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# Indian Journal of Surgical Nursing

# IJSN

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Volume 10 Number 3

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## Barriers for Implementing Nursing Theory: based Practices in the Clinicals Among Nursing Students

Suchana Roy Bhowmik<sup>1</sup>

### Abstract

**Background and Purpose:** A theoretical perspective allows the nurse to plan and implement care purposefully and proactively. In today's scenario learning and applying nursing theories shouldn't be limited to the classroom but it should be in daily practice. It is observed that there is a gap between theoretical knowledge as taught in the classroom and what the students experience in clinical settings. So, it is found that even though nursing theory is an integral part of nursing education and practice, nursing students are not able to apply nursing theories in the clinicals. So this study was conducted to assess the barriers for implementing nursing theory based practices in the clinicals among nursing students.

**Methods:** This study adopted quantitative research approach with a cross-sectional research design. Data were collected using Demographic profile and Likert Scale from total of 218 Nursing Students by convenient sampling technique.

**Results:** portrayed that 79.4% of the participants felt moderate and 8.7% felt more barrier for implementing nursing theory-based practices in the clinicals. It also depicted that comparison of barrier in regards to knowledge vs personal interest shows highly significant ( $p = .000^*$ ), personal interest vs role of Institution shows highly significant ( $p = .000^*$ ).

**Implications for Practice:** the results of this study confirmed that majority participants felt moderate and few felt more barrier related to implementing nursing theory based practices in the clinicals. So nurse educators can play an important role in motivating students, Institution can make policies to implement nursing theory in the clinicals by nursing teachers.

**Keywords:** Barrier; Nursing theory; Nursing practice; Nursing students; Knowledge, Personal interest; Role of institution

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### Introduction

Theory is a group of related concepts that propose action that guides practice. Nursing practice theory provides frameworks for nursing interventions and predict outcomes and the impact of nursing practice.<sup>1</sup> Nursing theory provides nurses with a perspective to view client situations, a way to organize the hundreds of data bits encountered in the day-to-day care of clients, and a way to analyse and interpret the information. A theoretical

perspective allows the nurse to plan and implement care purposefully and proactively. When nurses practice purposefully and systematically, they are more efficient, have better control over the outcomes of their care, and are better able to communicate with others.<sup>2</sup>

Current nursing education programs based on nursing models have produced a growing cadre of nurses familiar with formal nursing theory. Nurses believed that theory based practice would help them collect useful data, plan comprehensive care, would result in better care.<sup>3</sup> As nursing theory is a setup of concepts and principles that define the scientific basis of nursing profession. Nursing theories enhance student's understanding of the principles, values and meaning of nursing profession. A study finding depicted that staff believed nursing theory must be linked to the practice settings and many participants in that study reported that they did not

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know the importance of linking theories to practice settings. So, applying nursing theory which can help patients, managers and other healthcare professionals to recognize the unique contribution that nurses make to the healthcare service by giving nurses a sense of identity.<sup>4-5</sup>

Learning and applying nursing theories shouldn't be limited to the classroom. In today's healthcare setup the place for nursing theories should be in daily practice, whether at the patient's bedside or in community health nursing.<sup>6</sup> Even though the students are learned about nursing theories in the classroom settings, they are unable to practice in the clinical settings. Even though the theories are indicators of nursing science, evidence based nursing practice, the application of theories is not seen in practice and education. A study was carried out to determine the barriers of nursing theories in practice by nurse. In the study barriers emerged are dissatisfaction, reluctant in nursing theories and limited learning about theory.<sup>7</sup>

For effective performance in clinical settings by students requires the integration between theory and practice. It is observed that there is a gap between theoretical knowledge as taught in the classroom and what the students experience in clinical settings. Based on this concept a quantitative study was carried out to elicit and explore the barriers of utilizing theoretical knowledge in clinical settings. In this study fifteen nursing and paramedic's students, faculty members and experienced nursing staff participated in the study. Data were collected by semi-structured individual interviews. Result showed that five main categories emerged as barriers of utilizing theoretical knowledge in the clinical settings i.e. non-standard practices in clinical settings; lack of trust in clinical competence; lack of perceived professional support; insufficiencies in teaching and learning process; and differences between doing things in simulated and real clinical situations. So the researcher recommended that by eliminating barriers and transferring theory into practice in a structured manner requires professional support in the workplace, trust and the opportunity for direct experience, using valid and up to date knowledge by clinical staff and bridging the simulated situations with real life scenarios.<sup>8</sup>

The primary purpose of theory in the profession of nursing is to improve practice by positively influence the health and quality of life of patients.<sup>9</sup> So, it is found that even though nursing theory is an integral part of nursing education and practice, nursing students are not able to apply nursing theories in the clinicals as they face few barriers in the application. By keeping this in mind researcher conducted a

study to assess the barriers for implementing nursing theory based practices in the clinicals among nursing students. The findings will help nursing professionals to find the ways to overcome barriers and improve nursing care by implementing nursing theories in the clinical practice.

