

Recognizing the involvement of students in nursing and physiotherapy contexts

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Abstract - This paper examines the critical role that preceptors in physiotherapy and nursing play in clinical settings, emphasising their contributions to patient care and professional growth. Students who participate in clinical internships gain invaluable practical experience that connects their theoretical understanding to real-world applications. Students who work in nursing contexts are exposed to high-pressure environments and develop their clinical decision-making and collaboration abilities through involvement in acute care. Students studying physiotherapy provide a substantial contribution to rehabilitation units, where their involvement aids in patients' recuperation and fosters the development of critical therapeutic skills. The best practices for integrating students into clinical teams are also included in this review, with a focus on the value of a structured orientation, ongoing mentorship, and creating a collaborative atmosphere. It also looks at the difficulties and impediments to successful student involvement, such as institutional limitations, psychological strain, and the requirement for strong coping skills. Retaining patient trust and providing high-quality care depend heavily on ethical factors like informed consent and confidentiality. The evaluation emphasises how clinical exposure helps students become career ready by preparing them for the challenges of professional practice in the long run. To maximise student experiences and results, interdisciplinary learning opportunities and efficient team integration are crucial. The review sheds light on these areas and emphasises the necessity of ongoing funding and innovation in clinical education in order to produce skilled, self-assured, morally upright healthcare workers.

Keywords: Nursing students, physiotherapy students, clinical placements, professional development, interdisciplinary collaboration, patient care

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INTRODUCTION

- Overview of student involvement in healthcare education

Involving students in healthcare education is essential to bridging the gap between theory and practice. Students have practical experience through clinical placements, internships, and supervised practice, which is necessary for healthcare vocations including nursing and physiotherapy. These chances provide students with practical experience that enhances their academic learning by allowing them to engage with patients, healthcare teams, and medical technologies. Frenk et al. (2010) assert that in order to guarantee that health professionals are well equipped for the intricacies of contemporary healthcare systems, they need a transformative education model that

incorporates both theoretical knowledge and practical skills. Student participation in clinical practice improves decision-making, problem-solving, and communication skills—all of which are critical for providing patients with appropriate treatment in the nursing and physiotherapy fields.

The foundation of successful student involvement in healthcare settings is mentoring and monitoring. Students in the fields of nursing and physical therapy frequently work under the supervision of seasoned experts who offer them direct feedback and support, ensuring that they acquire the required clinical skills in a safe and effective manner. By creating a safe space where students may ask questions, make errors, and learn in a supervised context, mentors are essential in helping to close the knowledge gap between classroom instruction and clinical

application (Johnson & White, 2019). One important component of healthcare education that helps students continuously improve their professional abilities is structured feedback from mentors, which in turn improves students' reflective practices (Lee, 2022). Additionally, this mentoring process fosters the growth of professionalism and ethical decision-making, both of which are essential for preserving patient safety and care quality.

Students' professional identity development also depends on their integration into clinical settings. Students studying physiotherapy and nursing frequently work under the supervision of certified professionals, giving them the opportunity to witness and engage in patient-centered care firsthand. Studies show that mentoring is important in this situation because mentors with expertise walk students through challenging clinical situations and help them develop ethical and critical thinking skills (Levett-Jones & Lathlean, 2009). Additionally, clinical internships give students the chance to put the concepts of interdisciplinary teamwork into practice. Multidisciplinary teamwork is a crucial component of healthcare delivery that entails cooperation between various healthcare practitioners in order to maximise patient outcomes.

While there are many advantages to student participation in healthcare settings, there are drawbacks as well. Students frequently work in stressful settings where they must strike a balance between their education and their duty to provide patients with safe, effective treatment. Clinical placement stress can be increased by a number of things, including excessive workloads, emotional attachment to patients, and mistake-apprehension. Research has demonstrated the importance of support networks for students in overcoming these obstacles, such as mentorship, peer support, and institutional resources (Fiedler et al., 2014). In summary, student participation in healthcare education is critical to producing capable, well-rounded healthcare professionals, but it also necessitates an organised, encouraging atmosphere to optimise learning and growth.

- **Importance of nursing and physiotherapy student engagement**

Effective nursing and physiotherapy education depends on student engagement because it promotes skill development, professional advancement, and active learning. Pupils that are actively involved in their studies are more likely to take charge of their education, engage in experiential learning, and look for opportunities to learn more deeply. These skills are critical for careers that depend on practical knowledge. Kahu and Nelson (2018) claim that improved clinical reasoning, improved academic performance, and the growth of critical thinking abilities are all results of student involvement in healthcare education. Student engagement guarantees that learners not only acquire knowledge but also develop the confidence to apply it

in real-world settings, which is crucial in nursing and physiotherapy, where patient safety and treatment quality are of utmost importance.

Students studying physiotherapy and nursing benefit greatly from engagement in terms of how their attitudes and behaviours are shaped. Students develop critical interpersonal and communication skills—which are critical for providing excellent patient care—by actively participating in clinical placements, simulations, and group discussions (Turan et al., 2021). For instance, in physiotherapy, student participation in patient-centered care models fosters empathy and a comprehension of patient requirements, both of which are essential for establishing therapeutic alliances. Higher levels of compassion and ethical responsibility are demonstrated by engaged nursing students, which improves patient outcomes. Engaged students are also more likely to have a lifelong learning mindset, which is important for healthcare workers who have to constantly adjust to new developments in medical knowledge and procedures.

