakened at the village level, and disproportionately favoring the provincial and national hospitals, gives the illusion that rural areas are well-served, when in actuality they are not. This chapter endorses the restrengthening of an uncompromised health care system to make it effective and efficient for both rural and urban areas; one that finds ways of trimming financial and human resource waste; revamps the institutions that train health care and service providers to make the system responsive to the real health needs of the people and not just the wealthy; one that compensates physicians just as civil servants; and aligns the educational system with targeted and expected measurable health outcomes.

Keywords:Health System, Health Facility, Health Center, International Monetary Fund, District Hospital

INTRODUCTION

This section highlights and summarizes the overall successes and challenges of the health systems in Africa, and is followed by a discussion of the strategies needed to improve the health conditions of the Africans. A health system that functions properly must have the necessary ingredients. These hinge on a multiple of financial, social, economic, environmental, and workforce resources, and a leadership that is committed, with a vision that focuses primarily on the people, particularly the poor, the sick and the disabled, and, through various initiatives, encourages change in individual unhealthy behaviors, all factors that render health difficult and complex to manage. The United Nations describes a health system as a structure that includes "all actors, organizations, institutions, and resources whose primary purpose is to improve health…Their primary goal is to promote, restore or maintain health, but they also aim to be responsive to people's legitimate expectations and are financially fair.[1]

Other important elements include: focusing on providing primary health care rather than on acute diseases, as Ethiopia has successfully done, reaching 80% of the population in 2014 a significant improvement over previous years; increasing mobile units to reach the people and not compelling all to come to the health centers; and, according to some, employing the workforce personnel from neighboring countries, who might be paid salaries by their own governments but provided with

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allowances and bonuses by the host state, as done in South Sudan. Important also would be creating access to secondary care treatment in emergencies provided by specialized physicians; using, to the extent possible, the most modern technologies for the collection of accurate data, storage, and analysis; utilizing telemedicine to reach remote areas, as India has done recently; placing less reliance on private donors given the economic uncertainties and the fact that most tend to approach disease vertically; empowering women and communities; instituting universal insurance coverage; increasing local funding beyond the 15% recommended by the 2001 Abuja Declaration to reach the 2015 target MDGs; and empowering but also regulating local health care entrepreneurs and pharmaceuticals that would produce generic drugs locally, thus reducing the high cost of medicine. In Africa, drug costs have which has varied from city to city, from region to region, and from country to country, making it difficult to rationalize the system continentally. In fact, wherever regulations exist, they are barely enforced Africa Region Health Report.[2]

How have health systems in Africa following colonial rule performed over the decades? Of the 54 African countries that pledged to increase the health budget to 15% from 4 to 5%, seven have achieved the goal, but, to do this, the majority have had to rely heavily on international donors; seven have actually reduced their budgets, forcing citizens to pay almost half of their health services out-of-pocket or with as much as 90% of the cost in some countries. Even though Africa accounts for 11–13% of the world population, its disease burden is 24% and Sub-Saharan Africa "commands less than 1% of global health expenditure" African Region Health Report[2]. One may also note that, currently, while HIV/AIDS prevalence has gone down among adults aged 15–49 years, as low as 1% worldwide, on the continent of Africa, the overall prevalence rate is 7%. These conditions certainly call for the allocation of more resources because poverty and ill health go hand-in-hand. We can also add that 76% of Africans live on less than $2.00 a day, and 46.5% on less than $1.08 a day. Over the past 20 years, the continent has seen its poverty rate spike, while in East and South Asia, the rate has gone down. Moreover, between 1981 and 2001, Africa's GDP decreased by 13%, doubling the number of people living under less than $1.00 a day from 34 million to 64 million people 64 million from 34 million "African Region Health Report[2]. This number remained static until 2014. Obviously, these bleak figures do not speak well of the health systems currently operating on the continent of Africa, even if one or two of the eight MDGs might have been reached by a handful of countries in 2015.

The following observations, made by Wendland in Malawi, dramatize the state of the health systems in most African countries. Describing one hospital in Malawi[11]

> *"Inside, especially on a steamy day, you would probably be struck first by the smell: a distinctive compound of sickness and sweat, clothes washed without enough soap, dried blood and fresh blood, death and Jikbrand bleach solution. If you walked down a hallway toward one of the wards where you would be working soon, your feet would slide a little on the concrete floors, worn shiny and smooth by thousands upon thousands of feet. Red plastic signs hanging from the ceiling warned Osalabvula—Oslangolola [No Spitting, No Making Noise]…The rooms were lit only by the open windows during the day to save on electric bills. The high ceilings and concrete walls made the space feel cavernous despite the crowding, and amplified the moans of pain, the keens of grieving, the squeak of medicine trolley, or the conversation and quarrels of families clustered near the beds.*

Health Systems Issues

Martyn Sama and Vinh-Kim Nguyen hold the view that all societies have had health systems "of some sort" as long as people have tried to protect themselves against diseases. Systems, they say, can be defined as those traditional practices, "often integrated with spiritual counseling and providing both preventive and curative care," which have "existed for thousands of years and often co-exist today with modern medicine," often undergoing consistent changes.[3] Their thesis is more relevant as they refer to African stewardship and the crisis the health system is experiencing virtually everywhere

on the continent. They point out that effective stewardship is the government's key role in oversight and trusteeship, which involves formulating health policy, defining the strategic vision clearly, and articulating the direction the leadership wishes to see the health system follow. This is strengthened by exerting influence and vocalizing in word and action the approaches to regulations guiding the health system, and collecting and using intelligence (data and information) effectively. In sum, stewardship implies vision, "overall system design and policy formulation; setting priorities, and "performance and impact assessment for outcomes, promotion of health and advocacy; and establishment of norms, standards, and ethical framework." In their assessment, the two authors note that African systems are among the "most bureaucratic and least effective managed institutions in the public sector. The ministries are fragmented with vertical programs, or ritual chiefdoms, dependent on certain donor funding." The description could not be more accurate to anyone who has visited an African hospital to be treated, as chapters in this volume emphasize, ranging from an uncountable absenteeism to unauthorized financial charges by doctors that circumvent the official care provision in public and private health facilities to delays of treatment on alleged equipment failures[4] thus further sharpen their analysis of African health systems and their stewardships:

> *If African health systems are ungovernable, it may be in part because powerful international donors work at cross-purposes, setting competing agendas, cycling policies at a rate that defies bureaucratic assimilation, fragmenting health efforts, and undermining local systems of accountability…There is recognition that accountability, transparency, and vigorous citizenship participation are essential to achieving a viable society, sustainable economic growth, and equitable distribution of benefits and risk of growth. Yet, African countries are characterized by persistent and in many cases worsening social, economic, and gender, and health inequalities.[3] (author's emphasis)*

This major hospital had no recovery rooms for patients. Under such dire circumstances, one asks, how can a "sick" hospital cure the sick?