## **Material and Methods:**

### *Design:*

This study adopted quantitative research approach with a cross-sectional research design. The Institutional Review Board provided ethical approval (regd no: ECR/262/Inst/UP/2013/RR-19). Data were collected by convenient sampling technique.

### *Participants:*

Data were collected from total of 218 students by convenient sampling technique from B.Sc. Nursing Second, Third, Fourth year students and M.Sc. Nursing First, Second year Students of tertiary care hospital who met the inclusion criteria.

### *Procedures:*

Participants were approached for informed consent for their participation. The students were approached through mail and personally who were present in the institution. Explained the procedure of the study and informed consent were taken prior to data collection. Tools were collected once it is filled by hand and mail.

### *Measures:*

Data were collected using Demographic profile and Likert Scale to assess barriers for implementing nursing theory based practices which was validated from the experts. Reliability of the Likert scale was 0.767, which was calculated by using Cronbach's Alpha. Demographic profile included age, gender and qualification of the participants. Likert Scale to assess barriers for implementing nursing theory-based practices which had 12 items with three domains i.e. knowledge, personal interest and role of institution.

### *Statistics:*

For analysis descriptive statistics (frequency table, mean and standard deviation) were conducted to describe the demographic data and item analysis for assessing barrier, domains of barrier and to assess overall barrier. Comparison between domains of barriers done by using t test at 0.05 significance. The Fisher's Exact Test and Pearson Chi-Square were also used for data analysis to find out association between demographic profile and overall barrier at 0.05 significance levels using SPSS software.

**Result:**

The result revealed that 57.8% of the participants

were belong to the age group of 22-25 years, 67.4% were female. As per their professional qualification 41.3% were third year B.Sc. nursing students.

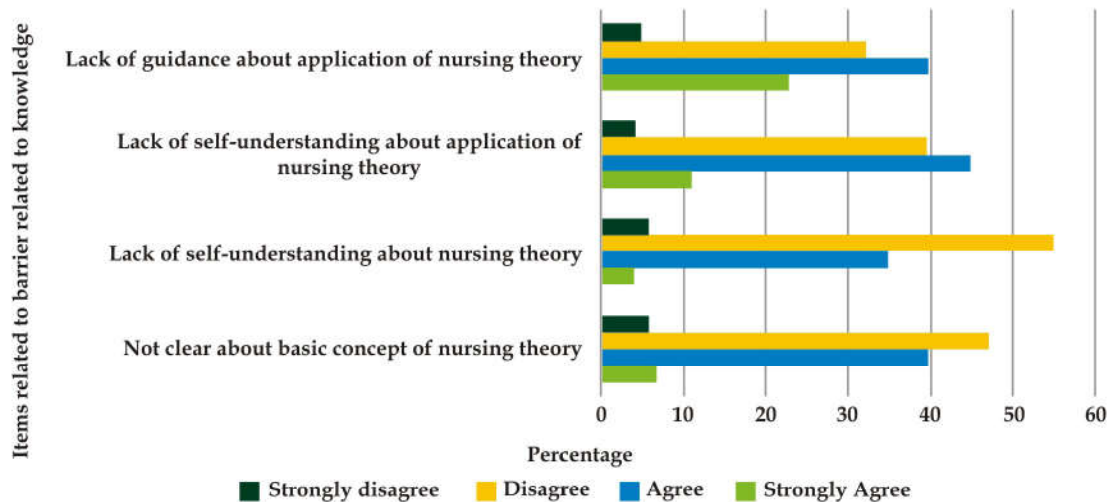


Fig. 1: Barriers related to knowledge regarding nursing theory

Above figure depicts in regards to barrier related to knowledge regarding application of nursing theory is that; 47.2% disagree and 39.9% also agree that they had no clear idea about basic concept of nursing theory, 55% disagree and 34.9% also agree that they had lack of self understanding about

nursing theory, 45% agree and 39.9% also disagree that they had lack of self-understanding about application of nursing theory, 39.9% agree and 32.1% also disagree that they had lack of guidance about application of nursing theory.