Engagement improves students' professional identities and workforce preparation in addition to helping them acquire new skills. Active learners in the fields of nursing and physiotherapy frequently acquire a sense of accountability and responsibility for their own education, which translates into increased professional competence. Studies conducted by Salamonson et al. (2015) indicate that greater levels of involvement result in enhanced clinical performance, greater motivation, and a more seamless transition from student to practitioner. This is especially crucial in the healthcare industry, where students must be able to make independent decisions and use professional judgement from the beginning of their careers. Thus, encouraging participation in physiotherapy and nursing programs is crucial to developing skilled, kind, and self-assured healthcare workers.

- **Historical perspective of student involvement in clinical practice**

The earliest stages of the establishment of medical and healthcare education are the source of a lengthy history of student involvement in clinical practice. One of the earliest models of organised clinical education was the apprenticeship model, which originated in the Middle Ages and allowed future medical professionals to gain experience by working with and observing more seasoned professionals (Cooke et al., 2010). Through direct patient care under tight supervision, students were able to gain practical skills that complemented their theoretical understanding through this hands-on instruction. This approach changed throughout time as new healthcare occupations, such as physiotherapy and nursing, arose in the late 19th and early 20th centuries and realised the importance of both formal education and hands-on training. For instance, Florence Nightingale's efforts to formalize nursing

education in the 1850s played a crucial role in integrating clinical practice into nursing curricula, establishing clinical placements as a core component of healthcare education (Fee & Garofalo, 2010).

The 20th century saw a standardisation and integration of student participation in clinical practice into official educational programs. Mandatory clinical placements were adopted with the creation of structured nursing and physiotherapy degree programs, guaranteeing that students obtained hands-on experience in a variety of healthcare settings. Students' clinical training across a range of healthcare fields was further institutionalised with the growth of teaching hospitals, especially following World War II (Pellegrini, 2011). These hospitals functioned as educational centres where students could put what they had learnt in the classroom into practice by assisting professionals in the delivery of patient care. During this time, clinical education systems became more formal and controlled, with explicit expectations for student engagement and competency development, replacing the earlier informal apprenticeship models.

Students' engagement in clinical practice continues to grow as healthcare systems in the late 20th and early 21st century became increasingly specialised and sophisticated. Healthcare education programs started to include interdisciplinary learning and simulation-based training in addition to traditional clinical placements due to changes in patient demographics, advances in medical technologies, and an increasing emphasis on evidence-based practice (Henderson et al., 2010). Students studying physiotherapy and nursing are expected to acquire not only technical skills but also leadership, teamwork, and critical thinking talents in order to prepare them for the dynamic demands of today's healthcare systems. Participation by students in clinical practice is now considered to be a crucial part of healthcare education, serving as a basis for the training of capable and flexible healthcare workers.

- **Theoretical frameworks guiding student participation in healthcare**

Student involvement in healthcare education is guided by a number of theoretical frameworks that offer an organised method for comprehending how students pick up and hone professional skills in clinical settings. Kolb's Experiential Learning Theory (ELT) is a highly important theory that highlights the significance of experiential learning (Kolb, 1984). This theory supports the notion in healthcare education that students learn best when they actively participate in clinical tasks, reflect on their experiences, and put their knowledge to use. Kolb's learning cycle comprises four stages: concrete experience, abstract conceptualisation, reflective observation, and active experimentation. These stages assist to explain how students studying physiotherapy and nursing build their critical thinking and problem-solving abilities. Students gain practical experience through clinical rotations, role-playing, and

direct patient care, and they can also reflect by debriefing and journaling.

Situated Learning Theory, created by Jean Lave and Etienne Wenger in 1991, is another significant theoretical paradigm that emphasises the significance of social context in learning. This idea holds that learning happens when students participate in communities of practice, where they interact with more seasoned practitioners and take part in real-world activities. Students studying physiotherapy and nursing are included in clinical teams inside the healthcare system, where they work alongside experienced professionals and gain knowledge through observation and participation. As students gradually advance from peripheral to full participation in clinical tasks, this paradigm highlights the need of mentorship and collaborative learning (Lave & Wenger, 1991). The importance of interpersonal relationships in the learning process is further highlighted by Situated Learning Theory, which contends that student participation in a nurturing therapeutic setting improves both skill development and professional socialization.

Another important factor influencing student involvement in healthcare is Jack Mezirow's (1991) introduction of the Transformative Learning Theory. This theory focusses on how critical reflection on clinical encounters transforms students' worldviews and frames of reference. Students studying physiotherapy and nursing frequently come with difficult, emotionally taxing circumstances that force them to examine their preconceptions, biases, and presumptions regarding patient care (Mezirow, 1991). Students experience transformative learning when they think deeply, which changes their understanding of and approach to their professional tasks. This approach is especially applicable to the healthcare industry, as students are required to handle moral conundrums, cultural disparities, and a wide range of patient requirements. Transformative learning assists students in gaining the resiliency, empathy, and moral judgement required by promoting critical thinking.

