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EXAMINING OPTIMAL NUTRITIONAL SUPPORT STRATEGIES FOR CRITICALLY ILL PATIENTS: EVALUATING ENTERAL AND PARENTERAL FEEDING METHODS

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ABSTRACT

Nutritional support plays a pivotal role in the management of critically ill patients, influencing their clinical outcomes, recovery, and overall prognosis. This review paper meticulously examines the optimal nutritional support strategies for this vulnerable population, with a specific focus on evaluating enteral and parenteral feeding methods. Enteral feeding, which involves the delivery of nutrients directly into the gastrointestinal tract, and parenteral feeding, which bypasses the gastrointestinal tract and delivers nutrients intravenously, represent two primary approaches to providing essential nutrition to critically ill patients. Here we discuss the importance of nutritional support in critically ill patients, emphasizing its role in maintaining physiological function, supporting immune response, and facilitating tissue repair. It introduces the concept of enteral and parenteral feeding methods as two fundamental strategies for delivering essential nutrients to patients unable to meet their nutritional requirements orally. We also highlight the advantages and disadvantages of both enteral and parenteral feeding methods, highlighting their respective challenges and benefits in the context of critical care. It emphasizes the significance of individualized patient care and the need for healthcare professionals to carefully consider factors such as gastrointestinal tolerance, hemodynamic stability, and metabolic demands when selecting the most appropriate nutritional support strategy for each patient. This article underscores the importance of this review paper in informing clinical practice and guiding decision-making regarding nutritional support in critically ill patients. It suggests that the findings of this review will contribute to a deeper understanding of optimal nutritional strategies in critical care and pave the way for future research and advancements in this field.

Keywords: Nutritional Support, Critically Ill Patients, Enteral Feeding, Parenteral Feeding, Optimal Strategies, Nutritional Assessment, Clinical Outcomes.

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INTRODUCTION

The significance of nutritional support in critically ill patients cannot be overstated, as it plays a fundamental role in their overall management, recovery, and outcome. Several key aspects highlight its importance Maintenance of Physiological Function: Critically ill patients often experience metabolic derangements and increased energy expenditure due to the stress response associated with their condition. Adequate nutritional support is essential for maintaining metabolic homeostasis, preserving lean body mass, and preventing catabolism. Without adequate nutrition, the body may resort to breaking down muscle and other tissues for energy, leading to further complications and delayed recovery. Support of Immune Function: Nutrition is closely linked to immune function, with deficiencies in key nutrients impairing immune response and increasing susceptibility to infections. In critically ill patients, who are already immunocompromised due to their underlying condition or medical interventions, optimal nutrition becomes crucial for bolstering immune defenses and reducing the risk of nosocomial infections. Additionally, certain nutrients, such as vitamins and minerals, play specific roles in immune function and wound healing, further emphasizing the importance of nutritional support in critical care settings. Facilitation of Tissue Repair and Recovery: Critically ill patients often suffer from tissue damage and organ dysfunction as a result of their illness or injury. Adequate nutrition provides the essential building blocks and energy needed for tissue repair, regeneration, and recovery. Protein, in particular, is vital for wound healing and maintaining the integrity of tissues, while carbohydrates provide the energy required for cellular processes and metabolic functions. Without sufficient nutrition, the body's ability to repair and recover from injury or illness is compromised, leading to prolonged hospital stays and increased morbidity and mortality. Optimization of Clinical Outcomes: Numerous studies have demonstrated the association between nutritional status and clinical outcomes in critically ill patients. Optimal nutrition has been linked to reduced complications, shorter hospital stays, and improved survival rates. Conversely, malnutrition or inadequate nutritional support is associated with increased morbidity, mortality, and healthcare costs. By providing timely and appropriate nutritional support, healthcare providers can positively impact patient outcomes and enhance the overall quality of care delivered to critically ill individuals. Individualized Patient Care: Nutritional support in critically ill patients requires a personalized approach that takes into account the unique needs and circumstances of each individual. Factors such as underlying medical conditions, nutritional status prior to admission, gastrointestinal function, and metabolic demands must be carefully considered when designing and implementing nutrition therapy. By

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tailoring nutritional support to the specific needs of each patient, healthcare providers can optimize outcomes and improve the overall patient experience during their critical illness.

Nutritional support is a cornerstone of care in critically ill patients, with far-reaching implications for their physiological function, immune response, tissue repair, and clinical outcomes. Recognizing the significance of nutrition and implementing evidence-based strategies for providing optimal nutritional support are essential components of comprehensive critical care management. Enteral and parenteral feeding methods represent two primary approaches to providing essential nutrition to critically ill patients who are unable to meet their nutritional requirements orally. Enteral feeding involves the delivery of nutrients directly into the gastrointestinal tract, typically through a nasogastric or nasojejunal tube, allowing for the physiological absorption of nutrients and maintenance of gut integrity. This method is preferred whenever feasible due to its association with reduced infectious complications, improved gut function, and potential cost-effectiveness. However, enteral feeding may be contraindicated or limited by factors such as gastrointestinal dysfunction, high gastric residuals, or risk of aspiration. In such cases, parenteral feeding serves as an alternative method, bypassing the gastrointestinal tract and delivering nutrients intravenously. Parenteral nutrition provides a source of calories, proteins, vitamins, and minerals directly into the bloodstream, making it suitable for patients with severe gastrointestinal disorders, bowel obstruction, or intolerance to enteral feeding. However, parenteral nutrition is associated with several risks, including catheter-related complications, metabolic disturbances, and infectious complications, highlighting the importance of careful patient selection, monitoring, and management. Overall, the choice between enteral and parenteral feeding methods in critically ill patients requires a multidisciplinary approach, considering factors such as patient condition, nutritional status, gastrointestinal function, and potential risks and benefits of each approach to ensure optimal nutrition delivery and patient outcomes.

CHALLENGES AND IMPORTANCE OF ACHIEVING OPTIMAL NUTRITION

Achieving optimal nutrition in critically ill patients presents several challenges due to the complex nature of their conditions and the unique physiological responses associated with critical illness. Simultaneously, the importance of overcoming these challenges cannot be overstated, as optimal nutrition plays a crucial role in patient outcomes and recovery

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CHALLENGES OF ACHIEVING OPTIMAL NUTRITION

Metabolic Stress: Critically ill patients experience a state of metabolic stress characterized by increased energy expenditure, hypermetabolism, and altered nutrient metabolism. This stress response can lead to rapid depletion of energy stores, loss of lean body mass, and nutritional deficiencies if not adequately addressed.

Gastrointestinal Dysfunction: Many critically ill patients suffer from gastrointestinal dysfunction, including impaired motility, mucosal injury, and malabsorption. This can hinder the delivery and absorption of enteral nutrition, necessitating alternative approaches such as parenteral nutrition.

Feeding Intolerance: Critically ill patients may exhibit feeding intolerance due to factors such as gastric distention, ileus, or impaired gastric emptying. This can limit the amount of enteral nutrition tolerated and may necessitate adjustments in feeding protocols or the use of prokinetic agents.

Risk of Aspiration: Enteral feeding carries the risk of aspiration, especially in patients with altered consciousness, impaired swallowing reflexes, or mechanical ventilation. Aspiration pneumonia can lead to serious complications and may necessitate modifications in feeding methods or the use of feeding tubes with additional safety features.

Catheter-Related Complications: Parenteral nutrition carries the risk of catheter-related complications, including infections, thrombosis, and mechanical issues. These complications can prolong hospital stays, increase healthcare costs, and compromise patient safety.

IMPORTANCE OF ACHIEVING OPTIMAL NUTRITION

Prevention of Malnutrition: Critically ill patients are at high risk of developing malnutrition due to increased energy expenditure, catabolism, and inadequate intake. Optimal nutrition is essential for preventing malnutrition and preserving lean body mass, which is critical for maintaining physiological function and supporting recovery.

Enhanced Immune Function: Adequate nutrition is crucial for supporting immune function and reducing the risk of infections in critically ill patients. Malnutrition can impair immune response, increase susceptibility to nosocomial infections, and prolong hospital stays. Optimal nutrition helps bolster immune defenses and promotes better outcomes in this vulnerable population.

Facilitation of Wound Healing: Critically ill patients often suffer from wounds, surgical incisions, or pressure ulcers that require prompt healing. Optimal nutrition provides the essential

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nutrients and energy needed for tissue repair, collagen synthesis, and wound healing. Adequate protein intake is particularly important for promoting wound healing and preventing complications.