Anglophone Africa: Health Care Systems in Tanzania, Uganda, and Kenya

The following section highlights the pluses and minuses of selected representative countries in Sub-Saharan Africa that underscore the colonial legacy from Britain, France, Portugal, and Spain, and is designed to simply illustrate the general findings of the nature of the national health systems in Africa. This approach will reveal the intractable colonial health legacies Africa inherited from the colonial past. We may start with the three former members of the East African Community, which were supposed to coordinate health strategies and goals, Tanzania, Kenya, and Uganda and their devastating impact, especially on the poor. It will look at the resources and the current structure of their health care systems, beginning with Tanzania. Tanzania, a country of 44 million, is said to follow a pyramidal model or a bottom-up approach, which begins at the village level and reaches the apex at the most advanced, but also most expensive, approach to providing health care. Obviously, if such a system is not well handled, it can ruin the effectiveness and efficiency of the whole health care system and make it inaccessible to the poor, who often constitute the majority. The UN and the World Bank define poverty in the developing world as a person's condition characterized by an income that is $1.50 or less a day (others say less than $2.00 a day). For the sake of simplification, in this work we use the rate of $2.00/day or less for the poverty level.

Tanzania's health care structure begins with the thousands of village health services scattered throughout the country at the bottom, superseded, in ascending order, by dispensary health services, district hospitals, regional hospitals, and referral and consultant hospitals at the top.[5]

Hispanophone Africa: Equatorial Guinea

With only three quarters of a million people, Equatorial Guinea, is a former Spanish colony that achieved its independence in [1968]. Equatorial Guinea is considered to be a high income country, mainly as a result of the enormous oil reserves being extracted and refined mainly by the Marathon Oil Corporation, making it one of the five

major producers of oil in Africa. As expected, the country suffers from the same tropical diseases as others in the region: malaria, TB, measles, yellow fever, leprosy, trypanosomiasis, schistosomiasis, meningitis, and others such as HIV/AIDS. Overall, infectious diseases represent 85% of the consultations in the country, and diarrhea alone accounts for half of the visits, while flu, the major endemic illness, represents 61% of the country's illnesses. TB's deadly impact is estimated at 15% among patients on treatment, and most of it is due to late diagnosis and HIV co-infections. About 60% of its population lives in rural areas, with a life expectancy at birth of 52.08 years compared to the average in Sub-Saharan Africa of 55.92, still a major accomplishment for a country located in some of the worst disease-prone areas of the continent. Another major accomplishment of this tiny state is the fact that more than 50% of the population now has access to clean drinking water, when in several parts of Africa the figure does not reach 36%. Also, maternal mortality rate stands at 240 per100,000 live births[6], compared to the average of 494.53 per 100,000 across Sub-Saharan Africa; the percentage of births attended by skilled health workers stands at 64.6 contrasted to 33.14% in other Sub-Saharan African countries (USAID[7]). The prevalence rate of HIV is 4.7% compared to 7.0% in the Sub-Saharan region. Against malaria, Equatorial Guinea has a relatively higher rate of children sleeping under a bed net in the region, 2.7%, as opposed to 0.7 in the rest of Sub-Saharan Africa. However, the under-five mortality rate is estimated at 100.3 per 100,000 live births, which is higher when compared to the rest of Sub-Sahara, where, on the average, it is 94.27 per 100,000. Yet, fertility here is extremely high at 5.4 per woman (2011), a little higher than in the rest of Sub-Saharan Africa, estimated at 5.23 per woman.

Looking closely at the health system in the area of leadership and governanceone of the building blocks of a good health systemEquatorial Guinea scores very low, 1.87 (2012), when the average in Sub-Saharan Africa is 0.74, with the point estimate in 2012 at 1.65, compared to the Sub-Saharan average and other high income countries of 0.83 and 0.65, respectively (USAID[7]). On health financing, the second building block, Equatorial Guinea spends only 3% of its GDP on health, despite its huge oil revenues, when, elsewhere in Africa, the figure is around 5.0–6.34%. However, to its credit, Equatorial Guinea does not over rely on international donors for health funding: 1.75% of the health budget is made up of international donations compared to 23.8% average for the rest of Sub-Saharan Africa. Because the government does not provide health insurance coverage to its citizens, notwithstanding the vast oil revenues, citizens spend about 93.5% in health costs using out-of-pocket money, contrasted to the average cost attributed to people in Sub-Saharan Africa, namely, 73.7%.

Concluding this section, we must say that, despite the several differences that exist among the current health systems in Africa, the major structural format and organization are the same[8]. when they write that the health care system in Africa is organized under a National Ministry of Health (MOH) and Departments within the ministry address key health issues such as the regulation and oversight of public hospitals, preventive care services, and maternal and child health.