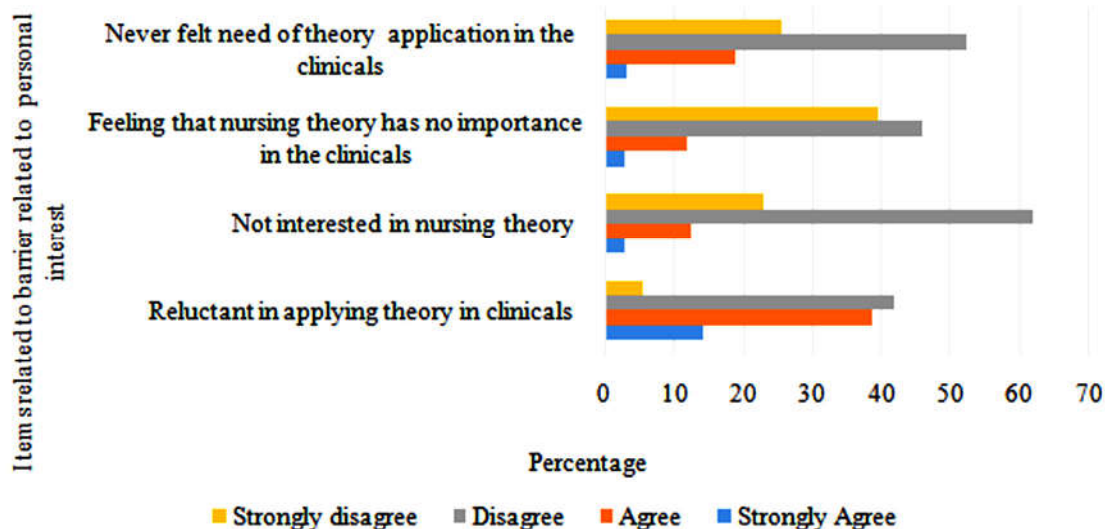


Fig. 2: Barriers related to personal interest about application of nursing theory

Above figure depicts in regards to barrier related to personal interest about application of nursing theory is that; 41.7% disagree and 38.5% also agree that they are reluctant in applying theory in clinicals, 61.9% disagree that they are not interested

in application of nursing theory, 45.9% disagree and 39.4% also strongly disagree that they felt that nursing theory has no importance in the clinicals, 52.3% disagree that they never felt need of theory application in the clinicals.

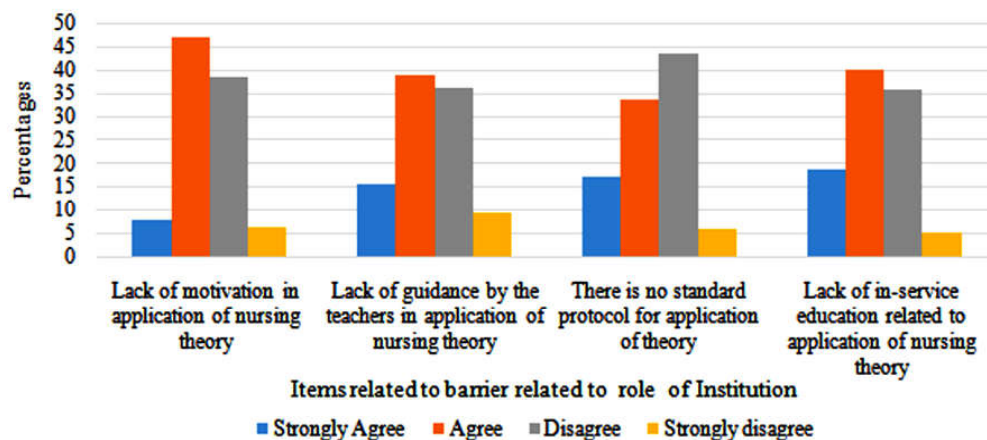


Fig. 3: Barriers related to role of Institution in applying nursing theory in clinicals.

Above figure depicts in regards to barrier related to role of institution in applying nursing theory in clinicals is that; 47.2% agree and 38.5% also disagree that they had lack of motivation in application of nursing theory, 39% agree and as well as 36.2% also disagree that they had lack of guidance by the teachers in application of nursing theory, 43.6% disagree and 33.5% also agree that there is no standard protocol for application of theory, 40.5% agree and 35.8% also disagree that they had lack of in service education related to application of nursing theory.