Maintenance of Organ Function: Optimal nutrition is essential for maintaining organ function and preventing metabolic derangements in critically ill patients. Adequate intake of carbohydrates, fats, and protein supports metabolic processes, sustains vital organ function, and helps mitigate the risk of organ failure.

Improvement in Clinical Outcomes: Numerous studies have demonstrated the association between optimal nutrition and improved clinical outcomes in critically ill patients. Timely initiation of nutrition therapy, individualized feeding regimens, and close monitoring of nutritional status have been shown to reduce complications, shorten hospital stays, and improve survival rates in this population.

While achieving optimal nutrition in critically ill patients poses significant challenges, its importance cannot be overstated. By addressing these challenges through evidence-based nutrition interventions and personalized care, healthcare providers can improve patient outcomes, enhance recovery, and ultimately, save lives.

ENTERAL FEEDING

Enteral feeding, which involves delivering nutrients directly into the gastrointestinal tract, offers several advantages in the nutritional support of critically ill patients. One of its primary benefits is the preservation of gut integrity and function. Enteral feeding maintains the mucosal barrier of the gastrointestinal tract, preventing bacterial translocation and reducing the risk of infectious complications compared to parenteral nutrition. Additionally, enteral feeding is associated with a lower incidence of complications such as catheter-related bloodstream infections and thrombosis, contributing to improved patient safety. Moreover, enteral feeding is more physiological, as it mimics the natural route of nutrient delivery, promoting gastrointestinal motility and hormone secretion, which can enhance nutrient absorption and utilization. From a practical standpoint, enteral feeding is generally more cost-effective than parenteral nutrition, as it avoids the need for specialized equipment and reduces the risk of central line-associated complications. Furthermore, enteral feeding allows for the administration of medications and water-soluble vitamins concurrently with the enteral formula, simplifying medication management and reducing the need for additional interventions.

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Numerous studies have provided evidence supporting the use of enteral feeding in critically ill patients. A systematic review and meta-analysis by Doig et al. (2008) found that early enteral nutrition, initiated within 24-48 hours of admission to the intensive care unit (ICU), was associated with reduced mortality, infectious complications, and length of stay compared to delayed or no enteral feeding. Similarly, a multicenter randomized controlled trial by Arabi et al. (2015) demonstrated that early initiation of enteral nutrition in mechanically ventilated patients reduced the risk of ventilator-associated pneumonia and improved clinical outcomes. These findings underscore the importance of early enteral nutrition in critically ill patients and highlight its potential to positively impact patient outcomes.

Several factors influence the success of enteral feeding in critically ill patients, including gastrointestinal tolerance and tube placement. Gastrointestinal tolerance refers to the ability of the patient to tolerate enteral feeding without experiencing adverse effects such as vomiting, abdominal distention, or diarrhea. Factors that may affect gastrointestinal tolerance include the patient's underlying condition, severity of illness, medication use, and feeding regimen. Strategies to optimize gastrointestinal tolerance include gradual advancement of feeding rates, use of prokinetic agents to improve gastric emptying, and monitoring of gastric residuals to prevent aspiration and minimize feeding-related complications.

Tube placement is another critical factor influencing the success of enteral feeding. Correct placement of the feeding tube ensures accurate delivery of nutrients into the gastrointestinal tract and reduces the risk of complications such as tube dislodgement, aspiration, or malposition. Various methods can be used to confirm tube placement, including auscultation of air insufflation, measurement of pH or bilirubin levels in aspirates, and radiographic confirmation. Regular assessment of tube placement and integrity is essential to prevent complications and ensure the safe and effective delivery of enteral nutrition to critically ill patients. Overall, enteral feeding represents a safe, effective, and physiological approach to providing nutritional support in critically ill patients, with numerous advantages supported by evidence-based practice. However, careful attention to factors influencing gastrointestinal tolerance and tube placement is necessary to optimize feeding outcomes and minimize complications.

PARENTERAL FEEDING

Parenteral feeding, which involves delivering nutrients intravenously, offers several advantages in the nutritional support of critically ill patients, particularly when enteral feeding is contraindicated or not feasible. One of the primary advantages is the ability to provide complete

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and precise nutrition, bypassing the gastrointestinal tract and delivering nutrients directly into the bloodstream. This ensures that patients receive essential nutrients, including carbohydrates, proteins, fats, vitamins, and minerals, regardless of their gastrointestinal function or tolerance. Parenteral nutrition can be tailored to meet the specific nutritional needs of each patient, allowing for individualized nutrient composition and delivery rates. Additionally, parenteral nutrition can be initiated rapidly and easily, making it suitable for patients who are unable to tolerate enteral feeding or require immediate nutritional support. Moreover, parenteral nutrition can serve as a bridge therapy for patients transitioning from enteral to oral feeding or undergoing gastrointestinal surgery or procedures that temporarily preclude enteral nutrition.

Evidence supporting the use of parenteral feeding in critically ill patients comes from various studies demonstrating its efficacy in improving nutritional status, clinical outcomes, and survival rates. For example, a systematic review and meta-analysis by Braunschweig et al. (2001) found that parenteral nutrition was associated with improvements in nitrogen balance, muscle mass, and immune function in critically ill patients. Similarly, a multicenter randomized controlled trial by Casaer et al. (2011) showed that early parenteral nutrition in critically ill adults reduced the risk of infections and improved clinical outcomes compared to withholding nutrition until enteral feeding was initiated. These findings highlight the role of parenteral nutrition as a valuable adjunct therapy in the nutritional management of critically ill patients, particularly in those who are unable to tolerate enteral feeding or require supplemental nutrition to meet their energy and protein requirements.

Several factors influence the success of parenteral feeding in critically ill patients, including catheter-related complications and metabolic disturbances. Catheter-related complications, such as infections, thrombosis, and mechanical issues, represent significant risks associated with parenteral nutrition. Infection is the most common complication, with central line-associated bloodstream infections being a leading cause of morbidity and mortality in critically ill patients receiving parenteral nutrition. Strategies to minimize catheter-related complications include strict aseptic technique during catheter insertion and maintenance, regular assessment of catheter function and integrity, and appropriate catheter site care and dressing changes. Additionally, the use of antimicrobial-impregnated catheters and catheter lock solutions may help reduce the risk of infection and thrombosis in patients receiving parenteral nutrition.

Metabolic disturbances, such as hyperglycemia, electrolyte imbalances, and hepatic dysfunction, are also common complications associated with parenteral feeding. Hyperglycemia is particularly prevalent due to the high glucose content of parenteral nutrition solutions and the

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stress-induced insulin resistance seen in critically ill patients. Close monitoring of blood glucose levels and adjustment of insulin therapy are essential to prevent hyperglycemia and its associated complications, including infection, organ dysfunction, and prolonged hospitalization. Electrolyte imbalances, such as hypophosphatemia, hypokalemia, and hypomagnesemia, may occur secondary to inadequate electrolyte provision or excessive losses from diuresis or gastrointestinal losses. Regular monitoring of electrolyte levels and adjustment of parenteral nutrition formulations are necessary to maintain electrolyte balance and prevent metabolic disturbances in critically ill patients. Furthermore, hepatic dysfunction, such as cholestasis and steatosis, may develop in patients receiving long-term parenteral nutrition, necessitating careful monitoring of liver function tests and consideration of alternative feeding strategies, such as enteral nutrition or oral feeding, when feasible. Overall, parenteral feeding represents a valuable therapeutic option in the nutritional management of critically ill patients, offering precise and customizable nutrition when enteral feeding is not feasible. However, careful attention to catheter-related complications and metabolic disturbances is essential to optimize patient outcomes and minimize the risks associated with parenteral nutrition therapy.

COMPARATIVE ANALYSIS

A comparative analysis of enteral and parenteral feeding methods is essential in guiding the selection of the most appropriate nutritional support strategy for critically ill patients. This analysis should evaluate the effectiveness, safety, and feasibility of each method in meeting the nutritional needs of patients, taking into account various factors such as patient characteristics, clinical condition, and gastrointestinal function.

Effectiveness:

Enteral feeding is generally considered the preferred method of nutritional support when feasible, as it maintains gut integrity, supports immune function, and promotes gastrointestinal motility. The physiological route of nutrient delivery via the gastrointestinal tract is associated with improved nutrient absorption and utilization compared to parenteral feeding. Additionally, enteral feeding has been shown to reduce the risk of infectious complications, enhance wound healing, and improve clinical outcomes in critically ill patients, particularly when initiated early and advanced gradually to meet caloric and protein requirements.