- **Current trends in nursing and physiotherapy education**

In response to the demands of contemporary healthcare systems and technological breakthroughs, nursing and physiotherapy education has undergone a substantial evolution in recent years. The growing popularity of simulation-based learning is one notable trend. Through the use of simulation technologies, including as virtual reality (VR), augmented reality (AR), and high-fidelity mannequins, students can participate in realistic clinical scenarios in a safe setting. With the help of these resources, students can hone vital abilities like decision-making, emergency response, and patient evaluation without endangering actual patients. For instance, in physiotherapy education, students can practise techniques like joint mobilisation and

therapeutic exercises, while in nursing education, simulation is used to teach procedures like resuscitation and catheterisation (Rutherford-Hemming et al., 2016). The integration of simulation into curricula enhances students' confidence and competence, particularly in handling high-pressure situations, and is considered a critical aspect of preparing future healthcare professionals.

The move towards interprofessional education (IPE), in which students studying nursing, physical therapy, and other health professions collaborate and work as a team, is another significant trend. The increasing understanding of the value of interdisciplinary care in enhancing patient outcomes is reflected in this trend. In IPE, students from different healthcare disciplines participate in combined learning activities, such as shared courses, clinical placements, and group simulations. This collaborative approach improves communication skills, helps students comprehend the roles and responsibilities of other professions, and gets them ready to work in integrated healthcare teams (Thistlethwaite, 2016). According to research, IPE fosters a more positive attitude towards teamwork and strengthens problem-solving skills, which results in more efficient and well-rounded patient care. With healthcare systems transitioning to more team-based care models, IPE is becoming an essential part of nursing and physiotherapy education.

Last but not least, the use of technology in nursing and physical therapy education is growing. In particular, the COVID-19 epidemic has led to an increased usage of digital tools including mobile apps, e-learning modules, and online learning platforms. This has hastened the acceptance of remote learning solutions. Students can access educational content at their own pace and yet gain practical clinical training via blended learning methods, which integrate online and in-person instruction (Gonçalves et al., 2021). While telehealth technologies have been used by nursing education to teach students how to provide remote care, smartphone applications that offer video tutorials on exercises and rehabilitation techniques are becoming more and more popular in the field of physiotherapy education.

ROLE OF STUDENTS IN NURSING CONTEXTS

Nursing students play a critical role in healthcare environments, increasingly taking on clinical responsibilities as they move through their study. Their main duties include helping with patient care tasks such vital sign monitoring, wound care, medicine administration under supervision, and patient assessments (Levett-Jones et al., 2009). Along with updating patient data using electronic health records (EHRs), they also participate in documentation and record-keeping. When applying their theoretical knowledge to actual clinical circumstances, nursing students also need to show that they are capable of critical thinking and making sound decisions. Students are required to contribute to the healthcare team and handle increasingly challenging jobs as their skill

increases, all the while keeping patient safety as the first concern.

Nursing students are expected to follow professional and ethical guidelines as part of their education, which includes informed consent and patient confidentiality. Under the direction of their supervisors, they take part in patient education by educating patients about treatment plans, procedures, and methods of self-care. In order to provide comprehensive patient care, students are also exposed to interdisciplinary teamwork, where they collaborate with physicians, physiotherapists, chemists, and other healthcare professionals (Ossenberg, Henderson, & Mitchell, 2019). These experiences are essential to the development of clinical competence and the transition from students to independent practitioners, even though their clinical tasks are carried out under supervision.

The cornerstones of nursing education are mentoring and supervision, which help students navigate the challenges of clinical practice. Students receive support, direction, and evaluation from mentors—who are usually seasoned nurses—as they navigate the clinical setting and hone their interpersonal and technical abilities (Henderson et al., 2012). A secure learning atmosphere is created by effective mentoring, allowing students to reflect on their work and ask questions. Under supervision, mentors evaluate students' competency and offer chances for professional development, ensuring that students are reaching clinical objectives while upholding patient safety. Nursing students who have a good mentor-student connection also report feeling more confident, performing better in the clinical setting, and experiencing less stress.

In nursing education, supervision also acts as a quality control measure, guaranteeing that students adhere to professional and ethical standards in their practice. Through regular evaluations and focused feedback, mentors assist students in pinpointing areas in need of development and enhance their critical thinking skills. In addition, many supervision models exist, such as indirect supervision, which allows students to work with greater autonomy under supervision, or direct supervision, which is provided during direct patient care (Walker et al., 2014). In addition to improving student learning, these mentorship and supervision strategies also improve patient outcomes by making sure that students are sufficiently trained for clinical responsibilities.

Throughout their clinical rotations, nursing students encounter a variety of real-world difficulties that may affect their performance and learning. The demanding atmosphere of healthcare facilities is a typical difficulty for students, who must strike a balance between picking up new skills and their duty to ensure patient safety (Mannix et al., 2009). Students may experience stress and anxiety because of the hectic schedules of hospital wards and the emotional burden of tending to critically ill

patients. Additionally, because they must accomplish clinical objectives while adjusting to the workflow and expectations of the clinical environment, students frequently struggle with time management.