**Table 2:** Domain wise distribution for barriers for implementing nursing theory in the clinicals n=218

Domain of barrier	Category	Less barrier	Moderate barrier	More barrier
	Scoring key	4-8	8-12	12-16
Knowledge	f	18	146	54
	%	8.3	67.0	24.8
Personal Interest	f	77	126	15
	%	35.3	57.8	6.9
Role of Institution	f	21	113	82
	%	9.6	51.8	37.6

Table 2: Described that 67% felt moderate and 24.8% felt more barrier for implementing nursing theory-based practices in the clinicals related to knowledge regarding nursing theory. It also showed that 57.8 % felt moderate barrier for implementing nursing theory-based practices in the clinicals related to personal interest in application of nursing theory. In addition to it also showed that 51.8 % of the participants felt moderate and 37.6 % felt more barrier for implementing nursing theory based practices in the clinicals related to role of institution in applying nursing theory in clinicals.

**Table 3:** Overall barriers for implementing nursing theory-based practices in the clinicals. n=218

Overall barrier	Scoring key	Frequency (f)	Percentage (%)
Less	12-24	26	11.9
Moderate	24-36	173	79.4
More	36-48	19	8.7

Table 3: Portrayed that 79.4% of the participants felt moderate and 8.7% felt more barrier related to overall domains for implementing nursing theory-based practices in the clinicals.

**Table 4:** Comparison of various domains of barrier for implementing nursing theory-based practices in the clinicals.

Domains of barrier	Mean and SD	Mean difference	t value	significance (P- Value)
Knowledge Vs Personal Interest	Knowledge 10.28+2.06	1.945	11.127	.000*
	Personal Interest 8.34+2.09			
Knowledge Vs Role of Institution	Knowledge 10.28+2.06	-.234	-1.471	.143
	Role of Institution 10.52+2.43			
Personal Interest Vs Role of Institution	Personal Interest 8.34+2.09	-2.179	-11.583	.000*
	Role of Institution 10.52+2.43			

\*p-value < 0.05; 95% Confidence Interval; t-test

Table 4: explained the comparison of various domains of barrier for implementing nursing theory based practices in the clinicals. In regards to knowledge vs personal interest of the participants about nursing theory, the mean of knowledge is more (10.28+2.06) than personal interest (8.34+2.09), which shows highly significant ( $p = .000^*$ ). It also shows that in regard to knowledge vs role of

Institution, the mean of role of Institution is more (10.52+2.43) than knowledge about nursing theory (10.28+2.06), which is not significant. In regards to personal interest vs role of Institution of the participants about nursing theory, the mean of role of Institution is more (10.52+2.43) than personal interest (8.34+2.09), which shows highly significant ( $p = .000^*$ ).

**Table 5:** Association overall of barrier for implementing nursing theory based practices in the clinicals with the demographic profile.

Demographic profile	Category	Overall barrier			test value	significance (p- Value)
		Less	Moderate	Severe		
Age in years	18-22	5	46	1	7.689	.211#
	22-25	15	99	12		
	25-29	5	24	5		
	29 and above	1	4	1		
Gender	Female	10	126	11	13.021	.001\$
	Male	16	47	8		
Qualification	M.Sc.Nursing First year	1	11	2	15.479	.011#
	M.Sc.Nursing Second year	1	12	1		
	B.Sc.Nursing Second year	8	51	7		
	B.Sc.Nursing Third year	11	22	1		
	B.Sc.Nursing Fourth year	5	77	8		

\*p-value < 0.05; 95% Confidence Interval; #: Fisher's Exact Test; \$: Pearson Chi-Square

Table 5: Explained the association of overall of barrier for implementing nursing theory based practices in the clinicals with the demographic profile. In regards to age of the participants there is no significant association between age and overall barrier in nursing theory application in the clinicals. It also shows that in regard to gender of the participants there is significant association ( $p = .001$ ) between gender and overall barrier in nursing theory application in the clinicals. It also shows that in regard to qualification of the participants there is significant association ( $p = .011$ ) between qualification and overall barrier in nursing theory application in the clinicals.