On the other hand, parenteral feeding may be necessary in patients with severe gastrointestinal dysfunction, bowel obstruction, or intolerance to enteral feeding. Parenteral nutrition provides

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complete and precise nutrition directly into the bloodstream, bypassing the gastrointestinal tract and ensuring nutrient delivery regardless of gut function. While parenteral feeding can effectively meet the nutritional needs of critically ill patients, it is associated with a higher risk of complications, including catheter-related infections, metabolic disturbances, and hepatic dysfunction, which may impact patient outcomes.

Safety:

Enteral feeding is generally considered safer than parenteral feeding, as it preserves gut integrity, reduces the risk of bacterial translocation, and minimizes infectious complications. However, enteral feeding may be associated with complications such as feeding intolerance, aspiration, tube dislodgement, and gastrointestinal bleeding, particularly in patients with underlying gastrointestinal disorders or mechanical ventilation. Close monitoring of gastrointestinal tolerance, tube placement, and aspiration risk is essential to prevent complications and ensure the safe delivery of enteral nutrition in critically ill patients.

Parenteral feeding carres a higher risk of complications compared to enteral feeding, primarily related to catheter-related issues and metabolic disturbances. Catheter-related bloodstream infections, thrombosis, and mechanical complications represent significant risks associated with parenteral nutrition therapy, necessitating strict adherence to aseptic technique during catheter insertion and maintenance. Additionally, parenteral nutrition may lead to metabolic disturbances such as hyperglycemia, electrolyte imbalances, and hepatic dysfunction, which require close monitoring and management to prevent adverse outcomes.

Feasibility:

The feasibility of enteral and parenteral feeding methods depends on various factors, including patient condition, gastrointestinal function, and nutritional status. Enteral feeding is generally preferred when the gastrointestinal tract is functional and can tolerate enteral nutrition without significant complications. However, parenteral feeding may be necessary in patients with severe gastrointestinal dysfunction, high aspiration risk, or inability to tolerate enteral feeding due to intolerance or contraindications.

Guidelines and Recommendations:

Guidelines and recommendations regarding the choice between enteral and parenteral feeding in critically ill patients emphasize the importance of individualized patient assessment and

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multidisciplinary decision-making. The American Society for Parenteral and Enteral Nutrition (ASPEN) and the European Society for Clinical Nutrition and Metabolism (ESPEN) provide evidence-based guidelines and recommendations for the nutritional management of critically ill patients, including indications, timing, and selection of enteral or parenteral feeding methods based on patient characteristics and clinical condition.

In general, enteral feeding is recommended as the preferred method of nutritional support in critically ill patients with a functional gastrointestinal tract, as it is associated with fewer complications, improved clinical outcomes, and cost-effectiveness compared to parenteral feeding. However, parenteral feeding may be necessary in patients with severe gastrointestinal dysfunction, bowel obstruction, or intolerance to enteral feeding. The choice between enteral and parenteral feeding should be individualized based on patient-specific factors, clinical judgment, and consideration of the risks and benefits of each method to optimize nutritional support and improve patient outcomes in critically ill patients.

CLINICAL CONSIDERATIONS

Special considerations for specific patient populations, such as those with gastrointestinal complications or hemodynamic instability, are paramount in the nutritional management of critically ill patients. Tailoring nutritional support strategies to address the unique needs and challenges of these populations is essential for optimizing patient outcomes and minimizing complications.

Gastrointestinal Complications:

Patients with gastrointestinal complications, such as bowel obstruction, ileus, or inflammatory bowel disease, may have impaired gastrointestinal motility, mucosal injury, or malabsorption, limiting their ability to tolerate enteral feeding. In such cases, parenteral nutrition may be necessary to provide adequate nutrition while allowing the gastrointestinal tract to rest and heal. However, close monitoring of gastrointestinal function and tolerance is essential to prevent complications such as feeding intolerance, aspiration, and exacerbation of underlying gastrointestinal conditions. Strategies to optimize enteral feeding in patients with gastrointestinal complications include using prokinetic agents to improve gastric motility, selecting the appropriate enteral formula based on patient tolerance and nutrient requirements, and monitoring for signs of feeding intolerance or exacerbation of gastrointestinal symptoms.

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Hemodynamically Unstable Patients:

Patients with hemodynamic instability, such as those with septic shock, heart failure, or severe hypotension, may have altered perfusion and organ function, impacting their ability to tolerate enteral or parenteral feeding. Enteral feeding may be preferred in hemodynamically stable patients, as it maintains gut integrity, supports immune function, and promotes gastrointestinal motility. However, in hemodynamically unstable patients with compromised splanchnic perfusion, enteral feeding may exacerbate ischemia, increase the risk of gastrointestinal bleeding, or lead to mesenteric ischemia. In such cases, parenteral nutrition may be necessary to provide adequate nutrition while avoiding potential complications associated with enteral feeding. Close hemodynamic monitoring, assessment of splanchnic perfusion, and multidisciplinary decision-making are essential to determine the most appropriate nutritional support strategy for hemodynamically unstable patients.

Nutritional Assessment, Monitoring, and Management of Complications:

Nutritional assessment plays a critical role in the management of critically ill patients, facilitating the identification of malnutrition, determining nutrient requirements, and guiding the selection of appropriate nutritional support strategies. Nutritional assessment should include anthropometric measurements, biochemical markers, dietary intake, and clinical evaluation to identify patients at risk of malnutrition and guide nutritional interventions. Regular monitoring of nutritional status, fluid balance, electrolytes, and metabolic parameters is essential to evaluate the effectiveness of nutritional support, identify complications, and adjust feeding regimens as needed.

The management of complications associated with enteral and parenteral feeding requires a multidisciplinary approach, involving healthcare providers from various specialties, including nutrition support teams, critical care physicians, dietitians, nurses, and pharmacists. Strategies to prevent and manage complications include optimizing tube placement and care, implementing evidence-based feeding protocols, monitoring for signs of feeding intolerance or complications, providing appropriate pharmacological support (e.g., prokinetic agents, insulin therapy), and adjusting nutritional regimens based on patient response and clinical status. Additionally, patient education and support are essential to ensure understanding of nutritional goals, feeding protocols, and self-management strategies to enhance compliance and adherence

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to nutritional therapy.

CONCLUSION

The importance of nutritional support in critically ill patients cannot be overstated, as it significantly impacts their management, recovery, and outcomes. This research article has comprehensively explored the significance of optimal nutrition in critical care, emphasizing the maintenance of physiological function, support of immune function, facilitation of tissue repair and recovery, optimization of clinical outcomes, and the need for individualized patient care. Despite its importance, achieving optimal nutrition in critically ill patients presents several challenges, including metabolic stress, gastrointestinal dysfunction, feeding intolerance, risk of aspiration, and catheter-related complications. However, overcoming these challenges is crucial, as optimal nutrition is associated with prevention of malnutrition, enhanced immune function, facilitation of wound healing, maintenance of organ function, and improvement in clinical outcomes.

The article also compared enteral and parenteral feeding methods, highlighting the advantages and considerations of each approach. Enteral feeding, preferred when feasible, maintains gut integrity, supports immune function, and is more cost-effective, while parenteral feeding may be necessary in patients with severe gastrointestinal dysfunction. However, it carries a higher risk of complications, such as catheter-related infections and metabolic disturbances. The choice between enteral and parenteral feeding should be individualized based on patient-specific factors, clinical judgment, and consideration of the risks and benefits of each method.

Special considerations for specific patient populations, such as those with gastrointestinal complications or hemodynamic instability, were also discussed. Tailoring nutritional support strategies to address the unique needs and challenges of these populations, along with regular assessment, monitoring, and management of complications, is essential for optimizing patient outcomes in critical care settings.

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PERCEIVED SATISFACTION AND CHALLENGES AMONG NURSING STUDENTS REGARDING ONLINE EDUCATION AMID COVID-19 PANDEMIC.