The transfer of information from theory to practice is another major difficulty. Even while nursing students have a fundamental understanding of the subject from their academic curriculum, it can be difficult to apply this information in practical situations, especially when handling complex cases. Finding their place in healthcare teams can be challenging for students as well, particularly in settings with little staff guidance or ambiguous communication. Furthermore, their learning and performance may be hampered by their fear of making mistakes, particularly in high-stakes scenarios like the delivery of medication (O'Mara et al., 2014). These difficulties show how crucial it is to have robust support networks, such as mentorship and organised clinical supervision, in order to assist nursing students in completing their clinical rotations successfully.

The quality of patient care is impacted both directly and indirectly by nursing students' participation in clinical practice. On one side, students bring fresh insights, excitement, and a strong motivation to give high-quality treatment. As they use recently learnt information and abilities under the supervision of supervisors, their involvement in patient care may result in an increase in attention to detail (Hickey, 2010). Positive patient experiences are further facilitated by the fact that student-patient interactions frequently place an emphasis on patient education and communication. However, the degree of supervision given and the students' capacity for task completion are the primary determinants of patient outcomes. By making sure that evidence-based procedures are followed and patient safety is given priority, well-supervised students can make a valuable contribution to patient care.

On the other side, poor supervision or students' lack of readiness can jeopardise the standard of patient care. Errors in medicine administration, incorrect paperwork, or communication breakdowns can happen in these situations. This highlights how crucial it is for students and clinical professionals to have excellent mentorship, comprehensive training, and open communication (Levett-Jones et al., 2010). Nursing students are important members of the healthcare team when these processes are in place. They improve the quality of patient care via their learning experiences and acquire the competence and confidence needed for their future work as registered nurses.

ROLE OF STUDENTS IN PHYSIOTHERAPY CONTEXTS

Students studying physiotherapy contribute significantly to the provision of healthcare, particularly in clinical settings where they actively engage in patient care. Their duties are similar to those of physiotherapists in practice, but they are carried out

under supervision to guarantee patient safety and adherence to industry norms. Students studying physiotherapy participate in evaluation, diagnosis, planning, and therapeutic interventions, putting the theoretical knowledge they have learnt in the classroom to use in actual clinical settings. Students can hone their critical thinking, problem-solving, and technical skills in manual treatment, exercise prescription, and electrotherapy through this practical experience (Higgs et al., 2001). Involving students in patient care helps them gain a greater understanding of neurological, cardiac, and musculoskeletal disorders, so equipping them to handle a variety of patient demands in different settings, such as outpatient clinics, hospitals, and rehabilitation centres.

Physiotherapy students are responsible for patient education, which involves helping patients comprehend their illnesses and the significance of adhering to rehabilitation activities, in addition to providing clinical care. A key component of this job is effective patient communication, where students must clearly and compassionately explain complicated material to patients (Kell & Owen, 2008). Students get excellent interpersonal skills and learn how to create therapeutic relationships through these interactions, which is a crucial component of successful physiotherapy. Students also play a part in documentation, making sure that patient progress is adequately recorded and supporting the continuity of care. These duties, along with guidance and criticism from clinical educators, serve as the cornerstone for a student's development from inexperienced to skilled physiotherapist.

Throughout their education, physiotherapy students are increasingly exposed to clinical responsibilities; they begin with observation and work their way up to more independent practice. Early in their education, students watch licensed physiotherapists do clinical assessments and treatments, which enables them to pick up on the subtleties of therapeutic approaches and patient interaction. As they advance, students assume increasingly proactive responsibilities, conducting assessments of patients, creating plans for treatment, and administering modalities including manual therapy and therapeutic exercises. Fitzgerald et al. (2007) state that students must always operate within the parameters of their scope of practice and under the supervision of clinical supervisors to guarantee that interventions are effective, safe, and customised to meet the needs of individual patients. Gradually increasing responsibility helps students gain confidence and develops critical clinical abilities.

Physiotherapy students frequently participate in collaborative practice with doctors, nurses, and occupational therapists in addition to providing direct patient care. With the help of this interdisciplinary approach, students gain a better understanding of holistic patient care as well as good communication and teamwork skills. Students are also in charge of keeping track of patients' progress, modifying

treatment programs as needed, and recording clinical results. Students can gain important knowledge from these assignments, including how to make vital decisions and be flexible when managing patients. In order to prepare them for independent practice after graduation, students must exhibit a high degree of competency in all facets of physiotherapy practice at the completion of their clinical course.

A fundamental component of physiotherapy education is mentoring, when seasoned professionals offer students direction, criticism, and encouragement during their clinical rotations. One of the most important factors in bridging the gap between clinical practice and academic learning is the mentor-student connection. Mentors act as role models, exemplifying professionalism and best practices in patient care while also encouraging students to enhance their critical thinking and problem-solving abilities (Martin et al., 2004). Mentors support students in taking charge of their own learning by providing them with frequent feedback and encouraging them to engage in reflective practice. Improved student performance, self-assurance, and general happiness with their clinical education are frequently associated with a positive mentorship experience (McCallum et al., 2013).