Poverty and Health in Africa

This discussion establishes the fact that health and poverty are twin sisters that reinforce one another, to the extent that, on the one hand, if someone is poor, he is most likely going to live an unhealthy life because health requires access to resources, a level of general literacy, and awareness of disease prevention in particular. On the other hand, if someone is unhealthy, the likelihood is that he will not be able to function properly in society and might spend all his meager resources and energies trying to be well, which might perpetuate his state of poverty or force him to lead an unfulfilling life. Poverty is a consequence of social and political inequalities or disparities that should never be allowedand can be eradicated just as the disease itself. This is not to deny, of course, that individual behavior may lead one to poverty. However, it is also clear that no one wishes to be poor. Many people are trapped in a vicious cycle of poverty since the day they are born, and therefore the risk to their

health is high. As the WHO says, "the poorest almost always experience higher mortality levels, die younger (on average), and experience higher levels of child and maternity mortality," because "causality between poverty and ill health is bi-directional, demonstrated in both macro-level (cross-national and national) and micro-level (individual, household, and community) studies" Quoted from World Bank.[9]

In countries such as the Central African Republic, mortality rates of infants and under-fives for the "assets poorest quintile of the population is always more than twice that of the richest quintile" World Bank[9]. Thus, it is the responsibility of the government and society to ensure that everyone is given equal opportunity to develop unhindered both physically and mentally and pursue happiness on this earth and not be forced to postpone this right to the afterlife, if one believes the latter exists. ECOSOC is clear on the obligation governments have in eliminating poverty as a priority and health systems' moral obligation to make care accessible to all citizens: "Closing the gap [between rich and poor] is a matter of social justicewe should do it because it is the right thing to do. It is an intensely moral issue. We put at the center of what we were trying to achieve empowerment, which we think of a material, psycho-social and political, having a voice. In the spirit of justice, we seek to help create the conditions for people to lead flourishing lives." ECOSOC Members[10]. No matter how poor one might be, however, the international community (except some significant segments of the US), overwhelmingly believes that health and access to quality health, as defined by the UN, are not a privilege of a few but a human and a citizen's right no matter where he or she might reside[11].

CONCLUSION

The integrated review highlights that majority of countries within Sub Saharan Africa are experiencing common challenges ranging from strained training institutions due to increased enrolments, inadequate faculty capacity, lack of infrastructure and resources, high demand for clinical training sites. To ensure improved quality and quantity of production, developmental partners have increased allocation of financial resources for infrastructure and teaching and learning material. Efforts are being done to expand number of clinical sites, build faculty capacity and increase collaboration with clinical institutions for clinical instructors and mentors. Curriculum reforms are being implemented to reposition the nursing workforce for a competence based approach, community based education and inter-professional training. Clinical simulation and technology based teaching strategies are on the increase to accommodate the demands for new ways of teaching and learning.

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Ethical Clearance: NA

Interest: Nil

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Child Rearing Practices Among Working and Non Working Mothers Of Under Five at Selected Hospital, Salem

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ABSTRACT

Parenting is considered as important factor for child's development and well being. It is mother who is considered responsible for developing positive attitude, behavior and inculcating positive abilities in their children. This helps the children to have an understanding of right and wrong and to become good and successful human beings. Working women thus have a tough task of professional obligation along with taking care and nurturing their children from early age to adolescent. Although they are able to fulfill financial needs of their children but, still they are not able to give as much time and care as given by non-working mothers[4].

A quantitative evaluative research approach with Non experimental survey research design was used to conduct the study among 40 (20 working & 20 non working mothers) at Sri Gokulam Hospital, Salem using Purposive sampling technique . Descriptive check list was used to collect the data.The results of the study shows that majority of non working mothers 19 (95%) and working mothers 16 (80%) had satisfactory Child Rearing Practiceswhereas 4 working mothers (20%) and only onenon working mother (5%)had un satisfactory Child Rearing Practices.The higher mean score percentage (72%) was found among non working mothers with the mean difference of 2 and significant difference (t value = 7.28) was found between working and non working mothers on child rearing practices.There was significant association found betweenonly with education of the working mother and child rearing practices..

Keywords: Child rearing practices,Under five, Working mother, Non working mother.

INTRODUCTION

A Child's well-being and future are dependent upon the care bestowed upon him by mother. Health and survival of child depends upon the mother's awareness, education and skills in mother craft. Child rearing practices refers generally to overall care of child as an individual who is not merely a physique but also has feelings, desires and needs.[1] It is the biggest and the most important business of the parents in the world. The parents are significant in determining the ways in which the child develops. Child rearing in Indian culture is generally recognized as primarily the mother's privilege and responsibility.[5]

Women participation in the workforce has increased, and this has been accompanied by more significant challenges they face in balancing and managing their role between work and family responsibilities. Most of the working women require substantial time to be devoted to work and child rearing that

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involves lecturing and handling other student-related matters. This job requires a substantial amount of time to be spent on work-related responsibilities, and working mothers find it very difficult to accomplish responsibilities of an mother because of family and job commitments when comes together. They generally found it difficult to cope with the pressures related to work responsibilities and the demands related to family responsibilities.[3]

A comparative study was done to assess the child rearing practice among working and non-working mothers in the selected rural areas of Varanasiwas done with non-experimental research design. 60mothers were selected by purposive sampling technique out of which 30 were working and 30 were house wives who have children's of 5-12 years of age from the rural areas of Varanasi. The tool administered to the sample consisted of two sections including the socio-demographic data and a standardized tool by Alabama on child rearing practices. The results showed that the good practice of child rearing practice was 27 (90%) among the non-working mothers wherein the working mothers had only 20 (66.6%). and majority 10 (33.3%) of the working mothers had acceptable practice and only 3 (10%) of the non-working mothers had acceptable practice. On comparison, the paired t-test showed 4.763 at the level of p value <0.000025 showing the significance in the child rearing practice between working and non-working mothers. There was no statistically significant association between the mothers on child rearing practice with the selected demographic variables. The study concluded that non-working mothers impart better child rearing practice than the working mothers, yet most of the mothers apply the outmost best effort in child rearing practice. Study added that more health education and teaching sessions can be organized to all the mothers' on good child rearing practice to improve the child's health and future in a holistic way.[2]

Another study was conducted to assess and compare the knowledge and practice on child rearing practices among working and non-working mothers of selected urban community areas of Raipur by using purposive sampling technique. Quantitative non-experimental cross sectional comparative research approach was used. The data were collected from 100 mothers (50 working and 50 non-working mothers) using a self-Structured Questionnaire and the Tool was organized in three parts including Demographic variables, Knowledge and Practice questions on child rearing practices. The result of the study revealed that 66%working &74% nonworking mothers had average knowledge, 32% working & 24% nonworking mothers had good knowledge, 2%, of working & non-working mothers had excellent knowledge With regard to practice 72% working and 82% Non- working mothers had average practice, 18% working and 14% non-working had good practice. Correlation is computed by Karl Pearson coefficient of correlation (r = -0.66), there is moderately positive correlation between knowledge and practice, it shows that when knowledge increases, practice will also increase. The findings of the study concluded that non-working mothers had more (average) knowledge and practice than working mothers regarding child rearing practices. [1]

Thus the researcher was interested to assessand compare the Child Rearing Practices among working and non working mothers in south part of India atTamil Nadu.