Nursing

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ABSTRACT

Background: COVID-19 has significantly impacted education, particularly in nursing and medicine. Lockdown caused educational institutions to close, creating a gap between students, teachers, and schools. To combat the distance, institutions often propose online teaching. During the pandemic crisis, online schooling was the sole option. A survey was undertaken to analyze student satisfaction and obstacles during lockdown. **Purpose:** The main aim of study is to assess the satisfaction level and challenges among nursing students regarding online teaching-learning activity during COVID-19 pandemic in Pune, Maharashtra. **Methodology:** A quantitative approach and cross sectional survey research design was used to assess the satisfaction and challenges perceived regarding online education during (COVID-19 pandemic) lockdown. Online self-structured questionnaire was used as a tool for data collection. 221 students consented to participate in the survey and purposive sampling technique was used. The tool comprised of three sections in which Section I associated with basic demographic profile of nursing students. Section II to assess the satisfaction regarding online learning activity 15 questions were evaluated on 4 point likert scale was used (4=strongly satisfied, 3= Satisfied, 2= Unsatisfied, 1= Strongly unsatisfied). In Section III Challenges on online teaching learning activity– 12 questions were asked to score on 4 point likert scale (4=Strongly satisfied, 3= Satisfied, 2= Unsatisfied, 1= Strongly unsatisfied).Also one open ended question was asked to list down the problems faced by students while experiencing online teaching learning activity. Descriptive data analysis was done with SPSS. **Results:** Among 221 nursing students 80% students were partially satisfied with online education. There was significant association observed in availability of high speed internet, access of internet connection and availability of privacy with high level of satisfaction as p-value was <0.05 level of significance. The participants faced many challenges, more than 50% (129) agreed that they were not interested to join online class even if they do not have any problem. 43.4% students agreed that online classes were boring and lack self-engagement. More than 60% students feel that they are not able to have good communication with teacher during online class.45.7% students experienced neck pain and backache due to online class. Also 40.7% students had eye pain and headache after online classes. 67% nursing students feel that online class is like e-reading than e-learning due to lack of motivation. 46% students felt anxious because of disturbance in internet and electricity problem during online class. **Conclusion:** Online education is good opportunity to continue education during pandemic or when classroom learning is not possible. The findings of the study will help to give baseline information and help to solve the problems faced by students while conducting online classes to make the online educational system more effective.

KEYWORDS

satisfaction, challenges, online education, nursing students.

The global spread of the Covid-19 epidemic has forced people to maintain social distance. It has caused significant disruptions to the education sector, which is a key factor in determining a nation's economic destiny. 1. More than 90% of all students worldwide were impacted by it in mid-April 2020, but that number has since declined to around 67% in June 2020, according to UNESCO data. The COVID-19 pandemic has touched over 120 crore kids and young individuals worldwide[1]

In order to stop the corona virus from spreading during the pandemic, the World Health Organization advised maintaining social distance. To stop the spread, educational institutions like colleges, universities, and medical science schools required to stay connected. As a result, the lockdown completely ruined every student's timetable. Despite being a unique scenario in educational history, COVID-19 has made it possible to transition from the traditional classroom model of instruction to a new digital era. [2]

In addition to having an effect on the families, instructors, and students, the institution closures have significant negative social and economic ramifications. UNESCO suggested employing open educational resources, such as software and platforms for distant learning, to help instructors and schools reach students remotely and minimize the disturbance to their education in the event of school closures.[3]

Many educational institutions were forced to switch to online learning due to the lockdown, canceling courses, exams, internships, and other programs. When the abrupt crisis that forced the suspension of school activities first occurred, both the teachers and students were rather confused and unsure of how to handle the issue. However, everyone later learned that the lockdown had imparted several lessons on how to deal with the onset of pandemics of this kind. As a result, COVID-19 has given educational institutions several possibilities and challenges to improve their infrastructure and technological proficiency[1]

Despite the fact that online learning is expanding quickly worldwide, more and more applications of online learning are being utilized to augment conventional instruction in classrooms. There are more students attending school to participate in regular classroom instruction under conventional education and teaching practices. But it is not feasible to use E-learning as a comfortable supplement to conventional schooling during the COVID-19 epidemic.[4]

Many universities have curtailed in-person academic activity because to the extremely contagious pandemic, since teachers and students might unintentionally spread the virus or themselves infected. As a result, the students lack the opportunity to acquire the clinical skills in real life. They are unable to participate in interactive patient sessions, case presentations, clinical and ward rounds, bedside instruction, health assessments, and hands-on training.[5]

Need Of The Study

Only 25% of Indians have access to the internet, and 66% of them live in rural regions. [6] Students were staying with their relatives in remote locations with poor network access because of the lockdown. Online learning also requires a lot of data use and computer accessibility on smartphones.[7] According to the World Economic Forum, students who lacked reliable equipment or internet connectivity found it difficult to engage in digital learning.[8] Consequently, online learning platforms have lessened the financial burden on students during this COVID-19 pandemic circumstance when they need to complete their education. [9]

Practical training, clinical placements, and patient encounters later in the curriculum are critical components of skill acquisition in professional schools like nursing and medicine. However, given the potential for unintentional exposure to the new corona virus, the current state of affairs does not justify traditional in-person lectures, hands-on learning experiences, or clinical postings for the students.[10]

The COVID-19 pandemic's negative effects on higher education were felt in a number of ways, including Exams at various levels have been postponed, and classes have been canceled, hampering educational progress. Students lost over three months of the 2020–21 academic year as a result of the lockdown, which would worsen the situation with regard to educational continuity. Additionally, it demonstrated how unprepared some teachers and students are for online learning—that is, not all of them were ready for the abrupt switch from in-person to

online instruction. Without a specialized online learning platform, teachers simply provided lectures via video platforms like Zoom, Google Meet, etc. This may not constitute true online learning.[1] When educating and coaching at home, both teachers and students have difficulties. E-learning may be hampered in a developing nation like Nepal by socioeconomic, educational, and literacy gaps as well as technological issues.[11]

E-learning resources are essential in this epidemic; they are designed to assist educators, colleges, and universities in facilitating student learning while institutions and schools are closed. Furthermore, the majority of these services are free, which can support ongoing education during the corona virus pandemic.[12]

Since online instruction was not a popular mode of instruction at colleges and universities before to the epidemic, the majority of professors had little to no experience with it.[13]

Hence the Researcher felt the need of conducting such research so as to identify the satisfaction levels and issues faced by students, so that the nursing educators will be prepared for online education.

Problem Statement

Perceived satisfaction and challenges among nursing students regarding online education amid COVID-19 pandemic.

Objectives:

1. To assess the level of satisfaction regarding online education among nursing students.
2. To find out the challenges regarding online education among nursing students.
3. To associate the level of satisfaction regarding online education of students with demographic variables

MATERIALS AND METHOD

The lockdown established in response to the ongoing COVID-19 epidemic in Pune, Maharashtra, India, resulted in undergraduate and postgraduate nursing students getting online education for their professional courses. This led to the conduct of a cross-sectional, observational research among these students. The purposive sampling strategy was used to administer the survey using online Google forms. 221 students took part in the poll. The study was carried out between October 20, 2020, and October 11, 2020.

The Institutional Ethics Committee granted ethical approval. Every participant gave their Electronic informed consent to take part in the study. Participants were assured for their anonymity and confidentiality.

In order to improve understanding and questionnaire arrangement, the tool's logical consistency, clarity, comprehensibility, and item chronology were evaluated during validation.

The questionnaire comprised of three sections in which Section I consisted of basic demographic details, Section II had the satisfaction with online teaching learning activity and Section III regarding challenges of online teaching learning activity. There were 15 questions in demographic profile, 13 questions associated with satisfaction of online teaching learning activity on 4 point likert scale (4=Strongly satisfied, 3= Satisfied, 2= Unsatisfied, 1= Strongly unsatisfied). In Section III Challenges on online teaching learning activity– 12 questions on 4 point likert scale (4=Strongly satisfied, 3= Satisfied, 2= Unsatisfied, 1= Strongly unsatisfied).Also one open ended question was asked to list down the problems faced by students while experiencing online teaching learning activity. Google forms were posted on watsapp to the respective college teachers. They further shared the tool on watsapp group. Later the student's response was noted in Google Excel sheet automatically. The received data was analyzed by using descriptive and inferential statistics by using SPSS version 22.0.