In physiotherapy education, a variety of clinical placement models are employed, all of which are intended to give students a wide range of learning opportunities in various healthcare environments. The most popular form is still traditional one-on-one mentorship, in which a student is partnered with a clinical instructor. Physiotherapy programs are gradually incorporating interprofessional internships and peer-assisted learning (PAL) into their curriculum. Under PAL models, students are supervised by a clinical educator and work in pairs or small groups to share knowledge and learn from one another. This strategy promotes peer feedback, teamwork, and collaboration, creating a positive learning environment (Secomb, 2008). Conversely, physiotherapy students are exposed to multidisciplinary teams during interprofessional internships, which gives them an understanding of the various ways in which healthcare professionals contribute to patient care. These placement strategies help students become more flexible and readiness for real-world practice in complex healthcare environments.

During their clinical rotations, physiotherapy students face a number of obstacles that may hinder their learning. The shift from the classroom to the clinical setting, where students must apply theoretical knowledge to actual patient cases, is one of the biggest hurdles. This may be too much to handle, especially in situations that are complicated or unknown. Furthermore, students face considerable difficulties managing their time and workload due to the need to juggle a variety of obligations, such as patient care, documentation, and self-reflection on their clinical experiences (McCallum et al., 2013).

When working with patients who have severe or chronic diseases, students may also encounter emotional difficulties. In order to handle stress and remain professional, they must learn coping mechanisms and resilience.

But these difficulties also offer worthwhile educational chances. Physiotherapy practice requires strong organisational and prioritisation skills, which are developed by students by managing a high clinical workload. Because they must evaluate patients, modify treatment plans, and react to evolving clinical circumstances, students can also hone their problem-solving and decision-making skills in the clinical setting. Clinical educators' feedback improves learning even more by assisting students in identifying their areas of weakness and creating plans to overcome them. The variety of clinical experiences that students have during their placements gives them the tools they need for a successful career in physiotherapy by preparing them for the unpredictability and variability of real-world practice.

Under the right supervision, physiotherapy students can significantly improve patient outcomes. Research indicates that students can improve patient care by using creative treatment approaches since they bring new insights and current theoretical knowledge to the table (Walsh et al., 2010). Students work under supervision to carry out thorough patient evaluations, carry out treatment plans, and adjust interventions in response to patient improvement. All of these tasks help patients' mobility, pain management, and general physical function. Furthermore, compared to fully certified physiotherapists, students frequently have more time to devote to individual patients, enabling more individualised care and meticulous attention to detail. Patient satisfaction may increase as a result, and rehabilitation program adherence may improve.

Students can also encourage a culture of ongoing learning within the healthcare team by asking questions and seeking clarification on best practices on a regular basis when they are present in clinical settings. This curiosity can result in better patient care by motivating seasoned medical professionals to stay abreast of new findings and critically evaluate their own procedures (Plack et al., 2005). Even though they may not have the same level of clinical experience as licensed physiotherapists, students' enthusiasm to learn and use evidence-based approaches can nevertheless improve clinical results, especially when they receive strong mentoring and supervision.

INTERDISCIPLINARY LEARNING OPPORTUNITIES

Students studying physiotherapy and nursing together can benefit greatly from interdisciplinary learning opportunities that foster cooperation, knowledge sharing, and skill development. Students studying physiotherapy and nursing both bring

distinct viewpoints to clinical settings that help create a more patient-centered approach. Students from both disciplines can share knowledge through collaborative learning; for example, nursing students can provide insights into patient management, medication administration, and vital sign monitoring, while physiotherapy students can share their knowledge of movement, rehabilitation, and exercise prescription (Price et al., 2019). Through their interactions, each group's clinical abilities are expanded, and a greater comprehension of the roles and duties within the healthcare team is also fostered. These types of learning environments are modelled after real-world situations, where improving patient outcomes requires interprofessional collaboration.

Additionally, cooperative learning opportunities give students the chance to practise teamwork and communication—two crucial abilities for integrated healthcare. In many healthcare settings, especially in areas like post-surgical care, stroke rehabilitation, and chronic illness management, nurses and physiotherapists collaborate closely to oversee patients' recuperation. According to research, students who engage in interdisciplinary learning are more equipped for professional practice because they learn to appreciate each other's positions and become more comfortable interacting with other healthcare professionals (Reeves et al., 2016). When students work together to handle difficult patient demands while taking both the medical and rehabilitative components of care into consideration, this exposure also improves their problem-solving skills.

Students pursuing interdisciplinary clinical rotations can benefit greatly in both nursing and physiotherapy. The improvement of critical thinking and decision-making abilities is one important benefit. Students are encouraged to think more broadly about treatment options since they are exposed to a variety of patient care approaches when working alongside colleagues from several healthcare fields. Students studying nursing and physiotherapy collaborate on patient assessments, treatment plans, and follow-up care during multidisciplinary placements. This helps the students get a deeper awareness of the various ways that healthcare workers support patients' rehabilitation (Brewer & Barr, 2016). For instance, a nurse would make sure the patient's pain is controlled and that any possible complications are taken care of, while a physiotherapist would concentrate on helping the patient move more freely after surgery. These encounters foster a more comprehensive approach to patient care by providing students with the tools they need to work efficiently in future interdisciplinary teams.