## Discussion:

The results of this study have several important implications for nursing care in this growing world. Analysis of the results of this study confirmed

reports from others study related to assessing barriers and facilitators for implementation of nursing process among nurses and identifying and overcoming barrier implementation.<sup>10-11</sup> However in this study, it revealed that even though students have knowledge, but due to lack of personal interest and role of institution in implementing nursing theory, they face barrier in implementing nursing theory based practices in the clinicals. Another research also emerged with barriers i.e. utilizing theoretical knowledge, lack of trust and perceived professional support; insufficiencies in teaching and learning process and differences between theory in lab and real clinical situations.<sup>8</sup>

## Conclusion:

The results of this study confirmed that majority participants felt moderate and few felt more barrier related to implementing nursing theory based

practices in the clinicals. It also confirmed that they had more knowledge about nursing theory than personal interest and role of institution in implementing nursing theory. So nurse educators can play an important role in motivating students to apply nursing theory in the clinicals while taking patient care. Institution also may play major role in making policies to implement nursing theory in the clinicals by nursing teachers. By applying nursing theory patient care will enhance with scientific base and future outcomes of patient care will improve.

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## Physical Health Problems among Orphanages: An Underrated Aspect

Jai Shree Vaishnav<sup>1</sup>, Vidhi Sharma<sup>2</sup>

### Abstract

In recent era, lots of children are living in orphan institutions due to parental neglect, absence, substance abuse, and abandonment. The orphanage homes can barely meet the needs of the children due to poor financial support and low caretaker to child ratio. The orphan children are suffering from various health problems. There are different physical health problems among the children. The present study revealed that dental health problem was the most prevalent among the children. The majority of the children were sick at the time of data collection. The issues related to ENT, respiratory, Anemia, skin infections and malnutrition were the common health problems among the orphanage. It was also observed that longer the duration of stay in orphanage, the children were more prone to infections. The present study concludes that orphanages have more health related problems compare to non-orphanages. There is a need to take care the physical health of orphan children.

**Keywords:** Orphanages; Physical Health; Problems.

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### Introduction

In recent era, lots of children are living in orphan institutions due to parental neglect, absence, substance abuse, and abandonment. These children are at risk for developing abnormal physical and psychosocial development. These children are at higher risk of discrimination, inadequate care, and exploitation due to the absence of parental care. The children are facing the availability of health facilities and receiving inadequate preventive health care services. Moreover the orphanage homes can barely meet the needs of the children due to poor financial support and low caretaker to child ratio.<sup>1-3</sup> An estimate by a UK based charity “Save the Children;” Kashmir valley has 215,000 orphans out of which >37% have lost one or both parents to the prevailing conflict. More than 15% of these children live in orphanages. A report

available on the website of Save the Children organization reveals that 37% of the orphans lost one or both parents due to the conflicts while 55% were orphaned due to the natural death of parents and remaining 8% due to other reasons.<sup>4,5</sup> India has more than 25 million orphan and abandoned children. The burden of care for these OAC is on caregivers that are often ill equipped to meet their needs due to inadequate assets. Previous studies suggest that in communities with limited resources, OAC residing with non-biological caregivers are more at risk than those fostered by a biological parent.<sup>6</sup> A new study by an international charity for orphaned and abandoned children found that India is home to 35 million orphans, a figure projected to increase by 20217. The orphan children are suffering from various health problems. These are different problems among the children.

### Systematic Health Issues Among Orphanages

Different studies have explored the existing health problems among the orphanages. A cross-sectional study communicated that 93% children were sick at time of data collection. Out of 536 children, 19.4% were having waterborne diseases, 13.4 % having skin diseases, 12% ENT problems, and 65.3% were malnutrition problems.<sup>8</sup> In another study, Reddy M and Ramya V. (2017) recruited 279

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orphanage children aged between 6 and 16 years for 1 year for the study. The leading morbidities observed were anemia (37.4%), skin problems (35.5%), dental problems (28.3%), malnutrition (23.2%), scalp problems (12.9%), ear problems (11.6%), upper respiratory problems (5.7%), and eye problems (3.9%). There was very high significant association between the duration of stay and the presence of medical illness in the orphanage children ( $P = 0.000$ ). Anemia, skin infections, dental problems, and malnutrition are the common health problems in them. Repeated infection and protein energy malnutrition significantly contributed to high prevalence of anemia. It was also observed that longer the duration of stay in orphanage, the children were more prone to infections. Despite these children are very vulnerable, their health needs are poorly understood and ill served.<sup>9</sup> Physical statuses of the orphans are not good in our nation. A study by Chhabra P et al (2010) assessed physical health status of orphan children in New Delhi, India. The results revealed that 8.6% orphan children had ENT problems followed by 8.6% subjects had acute respiratory infections, 81.1% subjects had gastrointestinal problems and 31.7% subjects had integumentary problems.<sup>10</sup> Another study revealed that among orphan children, 72.48% orphan children reported ENT problems 66.05% of the subjects had respiratory problems, 68.81% reported gastrointestinal problems and 33.94% subjects had integumentary problems.<sup>11</sup>