RESULTS

Table 1: Distribution Of Socio-demographic Profile Of Nursing Students (n=221)

Sr.No	Socio-demography	Frequency	Percentage
1	Age (Yrs)		
	<20	104	47.1
	21 – 30	108	48.8
	31 & above	9	4.1
2	Gender		
	Male	26	11.8
	Female	195	88.2
3	Course		
	Undergraduate	202	91.4
	Post graduate	19	8.6
4	Year of course		
	1st year B Sc (N)	38	17.2
	2nd year B Sc (N)	64	29.0
	3rd year B Sc (N)	57	25.8
	4th year B Sc (N)	46	20.8
	M Sc (N)	16	7.2
5	Place of residence		
	Rural	49	22.2
	Urban	172	77.8

A total of 221 students consented to participate in the study. Majority 108 (48.8%) students were in the age group of 21-30 years. Most 195(88.2%) of them were female participants than male participants 26(11.8%). Maximum students were undergraduates 202(91.4%) than postgraduates 19(8.6%). 172 (77.8%) students were residing in urban areaThe other details of socio-demographic profile of nursing students are summarized in the table 1

Table 2: Distribution Of Nursing Students Based On Internet Usage N=221

1	Place of attending online class		
	Friend house	3	1.4
	Hostel	73	33.0
	Own home	143	64.7
	Rented house	2	0.9
2	Online platform used		
	Zoom meeting	130	58.8
	Google meet	128	57.9
	College software	18	8.1
	Microsoft team	22	9.9
	Google duo	5	2.3
	Others*	14	6.3
3	Duration of single class (min)		
	30 – 50	86	38.9
	60	126	57.0
	>60	9	4.1
4	Online classes attended every day (Hrs)		
	1 – 3	61	27.6
	4 – 6	118	53.4
	7 & above	42	19.0
5	Availability of high speed internet		
	Yes	101	45.7
	No	120	54.3
6	Access for internet connection		
	Mobile data	205	92.8
	Wifi + Broadband	16	7.2
7	Electronic gadget used for online class		
	Smart phone	209	94.6
	Tab+ laptop	12	5.4
8	Availability of privacy		
9	Yes	142	64.3
	No	79	35.7
	Are you trained in attending online classes		
	Yes	121	54.8
	No	100	45.2
10	I purchased smart phone only for online classes due to COVID-19 pandemic situation		
	Yes	32	14.5
	No	18	8.1
	I already had smart phone	171	77.4

***** Others: Ciscowebex, Skype, Sandeepgyan,Moodle

Although, majority of the students were from urban area, 120 (54.3%) were not having availability of high speed internet. Among the study population majority 130 (58.8%) were using Zoom meeting online platform for online teaching-learning activity. 209 (94.6%) students

used smart phone for attending online classes and maximum students 205(92.8%) had internet access through mobile data.

Table 3: Distribution Of Satisfaction Level Of Nursing Students Regarding Online Education N=221

Satisfaction Level	Frequency	Percentage
12 – 24 (Unsatisfied)	19	8.6
25 – 36 (Partially satisfied)	188	85.1
37 – 48 (Fully satisfied)	14	6.3

More than 80% (188) of the students were partially satisfied with online education during COVID-19 pandemic.

Table 4: Association Of Satisfaction Level With Selected Socio-demographic Profile Of Nursing Students n=221

Socio-demographic profile	n	Satisfaction score		M W Test Z value	P value
		Mean	SD		
Gender					
Male	26	30.31	5.144	1.61	0.20
Female	195	30.92	4.659		
Course					
Undergraduate	202	30.72	4.708	0.24	0.81
Post graduate	19	32.16	4.658		
Place of residence					
Rural	49	31.16	4.520	0.99	0.32
Urban	172	30.76	4.772		
Availability of high speed internet					
Yes	101	31.61	4.461	2.02	0.043
No	120	30.20	4.834		
Access for internet connection					
Mobile data	205	30.65	4.594	1.69	0.091
Wifi + Broadband	16	33.38	5.572		
Availability of privacy					
Yes	142	31.37	4.351	1.67	0.096
No	79	29.91	5.194		
Trained in attending online class					
Yes	121	31.68	4.635	2.97	0.003
No	100	29.84	4.625		

There was significant association observed in availability of high speed internet, access of internet connection and availability of privacy with high level of satisfaction as p-value was <0.05 level of significance. The other socio-demographic variables such as gender, course and place of residence, students age, year of B.Sc Nursing course and place of attending online class has no significant association with level of satisfaction.

Table 5: Distribution Of Challenges Among Nursing Students Regarding Online Education

Questions		Challenges (%)			
		Strongly agree	Agree	disagree	Strongly disagree
Q1	I am able to handle online platform effectively	13 (5.9)	109 (49.3)	91 (41.2)	8 (3.6)
Q2	I cannot concentrate well on online class due to internet interruptions	3 (1.4)	38 (17.2)	124 (56.1)	56 (25.3)
Q3	Receiving assignment evaluation and feedback on time	4 (1.8)	48 (21.7)	155 (70.1)	14 (6.3)
Q4	Online classes feel like e-reading than e-learning due to lack of motivation	2 (0.9)	59 (26.7)	148 (67)	12 (5.4)
Q5	I am not interested to join online class even if I do not have any problem	19 (8.6)	129 (58.4)	59 (26.7)	14 (6.3)
Q6	I feel online classes are boring and lack self-engagement	12 (5.4)	96 (43.4)	90 (40.7)	23 (10.4)
Q7	I get notes/lecture materials from teachers even when I am not able to join online class	9 (4.1)	36 (16.3)	147 (66.5)	29 (13.1)
Q8	I am able to have good communication with teacher during online class	8 (3.6)	59 (26.7)	134 (60.6)	20 (9)
Q9	I feel like I am suffering from eye problem/ headache because of online class	7 (3.2)	51 (23.1)	90 (40.7)	73 (33)
Q10	I feel like I am suffering with minor ailments (neck pain, back pain, hand pain) due to online class	6 (2.7)	101 (45.7)	57 (25.8)	57 (25.8)
Q11	I feel I am not getting full attention of my teacher during online class	7 (3.2)	93 (42.1)	97 (43.9)	24 (10.9)
Q12	I am anxious because of internet/ electricity problem during online class	2 (0.9)	51 (23.1)	102 (46.3)	66 (29.9)

More than 50% (129) agreed that they were not interested to join online class even if they do not have any problem. 43.4% students (agreed) that they online classes were boring and lack self-engagement. Among 221 nursing students 129 i.e 58.4% students agreed that they were not interested to join online class even if they do not have any problem. More than 60% students disagreed that they get notes/lecture materials from teachers even when they were not able to join online class More than 60% students feel that they are not able to have good communication with teacher during online class. More than 40% of students agree that they were suffering with minor ailments like neckpain, backpain and handpain due to online class.

DISCUSSION

The present study was done to assess the satisfaction and challenges among nursing students during COVID-19 pandemic. Majority 48.8% (108) students were in the age group of 21-30 years, which had graduate and postgraduate students whereas a similar study conducted by Simarjeet Kaur and Anjali Sharma in Himachal Pradesh observed 61.9% (172) of respondents were belonging to 17-20 years of age group and also 246(88.5%) of subjects were undergraduate and 32 (11.5%) were post graduate nursing students. In this study 202 (91.4%) undergraduate and 19 (8.6%) were post graduate nursing students participated in this study.

Among 221 participants 94.6% (209) used Smartphone for online class followed by 5.4% (12) tab and laptop. Whereas, a study conducted by Dutta et al on satisfaction level among medical and nursing students regarding preclinical online teaching also had similar findings 82% used mobile phones followed by 5% used tablet and 11.8% used laptop for online class.

More than 80% students were partially satisfied and only 6.3% of students were completely satisfied with online education during COVID-19 pandemic. A similar study done by Simarjeet kaur and Anjali Sharma 68.7% nursing students were partially satisfied and 24.10% were fully satisfied.

In a present study significant association is observed in availability of high speed internet, access of internet connection and availability of privacy with high level of satisfaction as p-value was <0.05 level of significance.

The challenges faced by nursing students are as follows More than 50% (129) agreed that they were not interested to join online class even if they do not have any problem. A similar finding was observed in a study conducted by Nayaju S.et al in Nepal on impact of E-learning during COVID-19 pandemic among nursing students and Teachers found that 15.7% (159) felt that they were not interested to join online class even if they did not have any problem.

More than 60% students disagreed that they get notes/lecture materials

from teachers even when they were not able to join online class , where a study conducted by Subedi. Etal in Nepal also reported similar findings that 65.6% students reported the same.