STATEMENT OF THE PROBLEM

A Study to Assess and compare the Child Rearing Practices among working and non working mothers of under 5 children at selected Hospital, Salem.

OBJECTIVES

1. To assess the child rearing practices of working and non workingmothers
2. To compare the child rearing practices of working and non workingmothers
3. To associate the child rearing practices of the mothers with their selected demographic variables

HYPOTHESES

H_1: There will be significant difference between the child rearing practices of working and

non working mothers of under five children at $p \leq 0.05$ level

H_2: There will be significant association between the child rearing practices of working and non working mothers with their selected demographic variables at $p \leq 0.05$ level

RESEARCH METHODOLOGY:

(MATERIALS and METHODS)

A quantitative evaluative research approach with Non experimental survey research design was used to conduct the study among 40 mothers of under five children (20 working & 20 non working mothers) at Sri Gokulam Hospital, Salem using Purposive sampling technique. Check list was used to collect the data.The setting was selected by using convenient sampling technique.Tool had Demographic variables of the samples and self reportedCheck list with 20 items on child rearing practices of mothers of under five children including various aspects like Meeting the needs of the children,Care of children at illness, Quality time spent with children,Support towards child education and Work-life balance.The response to each statement in the check list was scored as 1 for Yes and 0 for No.Total score was 20. 1-10 score labeled as unsatisfactory child rearing practice and11-20 score labeled as satisfactory child rearing practice. After obtaining permission from the concerned authorities, including informed consent was taken from the participants, the data was collected for a period of 4 weeks

RESULTS AND DISCUSSION

Table 1 :- Frequency and Percentage Distribution of mothers according to their Demographic Variables

n=40

S.No	Demographic variables	Working Mothers (n=20)		Non Working Mothers (n=20)	
		Frequency	Percentage	Frequency	Frequency
1.	Age of Mother				
	20-25 years	6	30	6	30
	25.1-30 years	11	35	10	50
	30.1-35 years	3	15	4	20
2.	Religion				
	Hindu	15	75	18	90
	Muslim	1	5	1	5
	Christian	4	20	1	5
3.	Education				
	No education	6	30	14	70
	Graduate	14	70	6	30
	Post graduate	-	-	-	-
4.	Occupation				
	Daily wager	11	55	-	-
	Government employee	3	50	-	-
	Private employee	6	30	-	-
	House wife	-	-	20	100
5.	Income				
	Less than Rs.10,000	9	45	7	35
	Rs. 10,000 – 20,000	6	30	13	65
	Rs. 20.001 – 30,000	3	15	-	-
	Rs.30,000	2	10	-	-

S.No	Demographic variables	Working Mothers (n=20)		Non Working Mothers (n=20)	
		Frequency	Percentage	Frequency	Frequency
6.	Type of Family				
	Nuclear Family	16	80	14	70
	Joint Family	4	20	6	30
	Extended Family	-	-	-	-
7.	Area of Family				
	Semi urban	9	45	7	35
	Rural	10	50	13	65
	Urban	1	5	-	-
8.	Working Hours				
	6 – 8 hours	16	80	-	-
	8 – 10 hours	3	15	-	-
	10 – 12 hours	1	5	-	-
	Not working	-	-	20	100

Table 2: Item Analysis on Child Rearing Practices among Working and Non Working mothers

n=40

S.No	Item Analysis	Working Women(n=20)				Non Working Women(n=20)			
		Yes		No		Yes		No	
		F	%	F	%	F	%	F	%
Meeting the needs of the children									
1	Able to provide adequate nutrition to the child including breast feeding	17	85	3	15	15	75	5	25
2	Able to providefood according to the child's likes	17	85	3	15	11	55	9	45
3	Able to meet the hygienic needs of child	19	95	1	5	16	80	4	20
4	Able to maintain the child sleep pattern	15	75	5	25	17	85	3	15
5	Able to teach moral values to the child	19	95	1	5	19	95	1	5
Care at Illness									
6	Able to care the child during their sickness	15	75	5	25	12	60	8	40
7	Able to schedule my time for children hospitalization and doctors visit	14	70	6	30	17	85	3	15
Quality time spent with children									
8	Able to spend leisure time with the child	18	90	2	10	19	95	1	5
9	Able to spend quality time with children	11	55	9	45	17	85	3	15
10	Able to be with the child when he returns from school	4	20	16	80	16	80	4	20
11	Able to avoid Childrenbeing lonely	8	40	12	60	16	80	4	20
Protective environment									
12	Able to prevent child from physical hazards all the time	15	75	5	25	16	80	4	20
13	Able to provide a productive environment to the child	12	60	8	40	20	100	0	0
14	Able to give love and security for the child	19	95	1	5	19	95	1	5
Support towards child education									

S.No	I tem Analysis	Working Women(n=20)				Non Working Women(n=20)			
		Yes		No		Yes		No	
		F	%	F	%	F	%	F	%
15	Able to support the children during their academics	10	50	10	50	10	50	10	50
16	Able to support the children in their extracurricular activities	8	40	12	60	15	75	5	25
17	Able to attend school meetings regularly to know the performance of their children	8	40	12	60	15	75	5	25
Work –life balance									
18	Able to rear the child very well	19	95	1	5	20	100	0	0
19	Able to take care of the child's physical health all the time	17	85	3	15	18	90	2	10
20	Able to follow child rearing routine regularly before going for work	15	75	5	25	0	0	0	0

Table 3 Distribution of Samples according to theChild Rearing Practices **n=40**

S.NO	Child rearing Practices	Working women(n=20)		Non Working women(n=20)	
		Frequency	Percentage	Frequency	Percentage
1	Un Satisfactory(1-10)	4	20%	1	5%
2	Satisfactory (11-20)	16	80%	19	95%

Table 4 Mean, Standard Deviation,Mean Score Percentage and t value of Samples according to theChild Rearing Practices

n=40

S.No	Child rearing practice		Mean	SD	Mean score percentage	t-value
1	Working mothers	Yes	12.5	5.74	62.5	7.28* (Table Value is 2.712)
		No	7.5	5.74	37.5	
2	Non working mothers	Yes	14.4	4.54	72	
		No	5.6	5.96	28	

The table 2 shows that majority of non working mothers 19(95%) and working mothers 16 (80%) had satisfactory Child Rearing Practiceswhereas 4 working mothers (20%) and only onenon working mother (5%)had un satisfactory Child Rearing Practice.