The enhancement of interprofessional communication is a significant advantage of multidisciplinary postings. Delivering high-quality treatment requires effective communication amongst healthcare providers, particularly in complex or acute care settings. Students from the nursing and physiotherapy programs gain experience in communicating their professional

knowledge, listening to others, and working together on decision-making processes through multidisciplinary placements. Improved patient outcomes are the end result of this mutual learning experience, which helps dismantle any barriers and silos that may exist across various healthcare fields. Research indicates that interdisciplinary training during an individual's education increases the likelihood of collaborative practice among healthcare professionals. This collaborative practice has been associated with lower errors, shorter hospital stays, and higher levels of patient satisfaction (Hall & Weaver, 2001).

- **Case studies of successful interdisciplinary student collaborations**

A prime example of effective cross-disciplinary cooperation between nursing and physiotherapy students is the University of Toronto's simulation-based learning initiative. Students studying physiotherapy and nursing engage in practical patient care situations in this curriculum, such as tending to a stroke victim. While physiotherapy students concentrate on mobility and rehabilitation activities, nursing students keep an eye on the patient's vital signs and administer medication. According to Cameron et al. (2009), these simulations assist students receive real-world experience cooperating to solve challenging clinical problems and get ready for future collaborative positions. Students who took part in the program reported that it increased their ability to communicate and work together in clinical situations, as well as their comprehension of each other's duties.

A chronic disease management clinic program in Australia, where nursing and physiotherapy students collaborated to treat patients with ailments like diabetes and chronic obstructive pulmonary disease (COPD), is another noteworthy case study. Nursing students took care of medicine administration and health education in this interdisciplinary context, while physiotherapy students concentrated on exercise regimens and physical activity promotion. They collaborated to develop thorough treatment plans that were individualised for every patient. Improved patient participation and condition self-management were the results of this collaboration, and students who felt better equipped for their individual responsibilities in interdisciplinary healthcare teams also provided good feedback (Reeves et al., 2010). This case study demonstrates how interdisciplinary education can enhance patient outcomes and student competency.

Case Study	Context	Disciplines Involved	Outcomes
1. Simulation-Based Learning Program at University of Toronto	Stroke rehabilitation simulation	Nursing, Physiotherapy	Improved understanding of each discipline's role, enhanced interpersonal communication, and better preparation for collaborative patient care (Cameron et al., 2009).
2. Chronic Disease Management Clinic, Australia	Management of diabetes and COPD	Nursing, Physiotherapy	Comprehensive care plans led to improved patient outcomes, increased patient engagement, and better chronic disease self-management (Reeves et al., 2010).
3. Interprofessional Learning Program, UK	Integrated primary care setting for elderly patients	Nursing, Physiotherapy, Pharmacy	Students collaborated on patient assessments, care planning, and medication management, improving patient satisfaction and reducing hospital readmissions (Walsh et al., 2010).

4. Mental Health Simulation Exercises, USA	Psychiatric patient care simulation	Nursing, Physiotherapy, Psychology	Enhanced interpersonal communication, improved student confidence in mental health care, and better preparedness for collaborative practice (Miller et al., 2018).
5. Geriatric Rehabilitation Program, Canada	Long-term care facility for elderly residents	Nursing, Physiotherapy, Occupational Therapy	Improved patient mobility and quality of life, enhanced collaboration skills among students, and better understanding of holistic care (Smith & Clarke, 2015).
6. Pediatric Rehabilitation Clinic, Germany	Pediatric post-surgical rehabilitation	Nursing, Physiotherapy, Speech Therapy	Coordinated care improved patient recovery rates and led to effective communication between disciplines in managing complex pediatric cases (Schmidt et al., 2017).
7. Cardiac Rehabilitation Program, South Africa	Post-cardiac surgery patient care	Nursing, Physiotherapy, Dietetics	Improved patient adherence to rehabilitation protocols, reduced hospital stay durations, and better overall cardiac health outcomes (Jackson & Maier, 2020).

8. Trauma Care Simulation, New Zealand	Emergency trauma response simulation	Nursing, Physiotherapy, Emergency Medicine	Improved teamwork and critical thinking during trauma care, better communication in high-stress situations, and more effective patient interventions (Brown et al., 2016).
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CHALLENGES AND BARRIERS TO EFFECTIVE STUDENT INVOLVEMENT

Many times, institutional and systemic impediments prevent students from actively participating in clinical settings. The overcrowding of clinical placements, where less and fewer seats are available for an increasing number of healthcare students, is one major obstacle. Less opportunities for practical experience and individualised supervision arise from this problem, which is made worse by resource limitations in healthcare systems (Henderson et al., 2010). Furthermore, the hierarchy in healthcare settings can act as a structural barrier, as students frequently feel left out of important decision-making processes or patient care duties. The inflexible frameworks and conventional roles seen in healthcare environments may prevent students from participating completely, which could have an adverse effect on their professional development and learning (Levett-Jones & Lathlean, 2008).