More than 60% students feel that they are not able to have good communication with teacher during online class. Whereas the study conducted by Subedi et al found that 28% of nursing students reported the same.

More than 40% of students agree that they were suffering with minor ailments like neck pain, back pain and hand pain due to online class. Whereas the study conducted by Subedi found that 50.5% of nursing students had suffered from headache and eye problem.

CONCLUSION:

Present study shows that 85% students were partially satisfied with online education and maximum students used zoom platform through mobile phone. There was significant association observed in availability of high speed internet, access of internet connection and availability of privacy with high level of satisfaction. Although the students and teachers were following conventional mode of education prior to COVID-19 pandemic the students were satisfied with online education. Even though the nursing students were partially satisfied with online mode of teaching the educational institutes need to empower the educators for online teaching and preparing for online content, so that higher satisfaction levels can be achieved.

Limitation

The present study was limited to nursing students only. The survey was conducted in all the nursing colleges of Pune city. Furthermore, the entire information was collected by participants through self-reported method. Therefore, results of this study to be generalized cautiously.

Conflict Of Interest:

There is no conflict of interest.

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ARTICLE

Historical perspectives of critical care in India and worldwide

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Abstract
This article highlights and describes the important historical developments in critical care medicine worldwide, including India's initial journey in this field. The concept of critical care is modern; however, its underlying foundations are profound and have their starting point in the work of Ignaz Semmelweis and Joseph Lister, who laid the foundation for scientific developments in medicine. The routes of critical care can also be found in the contribution of Florence Nightingale in the 1850s during the Crimean War, which included the concept of separate geographical areas for those who were sicker than others. With the emergence of this concept, the establishment of separate post-operative units, the formation of shock wards, the use of artificial airways and mechanical ventilators, the constant evolution of biomedical technology, etc., further led to advancements in critical care medicine. In India, critical care remained focused on cardiac and respiratory care in its initial days but later expanded to involve other unstable patients. The private sector took the lead in establishing separate critical care units, followed by government teaching hospitals. In the current era, critical care medicine represents tremendous growth in the field of biotechnology, innovative communication approaches, the use of multi-disciplinary approach, and essentially the use of evidence-based practices. Furthermore, the emergence of precision medicine has started influencing treatment choices and healthcare decisions to provide more personalized medical care.

Keywords History · Historical perspectives · Critical care · India · Worldwide · Critical care medicine

1 Introduction

Critical care developed from the acknowledgment that the necessities of patients with acute, life-threatening illnesses or injuries could be better met if the patients were sorted out into particular regions of the hospital (Jackson & Cairns, 2021). The separate specialty of critical care in terms of medical and nursing skills started emerging in the 19th Century as developemt of biomedical technology evolved over the time. This ongoing development improved the monitoring and therapeutics of critically ill patients, which has helped to achieve better patient care outcome. This also lead to recognition of the need for separate physical units for such patients with special medical and nursing care facilities (Ristagno & Weil, 2009, pp. 3–17). The idea of critical care is modern; however, its underlying foundations are profound.

One of the earliest scientific medical developments was by Hungarian doctor Ignaz Semmelweis, who worked at the first obstetric clinic at Vienna General Hospital, Austria (Martini & Lippi, 2021). In 1843, his clinical observations and logical reasoning led him to believe that unclean hands were the cause of puerperal sepsis. He later demonstrated that the mortality rate among mothers was lowered when hospital staff washed their hands with an antiseptic agent. For his contribution, Semmelweis is considered not only the father of hand hygiene, but his contribution became a model of epidemiology-driven strategies and is widely regarded as the foundation of scientific discovery in the field of medicine (Tyagi & Barwal, 2020, pp. 276–277). Similar findings were already proposed 6 years prior by Dr. Oliver Wendall Holmes from Boston, USA in relation to hand washing for the prevention of puerperal sepsis among mothers. However, it did not get wider reach and publicity in medicine at that time (Dunn, 2007).

Another prominent contribution came from Joseph Lister (1827–1912, a British Surgeon who used the work of Louis Pasteur on germ theory and established the practice of antisepsis. Around 1867, he promoted the idea of sterilization with carbolic acid, which improved the outcome of various

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EFFECT OF STRUCTURED TEACHING PROGRAM ON KNOWLEDGE AND ATTITUDE AMONG MIDWIVES REGARDING MATERNAL BIRTHING POSITIONS

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Abstract: 'Labor refers to chain of physiological events that allows a fetus to undertake its journey from the uterus to the outside world'. The second stage is the period of fetal expulsion. It begins with complete dilation of cervix through complete birth of the baby. The birth position (or maternal position) refers to the position that an expectant mother can adopt during labor. Maternal position and mobility play an important role in the mechanics of labor as they relate to factors such as pelvic type, lethal position and posture, uterine contractions, gravity, female preference, and emotion. Upright position is the beneficial for both mother and the infant for several Physiological reason. The majority of women are not aware about the different birthing positions so the main function of the midwives is to educate the women regarding maternal birthing positions. The objectives of this study are to find out the knowledge among midwives on maternal birthing positions, to find out attitude among midwives on maternal birthing positions & to determine the effect of structured teaching program on maternal birthing positions. The study conclude that maternal birthing positions is a suitable non pharmacological technique that is easy to perform and effective in progress of labor, avoid caesarean birth, reduce perineal tear, reduce rate of fetal distress and improve fetal and maternal outcome. It can be used to in first and second stage of labor.

Keywords: Birthing positions, labor, birth, midwives, maternity

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EFFECT OF PLAY THERAPY ON AGGRESSIVE BEHAVIOURS AMONG ORPHANAGE CHILDREN

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Abstract : Children living in Orphanages are more prone to behavioral and emotional problems than other children living with their parents as they are deprived of family love and care. Childhood experiences determine the future social, emotional, and psychological dynamics and functioning of individuals in their adult life. Psychosocial well-being affects children's ability, intellectuality, productivity, and social functionality. Play therapy can prove to be an effective remedy for children experiencing a multitude of social, emotional, and behavioral stresses. It is also an excellent method of helping children recover and heal from stressful or traumatic experiences.

Objectives : To estimate the effect of play therapy on aggressive behaviors in children in selected orphanages.

Methodology : A quasi-experimental study was conducted to assess the effect of play therapy on orphanage children. Behavior problems of the orphanage children were assessed by using an interview technique with a semi-structured questionnaire and observation Stratified random sampling technique was used to select the samples and play therapy started as an intervention. Each child got 20 minutes of intervention twice a week for 20 sessions. After the completion of the intervention, a post-test was done.

Result : The overall mean of the post-test of aggressive behavioral scores (16.34)was less than the pre-test score (34.42) and the p-value is<0.0001 which shows play therapy is highly significant in reducing aggressive behaviors among orphanage children

Conclusion : From the study findings it could be concluded that orphanage children are having behavioral problems. Timely interventions can correct them and it will enhance their psychosocial adaption to the general world.

Keywords- **Effect, play therapy, aggressive behaviors, orphanage children.**

I. INTRODUCTION

In India, along with a growth in the total population of the country, the number of orphans and abandoned children is also increasing. According to a UNICEF report in 2012, there are more than 25 million orphan or abandoned children and about 44 million destitute children in India. Very few studies have been done on the psychological health of these children including adolescents, which makes available considerable opportunities for further research in this regard in India [1]. Ministry of Women and Child Development, Government of India (2018) published its report titled "The Report of the Committee (Main Report: Volume I) for Analysing Data of Mapping and Review Exercise of Child Care Institutions under the Juvenile Justice (Care and Protection of Children) Act, 2015 and Other Homes." Mr. Rakesh Srivastava, Secretary of the Ministry of Women and Child Development, Government of India in his foreword argued that there are many children in our country who grow up in Child Care Institutions instead of nurturing and stimulating environments [2]. Many of them have gone through grave life experiences, abandonment, death of loved ones, violence, and neglect. These children often suffer from structural neglect, which may include minimum physical resources, unstable staffing patterns, and socio-emotionally inadequate caregiver-child interactions[3].

Aggressive behavior in children: such as fighting snatching / belongings of others and Physical skirmishes with other children.

Childhood experiences determine individuals' future social, emotional, and psychological dynamics and functioning in their adult life. Adverse and painful childhood experiences can sabotage the psychosocial well-being of children. Psychosocial well-being affects children's ability, intellectuality, productivity, and social functionality[4].