The table 3 shows thathigher Mean score percentage (72%) was found among Non working mothers with the mean difference of 2 and significant difference (t value = 7.28) was found between working and non working mothers on child rearing practices. Hence research hypothesis H1 was retained at p<0.005level..

A similarcomparative study was done to assess the knowledge regarding child rearing practices among working and non-working mothers of rural areas at Bihar. Out of 50 working mothers, 63.3 percent were having adequate knowledge and 36.7 percent were having moderate knowledge regarding child rearing practices. Among 50 non working mothers, 53.3 percent were having adequate knowledge and 46.7 percent were

Table 5:Association of Child rearing practices of working and non workingmothers with their Selected Demographic Variables.

n=40

S.no	Demographic variables		Working Mothers(n=20)			Non Working Mothers (n=20)		
			df	Table value	Chi-square value	df	Table value	Chi-square value
1	Age	20-25 Years 26-30 Years 30-35 Years	2	5.99	1.826	2	5.99	0.468
2	Religion	Hindu Christian Muslim	2	5.99	1.805	2	5.99	1.126
3	Education	No Education Graduate Postgraduate	2	5.99	7.417*		5.99	0.133
4	Occupation	Daily wages Govt employee Private employee Housewife	3	7.81	1.038	3	7.81	0.57
5	Religion	Less than Rs 10000 Rs 10001- Rs 20000 Rs 20001- Rs 30000 Above Rs 30001	2	5.99	1.805	2	5.99	1.126
6	Type of Family	Nuclear Family Joint Family Extended Family	2	5.99	7.417*		5.99	0.133
7	Area of Living	Semi Urban Urban Rural Housewife	3	7.81	1.038	3	7.81	0.57
8	Working Hours	6-8 hours 8-10 hours 10-12 hours Not Working	3	7.815	1.401	–	–	–

*P< 0.05 – Significant

having moderate knowledge regarding child rearing practices. It is concluded that Child rearing practices are influenced by child rearing knowledge. The important components of Child rearing are maternal activities that promote the children's physical, intellectual, and psychosocial development so that they may grow up to express their full potentials. And statistically significant association was found between working and non-working mother, Family income per month and occupationand these variables influenced by knowledge of mothers (Table 5).[6]

There was significant association found betweenonly with education of the working mother and child rearing practices.Hence hypothesis H_2 is rejected for all the demographic variables except the education of the working mother.

CONCLUSION

Child rearing is a multifaceted process encompassing the physical, emotional, and psychological care of children. Positive parenting techniques work well for raising children with

discipline and good moral values, and are every parent's dream. However, it is not an easy feat. And it is important to know that the parent child relationship is a two-way street, in other words, it is actually a partnership between a parent and their child. When parents develop effective parenting skills, they are able to take the initiative in filling the generation gap.

Ethical Clearance: Taken from Institutional Ethical Committee.No IECSGH/2023/10 Dated on 18/3/2023.

Source of Funding: Self

Conflict Of Interest: Nil.

Declaration: A Study was conducted by us to assess the Child Rearing Practices of working and non working mothers at selected Hospital, Salem. This is our original article and we are declaring that it is not published in any other journal.

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The Factors Affecting on Productivity in Healthcare Sector

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ABSTRACT

Purpose: Due to increasing cost pressures, and the necessity to ensure high quality patient care while maintaining a safe environment for patients and staff, interest in the capacity for HRM practices to make a difference has piqued the attention of healthcare professionals. The purpose of this papers is to present and test a model whereby engagement mediates the relationship between four HRM practices and quality of care and safety in two different occupational groups in healthcare, namely, nurses and administrative support workers.

Design/methodology/approach: Structural equation modeling was used to analyze questionnaire data collected by the National Health Service as part of their Staff Survey .The authors tested the hypotheses for nurses and administrative support workers separately.

Findings: Training, participation in decision making, opportunities for development, and communication were positively related to quality of care and safety via work engagement. The strength of the relationships was conditional on whether an employee was a nurse or administrative support worker.

Originality/value: This is the first paper to examine the mediating role of engagement on the relationship between four relevant HRM practices in the healthcare context, and outcomes important to healthcare practitioners. The authors also add value to the HRM literature by being among the first to use the job demands resources model to explain the impact of HRM practices on performance outcomes. Moreover, the authors provide insight into how HRM practices affect outcomes in the world's largest publicly funded healthcare service.

Keywords: JDR Model, HRM practices in hospitals, Nursing Care, Job performance improvement in nurses, importance of training for nurses

INTRODUCTION

This paper delves into the global perspective of healthcare systems, highlighting the crucial role of human resources management (HRM) in enhancing patient health outcomes and the delivery of healthcare services. Recently, there has been a growing recognition of the significance of human asset management within healthcare systems. The interconnection between HR and healthcare systems is intricate, necessitating a delicate balance between human and physical resources. Pakistan's healthcare system is currently at a critical juncture.

In the contemporary landscape, Human Resource practices are pivotal in driving significant advancements within the healthcare sector. They foster a mutually beneficial relationship between HR strategies and productivity, thereby enhancing overall performance.[1]

The organization's HR practices, including recruitment, training and development initiatives, job design, and reward systems, serve as crucial catalysts in cultivating engaged employees who are deeply aligned with organizational objectives.[6]

Employee engagement is receiving widespread attention, yet there's still limited focus on understanding the direct impact of HR practices on enhancing employee engagement.[7,8]

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When employees receive both economic and social rewards through HR practices, they become motivated to fulfill their work roles and contribute to organizational goals. The primary objective of this study is to establish a connection between engagement, HRM practices, and productivity. The research question is as follows:

Does engagement serve as a mediator in the relationship between HRM practices and healthcare outcomes?