### Dental Health Problems Among Orphanage

Oral health is an important component of our health. During childhood, dental care is neglected by most of the children. A cross-sectional analytical study was conducted among 210 orphans and 210 government school children living with parents. The findings communicated that common oral health problems perceived by orphans and non-orphans were bleeding gums (16.8% and 12.4%) and toothache (12.7% and 13.7%), respectively. The daily performances most affected were cleaning mouth ( $P=0.000$ ) and eating ( $P=0.003$ ). Oral mucosal condition, dental fluorosis, dentofacial anomalies, and calculus showed significant difference among orphans and non-orphans ( $P=0.000$ ). The study highlighted that C-OIDP score was high in orphans. More than half of the study subjects were suffering from oral diseases which required treatment to improve their quality of life.<sup>12</sup>

In a descriptive study, Soni A et al (2020) stated that the prevalence of dental caries in primary and permanent dentition was found to be 13.83%

and 20.70%, respectively. Comparatively higher prevalence of dental caries was observed in female inmates. Bleeding on probing was detected in 225 (22.39%) participants. While, assessment of fluorotic lesions showed 0.80% with questionable fluorosis, followed by 2.89% with very mild, 2.69% with mild and 0.40% with moderate fluorosis. Enamel erosion was found in 2.39% of the participants. Children living in Rajasthan orphanages are suffering from dental caries that need to be urgently treated.<sup>13</sup> While a study in Jodhpur city, Rajasthan highlighted that 93% of the participants felt the necessity of maintaining oral hygiene. There were 69% of the children who believed that it was necessary to brush teeth after every meal, 51% children believed that regular tooth brushing prevents all tooth problems and 93% children knew that tobacco is carcinogenic in nature. Also, it was found that 77% of the children believed that regular dental visits help in maintaining oral hygiene.<sup>14</sup> Shanbhog R et al (2013) conducted a cross sectional survey among 488 children of 12-14 years living in 5 different orphanages of Mysore district, India. Data regarding oral hygiene practices and oral health status were collected through structured questionnaire and by type III clinical oral examinations. The result had shown that oral health condition in orphan children was neglected. Children from this disadvantaged background have shown a high prevalence of dental caries with low dental care utilization.<sup>15</sup>

### Metabolic Problems Among Orphanage

A descriptive study highlighted that out of 120 orphan children, 109 (91%) reported various types of physical health problems. Age of orphan children, period of stay in orphanage home and BMI had significant impact on physical health problems. The study concluded that majority of orphan children had various types of physical health problems.<sup>11</sup>

### Visual Impairment

Nawaysir, S et al, (2020) conducted a study to compare vision and ocular disease among orphans to age-matched school children and determine the barriers they faced for ophthalmic care in Riyadh, Saudi Arabia. The rates of refractive errors (RE), strabismus, amblyopia, and allergic conjunctivitis were estimated in two groups. The coverage of existing eye services for orphan children was reviewed. The risk of RE was statistically significantly higher in school children compared to orphan children ( $P=0.01$ ). The study highlighted that orphan children had less rate of myopia compared to school children. However, unattended



ocular pathologies were detected during the screening campaign. The coverage of refractive services was low in these underprivileged children compared to school children.<sup>16</sup>

## Conclusion

The present study was based on the existing physical health problems among orphanages. The study highlighted that the orphan children have various health problems. There are different physical health problems among the children. The present study revealed that dental health problem was the most prevalent among the children. The majority of the children were sick at the time of data collection. The issues related to ENT, respiratory, Anemia, skin infections and malnutrition were the common health problems among the orphanage. It was also observed that longer the duration of stay in orphanage, the children were more prone to infections. The present study concludes that orphanages have more health related problems compare to non-orphanages. There is a need to take care the physical health of orphan children.