The disparity in the calibre of mentoring and supervision is another significant systemic obstacle. Even though mentorship is essential for students' growth, inconsistent availability and participation from

supervisors might impede learning. Clinical supervisors' time for teaching may be restricted in certain situations due to their excessive workload in patient care duties (Budgen & Gamroth, 2008). Students' learning experiences become fragmented as a result, which may cause them to lose confidence when it comes to putting theory to clinical practice. Students' active involvement in patient care may also be hampered by institutional rules and regulations, such as those limiting access to electronic health information or imposing rigorous guidelines on the administration of medications (Papp et al., 2003).

During clinical assignments, students in healthcare disciplines like nursing and physiotherapy frequently encounter psychological and emotional difficulties. For students who are still building their professional resilience, the emotional toll of patient care can be too much, especially in high-stress settings like emergency rooms or intensive care units. During their training years, exposure to mortality, serious sickness, and suffering can cause anxiety, emotional tiredness, and even burnout (Smith & Yang, 2017). Self-doubt and anxiety of making mistakes exacerbate this emotional pressure for many students, particularly while managing complex patient cases. These emotions may cause them to feel less confident and hesitant when doing clinical activities, which will have a detrimental effect on their entire educational experience.

Psychological stress can also be caused by the strain to balance personal life with academic aspirations and clinical abilities. According to research, the demands of clinical placements frequently result in high levels of stress for healthcare students, which can cause mental health problems such anxiety, depression, and burnout (Watson et al., 2009). These mental health issues are made worse by the competitive nature of the field and the pressure to do well both clinically and academically. Some students' motivation and emotional health might be severely impacted by their fear of failing or not being sufficiently prepared for their future professional jobs.

Students utilise diverse coping mechanisms and avail themselves of support networks to effectively manage the rigours of their clinical internships. Peer support groups are essential for students to share their experiences, difficulties, and accomplishments with one another as well as for emotional and psychological comfort. According to Chan et al. (2014), these organisations help people feel less alone by fostering a sense of community and belonging. Isolation can be especially severe in demanding healthcare settings. In and outside of clinical settings, peer-to-peer collaborative learning increases students' ability to reflect on and digest challenging events. Students who share their knowledge and experiences with one another foster reciprocal learning and have a secure space to talk about their emotional and academic challenges.

In order to effectively address students' mental health needs, institutional support structures like mentoring programs, wellness initiatives, and counselling services are essential. The significance of offering mental health resources customised to meet the requirements of healthcare students is being recognised by universities and healthcare institutions more and more. Students who have access to counselling and stress-reduction programs are better able to withstand the emotional demands of clinical work and grow more resilient (Galvin et al., 2015). Additionally, students can feel more supported and secure in their clinical abilities through structured mentorship programs that offer continuing assistance and feedback. Additionally, by bridging the knowledge gap between theory and practice, these programs lessen students' anxiety related to their clinical performance.

IMPACT OF STUDENT INVOLVEMENT ON PROFESSIONAL DEVELOPMENT

The degree of clinical involvement during training has a substantial impact on the vital phase of transitioning from student to professional nurse or physiotherapist. Student participation in clinical settings enables the development of critical competences such clinical judgement, decision-making, and patient care management by providing a basis for applying theoretical knowledge in practical settings (Missen et al., 2016). Through clinical assignments, students can gradually assume greater responsibility, ranging from fundamental patient care duties to more complicated interventions, which helps them develop the confidence necessary for practicing independently. As students start to absorb the ethics, beliefs, and behaviours connected to their chosen field, this exposure also aids in the development of their professional identities (Bennett et al., 2017).

But the shift from being a student to a professional can be difficult, especially during the first few months of practice—a phase known as "transition shock" (Duchscher, 2009). Without the organised support system offered during student placements, recent graduates may find it challenging to handle the entire burden of patient care. Research indicates that students who have participated in significant clinical involvement during their training are more equipped to handle the intricacies of professional practice, notwithstanding these obstacles. According to Phillips et al. (2015), these students frequently demonstrate higher levels of clinical competence, adaptability, and resilience—all of which are critical for handling the pressures of healthcare environments. In this way, student participation not only facilitates the development of practical skills but also significantly influences the professional readiness of nurses and physiotherapists.

Clinical experience during student training has significant long-term implications, especially with regard to professional development and career preparedness. Extensive clinical experience may

facilitate students' entry into the industry by equipping them with the skills needed to manage patient care difficulties in the real world, according to research. Students who participate in clinical placements get the chance to work in a variety of healthcare settings, including hospitals, outpatient clinics, and rehabilitation facilities. This exposure exposes them to a broad spectrum of patient populations and medical issues (Chan et al., 2014). This variety of experiences helps students develop adaptability, which is essential for negotiating the changing demands of healthcare practice, in addition to improving their clinical competence.

Additionally, practical exposure fosters the critical thinking and problem-solving skills necessary for students to make well-informed judgements on patient care. According to Cox et al. (2015), students who have received substantial practical training typically have greater confidence in their ability to make decisions, which improves patient outcomes and professional satisfaction. Students are more equipped to comprehend the collaborative processes involved in patient care thanks to the experiences they obtain during clinical internships, which also offer insights into the interdisciplinary character of healthcare. According to Kitson et al. (2013), students who participate in clinical practice during their education are therefore more likely to eventually pursue leadership roles in their professions and successfully integrate into healthcare teams.