In this current study, we establish a connection between HRM literature and the Job Demands-Resources (JDR) model by highlighting how HRM practices impact the characteristics of job resources.

Central to this review or theoretical model is the concept of commitment, which reflects the dynamic and motivated state of the workplace. According to this hypothesis, the development of certain job resources anticipates that these resources will ignite commitment, which subsequently translates into positive outcomes. Thus, in our study, we bridge HRM practices with the qualities of job resources, drawing from both HRM literature and the JDR model. [9]

Ensuring effective management of human resources is paramount in delivering high-quality healthcare. There is a pressing need for a renewed emphasis on human resources management within the healthcare sector, accompanied by further research to formulate new policies. Implementing effective human resources management strategies is crucial to enhance both outcomes and accessibility to healthcare services in Pakistan.

JDR MODEL

The Job Demands-Resources (JD-R) Model posits that even in demanding job environments, individuals can experience reduced stress if their organization provides resources to support them. Our theoretical framework draws upon the JD-R model, which suggests that job resources fuel engagement, leading to favorable outcomes. As the JD-R model evolves into JD-R theory, it represents an extension of this conceptual framework.[10] JD-R Theory is informed by job stress and job design theories, synthesizing their insights. It integrates two strands of traditional research: one explicating the impacts of job demands and job resources separately on motivation and stress, and another exploring the interactive effects of job demands and job resources on both motivation and stress.[11]

METHOD

We explored the published literature and collected data through primary sources.

HYPOTHESIS

Training is positively related to work engagement. Work engagement mediates the relationship between training and productivity:

Definition of Training

Training involves the systematic acquisition of skills, rules, concepts, or attitudes that enhance performance in different contexts [(12).] It stands as a fundamental function within human resources management, employing formal processes to equip individuals with the knowledge and skills necessary for satisfactory job performance [(23).] These practices have become prevalent across organizations worldwide.[24]

Work assets encompass a spectrum of physical, mental, social, and organizational resources that employees utilize to achieve work objectives. These assets include individuals' cognitive styles, self-confidence, behavioral patterns, leadership, support networks from colleagues, friends, and family, opportunities for advancement, compensation, work environment, and variety of tasks.[4, 5]

The motivational process suggests that job resources can enhance employees' engagement, leading to positive outcomes such as enhanced job performance and organizational commitment [(13)]. Thus, simply reducing job demands may not be the most effective strategy for boosting engagement. Optimal job demands contribute to a perception of a stimulating job, and overly reducing them could diminish employee engagement.[14, 15]

Work engagement has garnered significant attention from management scholars and organizational practitioners due to its positive

effects on employee well-being and performance.[16-18] It serves as a crucial motivational factor shaping in-role job performance .[17-19]

Defined as a positive, affective, and motivational state of mind related to work, work engagement is characterized by vigor, dedication, and absorption [20, 21]. In this study, we employ a complex hypothesis framework given the involvement of more than two basic variables, utilizing alternative hypotheses to examine the effects of independent variables on dependent variables.

Definition of Development

Development refers to functional changes observed in individuals' behavior and actions, encompassing a wide array of biological, social, and psychological transformations over time.

Some researchers argue that an increase in work engagement may not always result in a linear improvement in job performance; instead, it may exhibit an inverted U-shaped relationship [22]. For instance, the job demands-resources model (JD-R) suggests that employees' job performance is influenced by two main factors: work demands and work resources.

Definition of Participation

Participation is no longer simply 'participating in a task', rather it can be defined as two discrete elements, **attendance** and **involvement**.[27]

The majority of employees "participate in the form of institutionalized and binding involvement (mandatory joint consultation) or decision-making (i.e., codetermination with equal representation or collective self-determination), refer to tactical or strategic decisions; considers issues at the organizational level (a large unit, plant, corporation, etc.); participate either directly (within meetings or general assemblies) or indirectly through their representatives who are elected or appointed into a representative board/committee; and often hold a share in their organization's equity capital".[25, 26]

Definition of communication

Communication seres as the conduit through which information is exchanged among individuals using a shared system of symbols, signs, or behaviors.

Employee communication, also referred to as internal communication or internal public relations [28], is recognized as a vital element in contemporary business operations. It not only fosters positive relationships with external stakeholders but also plays a crucial role in enhancing organizational performance.[29]

Amidst pandemics and crises, researchers are increasingly interested in understanding the impact of employee communication on organizational performance. Even during challenging times like the ongoing pandemic, organizations striving to adapt and evolve must prioritize ongoing support for their employees.

Utilizing remote working as a communication medium can bolster productivity and drive organizational improvement.[30] Hence, recognizing the specific communication roles undertaken by employees can significantly contribute to organizational resilience and performance. This approach may prove to be the most effective strategy in enhancing employee engagement. Simply reducing job demands may not always lead to increased engagement; instead, an optimal balance is essential to maintain a stimulating work environment and prevent a decline in employee engagement.

Limitations

The NHS staff survey data utilized in this study is cross-sectional in nature. While the study hypotheses are grounded in a robust theoretical framework, it's important to acknowledge that causality cannot be definitively established. It is plausible that factors such as safety and the delivery of high-quality care preceded employee engagement. However, we explored alternative models where HRM practices influenced the quality of care and safety, which subsequently influenced engagement. The findings from these alternative models indicated a poorer fit, providing further evidence that engagement likely

influences safety and quality of care, rather than the reverse. Nonetheless, we advocate for future research to validate our model using longitudinal data.

Furthermore, all variables in our study were assessed using self-report measures, raising concerns about common method variance. However, our statistical analyses suggested that common method variance did not entirely explain the observed associations, and the variables under examination were distinct from one another. Another limitation pertains to the reliance on self-report measures for our outcome variables. Despite this, existing literature suggests that perceptions of safety and quality of care are reliable indicators of actual outcomes such as accidents, injuries, and patient stay duration. Nonetheless, future research should aim to incorporate objective measures of quality and safety.