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## Deep Vein Thrombosis: An Alarming Condition after Surgery and Chronic Illness

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Shatrughan Pareek<sup>5</sup>

### Abstract

Deep vein thrombosis (DVT) is one of the conditions that are for long been under-diagnosed and ignored as one of the utmost cause of morbidity worldwide. Understanding of the pathology and treatment of DVT shows advancement over the years among hospitalized patients. Deep vein thrombosis is a frequent and potentially alarming condition. It is extremely common medical problems that occur isolated or associated with other disease or procedures. Around 10 million cases of venous thromboembolism take place yearly- low, middle and high income countries. The hospitalized associated deep vein thrombosis is the major cause of disability. Major risk factors for thrombosis, other than age, include exogenous factors such as surgery, hospitalization, immobility, trauma, pregnancy and the puerperium and hormone use, and endogenous factors such as cancer, obesity, and inherited and acquired disorders of hypercoagulation. Prophylaxis of Deep vein thrombosis has been identified as the best measures to improve the safety of patients who were hospitalized for longer duration. Most of the problem could be avoided by simple, cost-effective measures. The healthcare professionals should be vigilant about DVT and its management to decline the morbidity and mortality because of DVT.

**Keywords:** Deep vein thrombosis (DVT); Venous thromboembolism; Hospitalized patients.

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### Introduction

Deep vein thrombosis (DVT) is the formation or presence of a thrombus in the deep veins. DVT occurs mostly in the lower extremities and to a lesser extent in the upper extremities. Pulmonary embolism (PE) is an obstruction of the pulmonary artery or its branches by a thrombus (sometimes due to fat or air). The most likely source of thrombus in pulmonary arteries is an embolization from deep veins of the legs. It occurs in one-third of patients with DVT. Prevention of DVT thereby decreases the incidence of PE, a serious and life-threatening condition.<sup>1</sup> Deep vein thrombosis is a frequent and potentially alarming condition.

It is extremely common medical problems that occur isolated or associated with other disease or procedures. For many years the Virchow triad has expound the pathogenesis of Deep vein thrombosis DVT (venous stasis, endothelial damage and increased coagulability). DVT can appear at any age, although it is very common among people over 50 years. In 25% of people DVT can occur with or without symptoms, but in many cases the affected limb become painful, swollen, red, hot and superficial vein it can be distended full of blood that circulates badly. The biggest complication of a DVT is that it could dissolve the clot and travel to the lungs, causing a pulmonary embolism.<sup>2</sup> Deep vein thrombosis (DVT) is one of the conditions that are for long been under diagnosed and ignored as one of the utmost cause of morbidity worldwide. Understanding of the pathology and treatment of DVT shows advancement over the years among hospitalized patients. Comprehension for diagnosis and treatment of this potentially lethal condition remains inadequate. Choosing this research topic objective is to identify DVT risk and available options for diagnosis and treatment.<sup>3</sup> Deep vein thrombosis is a frightening condition which occurs when a blood clot forms in a vein located deep inside

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your body. Deep vein thrombosis mostly occurs in the lower extremities and to a lesser extent in the upper extremities. It is a major preventable cause of mortality and morbidity worldwide.<sup>4</sup> According to Centers for Disease Control and prevention (CDC) Deep vein thrombosis can cause serious illness, disability, and sometime death. The most consequential complication of Deep vein thrombosis happens when parts of the clot breaks off and move towards the lungs through the bloodstream, and cause some kind of obstruction called pulmonary embolism (PE).<sup>5</sup> Venous thromboembolism remains the most preventable cause of death in hospitalized patients and is known to cause significant morbidity with associated health-care expenditure.<sup>6</sup> Venous thrombosis generally involves lower limbs, affecting most frequently calf veins, which are involved in virtually 100% of symptomatic, spontaneous lower extremity DVT. It is believed that the DVT is less prevalent among the Indians and Asians.<sup>7</sup> A total of 41% of central venous catheters (CVC) result in thrombosis of the blood vessel. Deep venous thrombosis is the major thrombotic complication of CVC.<sup>8</sup> Venous thromboembolism comprising of deep vein thrombosis and pulmonary embolism can result in significantly mortality, morbidity, and healthcare expenditure. Approximately, one-third of patients with symptomatic VTE show clinical features of pulmonary embolism, whereas two-third shows DVT alone. Both DVT and PE can be clinically silent and hence not suspected. VTE is not only disabling but also prolongs hospital stay and increases the cost treatment. Along with myocardial infarction and arrhythmias, PE is one of the commonest causes of sudden unexplained deaths in hospitalized patients.<sup>9</sup> Deep vein thrombosis is a major cause of disability and death worldwide. The scientific reviews by world thrombosis steering committee revealed that 10 million cases of venous thromboembolism take place yearly low, middle and high income countries. The hospitalized associated deep vein thrombosis is the major cause of disability. Deep vein thrombosis leads to serious life-threatening result including pulmonary embolism, recurrence of venous thromboembolism, post-thrombotic syndrome and death. 1 in 4 people are dying from condition caused by thrombosis; about 900,000 people in the United States alone are affected by blood clot annually; about 100,000 of those people die.<sup>10</sup> Deep-vein thrombosis and pulmonary emboli are common and often "silent". Therefore, the incidence and prevalence are often underestimated. It is thought the annual incidence of DVT is 800 cases per million with a prevalence of lower limb DVT of 1 case per 1000 population.