Play therapy is one of the therapy methods that uses games to carry out therapy. Most of them use child-centred play therapy a method through which the child would be enabled to develop holistically through invigoration of their innate senses by learning through interactive play[5].

Landreth said that when playing, children can express their feelings even more powerfully than in the actual situation (Landreth, 2002). This happens because when playing, children feel more confident and have the opportunity to control their lives. By playing, children can also release negative emotions and bring out self-esteem which is important in positive self-development[6].

Play therapy can prove to be an effective remedy for children experiencing a multitude of social, emotional, and behavioral stresses. It is also an excellent method of helping children recover and heal from stressful or traumatic experiences.

It is to be realized that play therapy is different from regular play and to be truly effective it does require the presence of a trained therapist. The play therapist is trained to create a safe environment for the child and to interact with the child in such a way that the therapeutic benefits of play are activated. It is within this unique and therapeutic environment that the child can gain relief from a backlog of negative emotional experiences and develop more socio-cultural and age-appropriate behaviors.

Play therapy is one of the methods that use games to carry out therapy. There are some approaches used for play therapy, such as child-centered play therapy, Adlerian play therapy, cognitive-behavioral play therapy, and gestalt play therapy. Group play therapy is a play therapy that aims to help children learn, participate, show respect, be responsible, accept self and others, express emotions, and improve behavior. Some studies show that there are several approaches to group play therapy to reduce behavioral problems[14].

Orphans living in Orphanages are more prone to Behavioural and Emotional Problems than other children living with their parents as they are deprived of family`s love and care.

II. PROBLEM STATEMENT

A study to assess the effect of play therapy on aggressive behaviors among orphanage children in selected orphanages in Pune city.

III. OBJECTIVES

1. To identify the aggressive behavior of children in selected orphanages
2. To estimate the effect of play therapy on the aggressive behavior of children in selected orphanages
3. To find the association of aggressive behavior with selected demographic variables.

IV. RESEARCH METHODOLOGY

Research Approach: Evaluative
Research Design: Quasi-Experimental

Hypothesis :

$H_{o\ 1}$-There will be no statistical difference in the aggressive behavior of orphanage children after the play therapy 0.05 level of significance.

H 1-There will be a statistical difference in the aggressive behavior of orphanage children after the Play therapy 0.05 level of significance

Study setting: Selected orphanages in Pune city will be taken as study setting.

Sampling technique: Probability sampling technique and stratified random sampling are used.

Inclusion criteria

1. Children aged between 6 and 12 years who are “orphans” staying in institutional homes.
2. Those whose duration of stay in the institutional home is more than one year.

Exccautioncriteria

1. Children having regular contact with the parental family through regular weekend or vacation visits.
2. Children suffering from intellectual disabilities and severe chronic medical illnesses.

Sample: Children in the age group of 6-12 years

Sample size: 50

Description of Tool

Section -I is a Demographic Data Semi-structured socio-demographic questionnaire: For a collection of data regarding age, sex, the reason for being in the institute, age of admission, years of stay in the institute, and academic performance.
Section II: Semi-structured questionnaire for assessing aggressive behaviors.

Method of data collection:

- Institutional permission obtained and Assent taken from each child.
- behavioral problems of the orphanage children were assessed by using the Child Behaviour assessment tool.

- A stratified random sampling technique was applied to select the samples before the Intervention
- Each participant got 15- 20 minutes of play as intervention, biweekly for 20 sessions.

Post-test: Post-observation and assessment of children's behavior after intervention.

Method of data analysis: The Wilcoxon Z statistical test is applied to infer the result of this study.

V. RESULT

Table 1 Demographic Data of Orphanage Children

Demographic Items	Group	No of cases	Percentage (n=50)
Age (Years)	6 – 8	24	48
	9 – 10	13	26
	11 – 12	13	26
Gender	Male	25	50
	Female	25	50
Age of admission (Years)	1 – 2	5	10
	3 – 4	26	52
	5 – 6	19	38
Years of stay	1 – 3	12	24
	4 – 6	26	52
	7 – 9	12	24
Academic performance	Poor	9	18
	Average	28	56
	Good	13	26

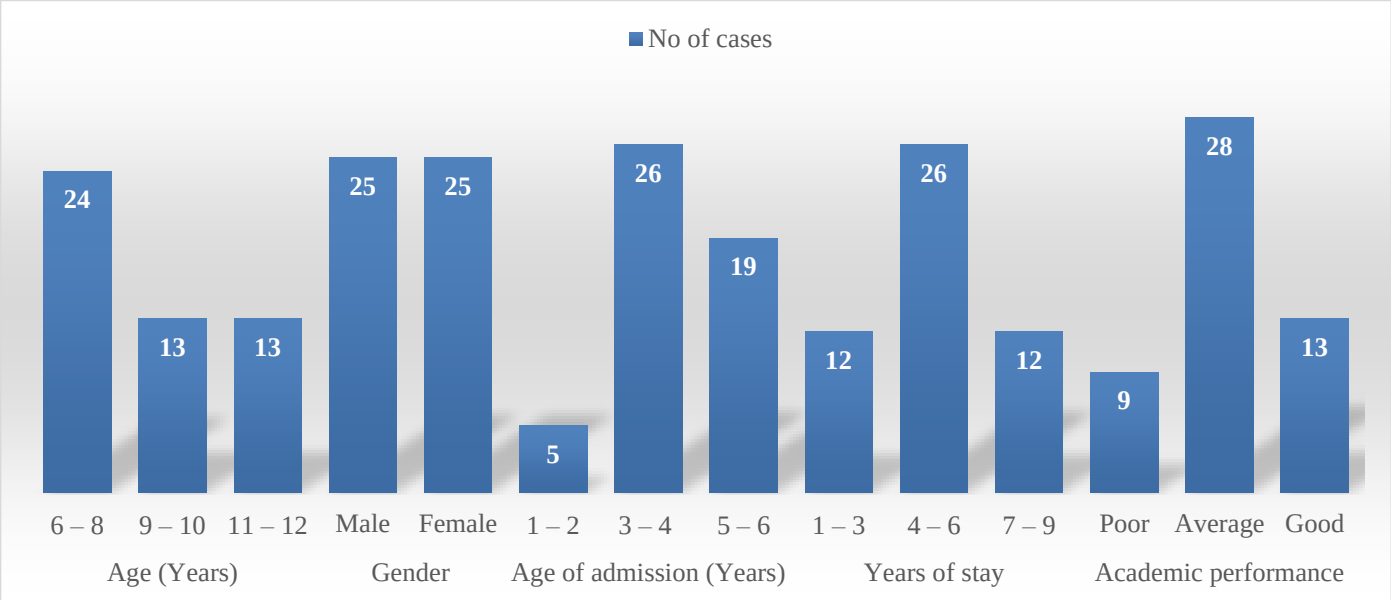

Figure 1 Demographic Data of Orphanage Children

Table 1 and Fig 1, show the demographic distribution of orphanage children. The majority of them(48%) are in the age group of 6-8 years. Equal representation of gender. A majority (52%) of them are admitted to the orphanage by the age of 3-4 yrs. 56% have average academic performance.

Table 2 Effect of Play Therapy on Aggressive Behavior of Orphanage Children

Play therapy score	Pre-test (%)	Post-test (%)
1 – 27	0	50 (100)
28 – 55	50 (100)	0
56 – 82	0	0
Total	50 (100)	50 (100)