Additionally, the data used in our study was sourced from the NHS in the UK. While our results may have generalizability to other public-sector healthcare settings, caution should be exercised when extrapolating to privatized healthcare contexts. However, analyzing NHS data could be perceived as a strength of our study, as it helps mitigate the potential impact of organizational factors (e.g., organizational vision) on the hypothesized relationships.

Methodology

Introduction

We are going to discuss the following in the heading in the methodology.

Research philosophies

We are using epistemology because we are finding the effect of training opportunities, opportunities of development, participation in decision making, communication, work engagement on productivity in health sector.

Research approaches

We are using deductive statistical quantitative approach

Strategies

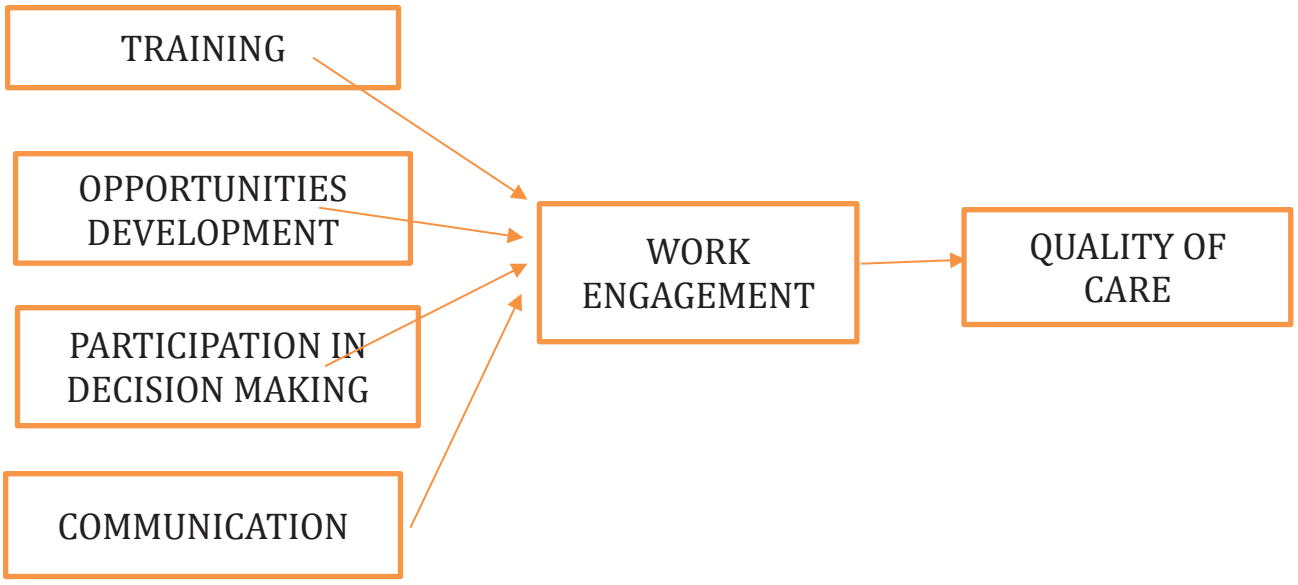
We are using surveys to gather our data.

Research methods

We are using cross section study because we are observing relationship of training, development opportunities, communication on productivity in specific time period.

SAMPLING TECHNIQUES.

Convenience sampling: We are using convenience sampling as it refers to the collection of information from members of the population who are conveniently available to provide it.



Research designs

We are using exploratory research because we are creating hypotheses rather than test them.

Target Population: Our target population is all the workers and of the health care sector like nurses, doctors, paramedical staff.

Sample Size : The sample size of our research paper is 200 as the requirements of data in SPSS is minimum 2000.

In general, the precision of an estimate is related to the square root of the sample size—in other words, to double the precision, the sample size must be quadrupled. As a rule, sample sizes of 200 to 300 respondents provide an acceptable margin of error and fall before the point of diminishing returns.[32]

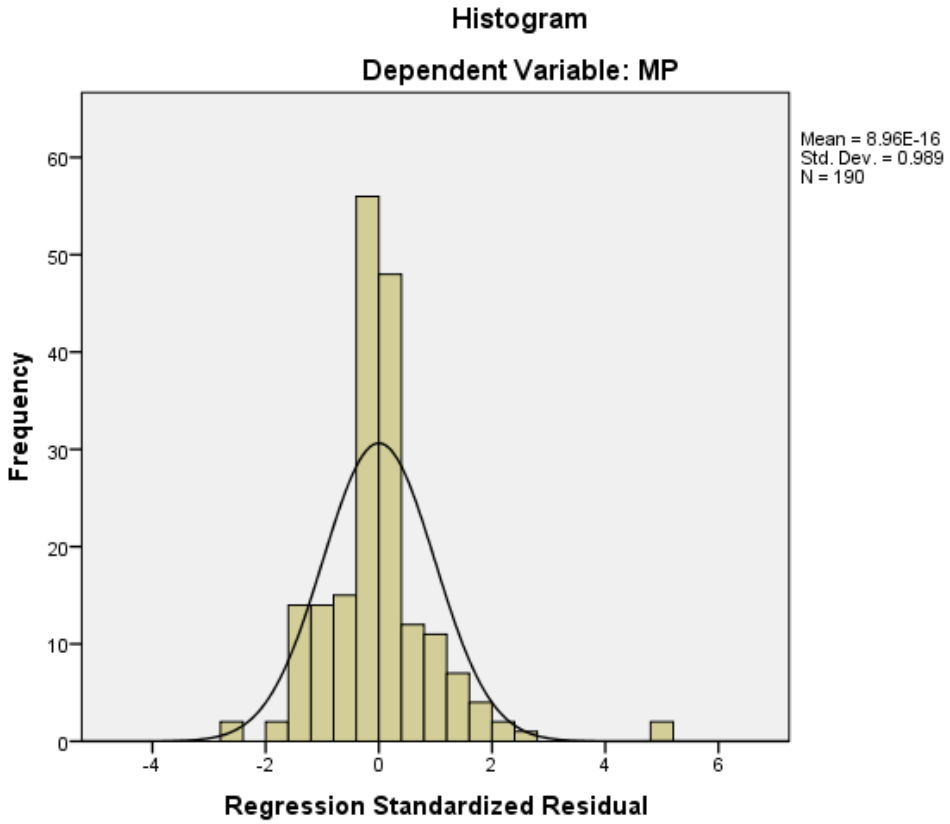
RESEARCH TOOLS: SPSS

INSTRUMENT DEVELOPMENT:

VARIABLES	AUTHOR	ITEMS	RELIABILITY
Training Opportunities	Shantz, A., (2016)	**3**	**<0.05**
Opportunities To Development	Alfes, K. and Whiley, L. (2016)	**3**	**<0.05**
Participation in Decision Making	Amanda Shantz, Kerstin Alfes, Lilith Whiley (2017)	**3**	**<0.05**
Communication	Kerstin Alfes, Lilith Whiley (2017)	**3**	**<0.05**
Work engagement	Kerstin Alfes, Lilith Whiley (2016)	**3**	**<0.05**
Productivity	Amanda Shantz, (2017)	**3**	**<0.05**
Enabling HRM Practices (Boon, Den Hartog, BoselieandPaauwe, 2011)	How HRM system, policy and practices promoting productivity and quality in the organizations?		
Participation and job Design	Employees are involved in productivity and quality decisions and can take responsibility for their own tasks and activities (e.g. Dal Pont et al., 2008; Zu and Fredendall, 2009).		
Recruitment and selection	New employees are critically selected. Selection criteria include skills and knowledge on productivity and quality management (e.g. MacDuffie, 1995; Zacharatos et al., 2007). In service organizations, quality improvement must be focused on recruitment and selection (e.g. Mohinder 2004; Chand and Katou 2007).		
Training and development	There is training in productivity and quality management for managers and employees. There are opportunities to develop new skills and knowledge (e.g. Birdi et al., 2008; Shah and Ward, 2003). Employees should receive the necessary training to deliver high quality service (e.g. Harline and Jones, 1996).		
Performance appraisal and rewards	Employees receive feedback on Productivity and quality performance of their team and are rewarded for productivity and quality improvement (e.g. Anand and Kodali, 2009; McKone et al., 2001).		
Team working and Autonomy	Teams are formed to solve problems relating to productivity and quality. Teams are encouraged to try to solve their problems as much as possible (e.g. Bonavia and Marin, 2006; Cua et al., 2001).		
Employment security	Employees have an employment contract that offers job security (Zacharatos et al., 2007).		
Work/life balance	Employees have the possibility to work flexible hours and arrange their work schedule (De Koeijer et al., 2014)		

Result

As our reliability is less than 0.05. In this case opportunities to development are not having an effect on productivity. But on the other hand, training participation in decision making and work engagement play a significant role in productivity and effect directly on the productivity of the health care employees.



Model Summaryb

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.314a	.099	.079	.38465	1.106

a. Predictors: (Constant), MC, MT, MOD, MPDM

b. Dependent Variable: MP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.998	4	.750	5.067	.001[b]
	Residual	27.371	185	.148		
	Total	30.370	189			

a. Dependent Variable: MP

b. Predictors: (Constant), MC, MT, MOD, MPDM

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
B		Std. Error	Beta			Tolerance	VIF	
1	(Constant)	4.254	.456		9.321	.000		
	MT	-.342	.079	-.317	-4.308	.000	.898	1.114
	MOD	-.066	.061	-.087	-1.080	.282	.743	1.347
	MPDM	.156	.065	.231	2.396	.018	.524	1.909
	MC	-.133	.063	-.180	-2.106	.037	.668	1.497

a. Dependent Variable: MP

Conclusion

This paper explains why we are doing this research in the healthcare sector and how to take good decisions and increase productivity. The main thing that's helps to increase productivity is training. Training is a basic step. After this communication matters a lot because without proper communication don't get the desired result in terms of productivity. In Future we use Organizations Development as an independent variable because when organizations are developing its mean training, communications, opportunities, participation in decision-making all things happened with more accuracy. We thought that there will be a direct relationship between all the independent variables (training opportunities, opportunities for development, participation in decision making and communication) on dependent variable which is productivity. But training, participation in decision making and work engagement play a direct role to productivity but opportunities to development is not playing direct role on productivity.

Questionnaire

Please select your desired response: For example: If your response is 4 (Agree) than it will be like this		**Strongly disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**
	Training Opportunities :					
01	My training, learning and development has helped me to do my job better.		1	2 3	4	5
02	My training, learning and development has helped me stay up to date with my job.		1	2 3	4	5
03	My training, learning and development has helped me stay up to date with professional requirements.		1	2 3	4	5

Please select your desired response: For example: If your response is 4 (Agree) than it will be like this		**Strongly disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**
	Opportunities for Development:					
01	There are opportunities for me to progress in my job.		1	2	3	4	5	
02	I am supported to keep up to date with developments in my field.		1	2	3	4	5	
03	I am encouraged to develop my own expertise.		1	2	3	4	5	
	Participation in Decision Making:					
01	I am able to make suggestions to improve the work of my team/ department.		1	2	3	4	5	
02	There are frequent opportunities for me to show initiative in my role.		1	2	3	4	5	
03	I am able to make improvements happen in my area of work.		1	2	3	4	5	
	Communication :					
01	Communication between senior management and staff is effective.		1	2	3	4	5	
02	On the whole, different parts of the organization communicates effectively with each other.		1	2	3	4	5	
03	I know who the senior managers are here.		1	2	3	4	5	
	Work Engagement:					
01	I look forward to going to work.		1	2	3	4	5	
02	I am enthusiastic about my job.		1	2	3	4	5	
03	Time passes quickly when I am working.		1	2	3	4	5	

Please select your desired response: For example: If your response is 4 (Agree) than it will be like this		**Strongly disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**
	Productivity :					
01	Cutting cost to improve productivity over-utilization of labor.		1	2 3	4	5
02	Easier to cut costs than improve outcomes.		1	2 3	4	5
03	Are the healthcare outcome improvement related to the healthcare sector or some other policy change?		1	2 3	4	5

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