In the United States, more than 200,000 people develop venous thrombosis per year; of those, one fourth cases are complicated by PE.<sup>11</sup> Some epidemiological studies have identified several factors that increase the risk of DVT development among patient with thromboembolism. The study had shown a majority of intensive care unit (ICU) patients have one or more risks for DVT, may be the patients are further predisposed to DVT during their ICU stay due to prolonged immobilization, sepsis, and vascular injury from indwelling central venous catheter or other invasive interventions. The cause of DVT may be inherited, acquired or a combination of both. The diagnosis and treatment of DVT are expensive and challenging. DVT may also complicate the duration of disease, but it will run across in the absence of precipitating factors.<sup>12</sup> Venous thrombosis, including deep vein thrombosis and pulmonary embolism, occurs at an annual incidence of about 1 per 1000 adults. The rate increases drastically after age of 45 years, and are slightly higher in men than women in older age. Major risk factors for thrombosis, other than age, include exogenous factors such as surgery, hospitalization, immobility, trauma, pregnancy and the puerperium and hormone use, and endogenous factors such as cancer, obesity, and inherited and acquired disorders of hypercoagulation.<sup>13</sup> Due to severe COVID-19 infection, the high incidence of venous thromboembolic events among the infected population.<sup>14</sup> Acute DVT alone was responsible for the substantial burden of VTE in Indian patients. Bleeding was not the limiting factor for anticoagulant treatment in most patients.<sup>15</sup>

## Discussion

Deep vein thrombosis leads to serious life-threatening result including pulmonary embolism, recurrence of venous thromboembolism, post-thrombotic syndrome and death. All the patients who were admitted in ICU and wards should be screened for the risk of deep vein thrombosis. Based on the presence or absence of these risk factors, patients can be stratified into low, moderate and high risk for deep vein thrombosis. Those patients who were at high risk should receive prophylaxis-both mechanical (intermittent pneumatic compression, elastic graduated compressions stockings, and DVT pump used in bed-ridden patients) and pharmacological measures i.e. low molecular weight heparin (LMWH) as per the ACCP guidelines. Those patients who are at high risk of bleeding or contraindicated for pharmacological thromboprophylaxis such as heparin, LMWH

should receive mechanical prophylaxis only. Prophylaxis of Deep vein thrombosis has been identified as the best measures to improve the safety of patients who were hospitalized for longer duration.<sup>16</sup> Most of the problem could be avoided by simple, cost effective measures. The proper administration of prophylactic regimen by interdisciplinary team can play a major role in affecting the outcome of the high risk patients. Evidence based guidelines for VTE prophylaxis have been available since a long time ago.<sup>17</sup> The American College of chest physicians (ACCP) guidelines recommends prophylaxis for the patients at moderate to high risk of VTE, using mechanical prophylaxis and/or pharmacological prophylaxis. Despite the recommendations of international guidelines, physicians often do not prescribe prophylaxis therapy in high risk situations. It's needed to improve physicians' awareness through training and the implementation of procedures to assess DVT risk during hospitalization, along with the application of evidence based guidelines for DVT prophylaxis and treatment in both medical and surgical patients.<sup>18-19</sup>

## Conclusion:

Deep vein thrombosis is a frightening condition which occurs when a blood clot forms in a vein located deep inside your body. Deep vein thrombosis mostly occurs in the lower extremities and to a lesser extent in the upper extremities. It is a major preventable cause of mortality and morbidity worldwide. The bed ridden patients admitted in hospital is sometimes missed out because of their heavy task or overburdened work which make them unaware about the complication that can arise due to long term admission with severe medical illness and immobilization that may lead to increase the risk to develop deep vein thrombosis which is a life threatening condition.

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**Competing interest:** None

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