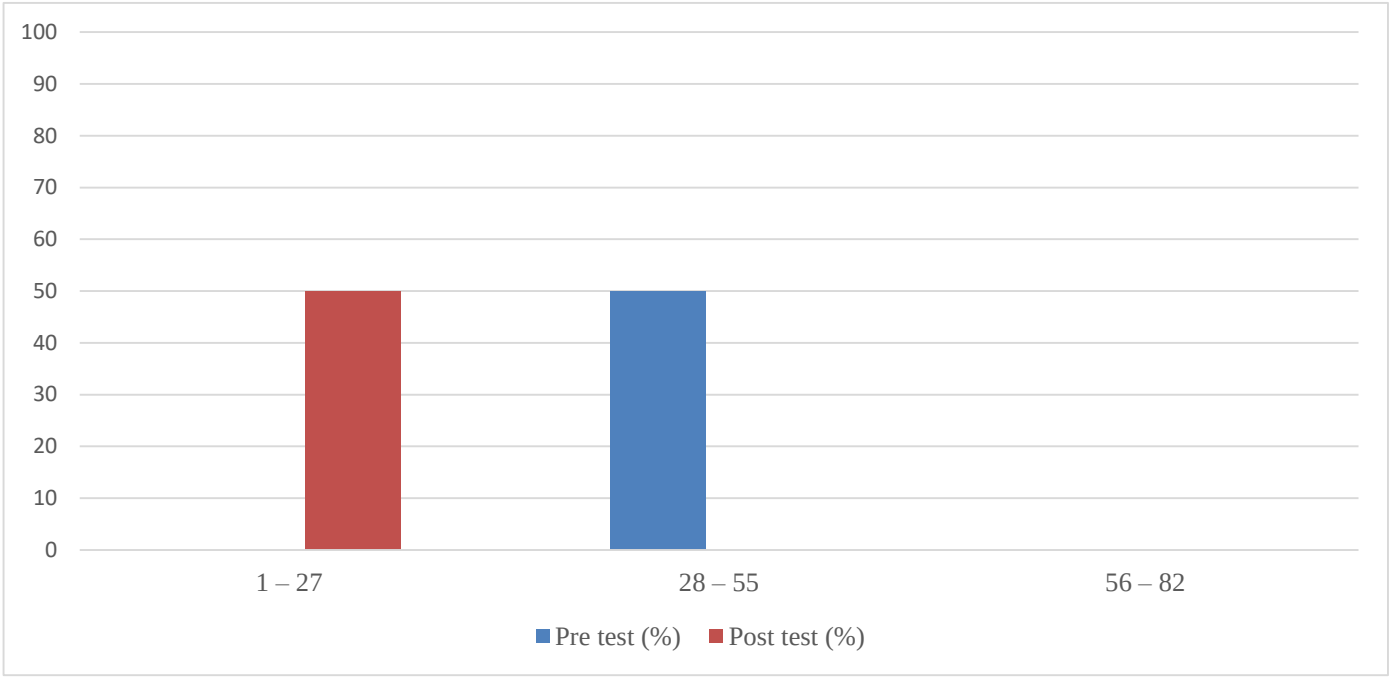

Figure 2 Effect of Play Therapy on Aggressive Behavior of Orphanage Children

Table 2 and Fig 2, show the effectiveness of play therapy on aggressive behaviors. Before the intervention the children were having moderate aggressive behavior after the intervention they showed mild aggressive behavior.

Table 3 Effectiveness of Play Therapy on Aggressive Behavior of Orphanage Children in Study Group

Score	**Pre-test**		**Post-test**		Wilcoxon Z Value	P Value
	Mean	SD	Mean	SD		
Child Behavioural	34.42	2.64	16.34	1.72	6.18	<0.0001

Table 3, shows the effectiveness and significance of play therapy among aggressive behaviors. So the null hypothesis is rejected

Table 4 Comparison of child behavior score according to academic performance in study group

Academic performance		**Child behavior score: Pre**		**Child behavior score: Post**	
	n	Mean	SD	Mean	SD
Poor	9	37.33	2.646	17.89	1.537
Average	28	33.96	2.333	16.25	1.578
Good	13	33.38	1.850	15.46	1.506
F Value		9.26		6.60	
P Value		<0.0001		0.003	

Table 4, is showing significant differences in behavior in comparison to academic performance.

VI. DISCUSSION

Results discussed according to objectives and hypothesis in the light of other studies done in the area of behavioral problems of orphanage children

Discussion on behavioral problems among Orphanage Children

In this study, 50 (100%) orphans had moderate behavior problems and none of them had severe behavioral problems. In support of this **Krishna Patel** conducted a non-experimental comparative study for assessing emotional and behavioural problems among 30 Orphans and 30 Non-Orphans of selected Schools in Nadiad City[7]. The Sociodemographic data and Emotional & Behavioural Problems were assessed by a structured Questionnaire. 12(40%) out of 30 Orphans were found to have Severe Emotional and Behavioural Problems and 18(60%) out of 30 Orphans were found to have Moderate Emotional and Behavioural Problems. While 3(10%) out of 30 Non- Orphans were found to have severe Emotional and Behavioural problems.20(66.66%) out of 30 Non-Orphans

were found to have Moderate Emotional and Behavioural Problems and 07(23.33%) out of 30 Non-Orphans were found to have Mild Emotional and Behavioural Problems. This study concluded that Orphans were more likely to be emotionally needy, sad, and lonely.

Another cross-sectional survey was conducted By **Farah Shafiq** on 330 children, aged 4–16 years, living either in an SOS or other conventional orphanages in Karachi, their behavioral problems were assessed by using a strengths and difficulty questionnaire (SDQ). Behavioral problems on composite SDQ and subscales, rated by foster mothers, were compared between children in the two groups using the $\chi 2$ test of independence. This study found a high burden of behavioral problems among children living in orphanages. Foster mothers' depression and children's nutritional status are associated with behavioral problems, this study concluded with the suggestion of interventions to reduce behavioral problems of children living in orphanages[8].

To estimate the effect of play therapy

Present study results showed highly effective (P<0.0001)on aggressive behavior of children in selected orphanages. A similar study was conducted by Adeleh Niknezhad on the Effectiveness of Play Therapy Studies on Behavioural Disorders in Children in Iran[9]. The results showed that the average effect size of the studies is 0/434 for the fixed effects model and 0/477 for the random effects, both of which are significant Bratton Sue's (2015) Research supports the effectiveness of play therapy with children experiencing a wide variety of difficulties in the social, emotional, behavioral, and learning spheres, including children whose problems are related to incidents external to their existence, such as divorce, death, relocation, hospitalization, chronic illness, physical and sexual abuse, domestic violence, and natural disasters. These factors are not mutually exclusive and in many cases act cumulatively or simultaneously[10].

Group Play Therapy for Behavioral Problems in Students This literature review aims to map play therapy used in a group of students with behavioral problems. School-age children show behavioral problems that can cause families, schools, and communities to face some problems[11].

Discussion on the effectiveness of play therapy and association of demographic variables

The present study shows a significant difference in behavior in comparison to academic performance

this research aimed to investigate the prevalence of emotional and behavioral problems among children living in government-run children's homes in two cities of Uttar Pradesh namely Varanasi and Lucknow[12]. Strengths and Difficulties Questionnaire (SDQ) was administered to a total of 56 (28 from each city; Mean Age – 14 Years). Respondents were selected through purposive sampling. Independent t-test revealed significant gender differences between orphans and non-orphans (M=9.45, SD=5.06) (M=8.03, SD=3.61)t(217)=2.48 p=0.01 <0.05. Simple regression analysis indicated that anxiety is a significant predictor of decision-making $\beta = 0.276$, F=17.90, p<0.001. the percentages of total children who were found in either normal, borderline, or abnormal categories on total difficulty and all the dimensions of Teachers' version of SDQ. Nearly two-thirds (60.71%) of children living in institutionalized care have been reported at or above borderline level on the total difficulty by their caretakers. Total difficulty score includes emotional problems, conduct problems, hyperactivity, and peer problems difficulty score. Further, findings indicated that comparatively children living in institutional care have scored higher on the externalizing factor than the internalizing factors which have been found abnormal.

Similarly, an in-depth study of psychosocial distress among orphans and vulnerable children living in institutional care in NEW Delhi, India, and their coping mechanisms illustrated that OVC had access to all the basic facilities required to sustain their lives. however, it was also noted children suffered from a lot of psychosocial turmoil[13]. these problems remained inefficiently and insufficiently addressed in the orphanage. it was evident that ongoing programs for the well-being of OVC should not only focus on materialistic requirements but also the psychosocial needs of children living in orphanages. new interventions should be implemented specifically targeting psychological issues, enhancing social skills, improving coping strategies, and developing resilience among OVC[14].

VII. CONCLUSION

Based on the findings of the study showed that intervention was effective in improving the behavior of children and it can be concluded that was significant Statistical association was found between Academic performance and years of stay in orphanages. whereas no Statistical association was found between age gender and age of admission to the orphanage.

VIII. IMPLICATIONS

There is a need to raise awareness at governmental and non-governmental institutions towards finding therapeutic programs for orphans.

Screening for depression and mental and psychological care should be integrated into routine health care provided to orphans.

There should be furnishing of life skills training for orphans such as stress management, coping skills, problem-solving, and decision-making skills

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