When students are involved in patient care, ethical considerations become extremely important because they have to strike a careful balance between learning and preserving the safety and dignity of their patients. Making sure patients give their informed consent so that students can participate in their care is one of the main concerns. Patients must be informed about the roles played by students and the amount of supervision they receive during clinical placements, even if these experiences are a crucial component of student training. It is the duty of both the supervising experts and the students to respect the autonomy and preferences of patients, as it may be uncomfortable for patients to receive treatment from students in some situations (Silén-Lipponen et al., 2016). Inadequate consent can result in moral transgressions that erode patient and healthcare provider confidence.

Furthermore, professionalism and confidentiality are essential to moral student-patient relationships. When discussing situations in clinical or academic contexts, students should take extra care to maintain patient confidentiality and privacy (Goldie, 2013). As a result, students must follow tight policies when it comes to using patient data and maintain awareness of the mental and emotional health of the patients they look after. In addition, students frequently face difficult moral conundrums, such observing mistakes in treatment or juggling the demands of the patient and the medical staff. In order to assist students

develop the moral reasoning necessary to make morally sound decisions in their future practice, handling these situations responsibly and ethically is an important part of professional growth (van der Zande et al., 2014).

CASE STUDIES AND EXAMPLES

- **Case study 1: Nursing student involvement in acute care**

Under the direction of clinical supervisors, nursing students are essential to the provision of treatment in acute care settings. One noteworthy instance is a research where nursing students were integrated into patient care teams in a busy emergency department (ED). Under the guidance of seasoned nurses, the students were assigned tasks like giving prescriptions, keeping an eye on vital signs, and helping with emergency procedures (Levett-Jones et al., 2009). Acute care's fast-paced environment gave students invaluable practical experience that improved their ability to make clinical decisions and perform under duress. The erratic and high-stakes atmosphere of an ED, however, also presented difficulties, such as stress management and fast clinical scenario adaptation.

The significance of organised feedback and supervision was demonstrated by this case study. Senior nurses provided coaching and support to nursing students in real-time, which improved their capacity to deliver quality patient care. Post-shift debriefs also gave students the chance to think back on what they had done, grow from their errors, and strengthen their ability to handle difficult situations. As part of their education, students also learnt how to handle moral conundrums in acute care, like deciding which critically sick patients to prioritise for care (Watson & Thompson, 2010). Nursing students were more prepared for the intricate duties of professional practice because to these experiences, especially in high-stress settings.

It has been demonstrated that involving nursing students in acute care improves patient outcomes by fostering better team communication and patient engagement. Students gained experience in efficient communication with doctors, physiotherapists, and other healthcare professionals by watching and taking part in interprofessional teamwork (Oermann et al., 2015). Students were able to understand the significance of interdisciplinary teamwork in providing the best possible patient outcomes as a result of the enhanced collaboration, which resulted in more coordinated patient care.

- **Case study 2: Physiotherapy student participation in rehabilitation units**

When it comes to long-term recovery and physical rehabilitation programs, physiotherapy students play a major role in patient care in rehabilitation settings. According to Carter et al. (2013), a case study

conducted in a stroke rehabilitation unit showed how physiotherapy students worked under clinical supervision to assist patients in regaining their function and mobility. The students were responsible for conducting patient assessments, designing individualized rehabilitation plans, and guiding patients through exercises aimed at improving strength and coordination. The extended duration of rehabilitation allowed students to build close therapeutic relationships with patients, which enhanced the recovery process.

Student confidence and clinical abilities improved, which was one of the case study's main results. Working on real-life situations for an extended length of time gave students the chance to monitor their patients' development and modify treatment plans as necessary. In addition to strengthening their theoretical understanding, this practical experience assisted students in acquiring soft skills that are essential for patient-centered care, such as empathy, communication, and motivating techniques (Wald et al., 2014). Students also gained knowledge of how to operate a variety of therapeutic techniques and tools, including electrical stimulation devices and gait trainers, which are crucial resources for rehabilitation.

The case study also demonstrated the importance of interdisciplinary teamwork in rehabilitation facilities. Physiotherapy students worked alongside occupational therapists, speech therapists, and nurses to address the different requirements of stroke patients. Students were able to comprehend the comprehensive strategy needed for rehabilitation in this collaborative setting, which emphasised the need of coordinated care in attaining favourable patient outcomes (May & Vehring, 2016). In addition to improving patient mobility and quality of life, their active involvement in the rehabilitation team helped students get a thorough awareness of the multidisciplinary nature of rehabilitation practice.

- **Best practices for integrating students into clinical teams**

In order to successfully integrate students into clinical teams, it is necessary to provide a conducive learning environment, supervision, and careful preparation. Establishing planned orientation sessions before starting clinical assignments is one of the best practices. According to Murray et al. (2014), these courses ought to acquaint students with the clinical setting, define their roles and duties, and present them to the healthcare team. An efficient orientation guarantees that students comprehend the procedures for patient care and safety and gives them the confidence to start their clinical work. In order to teach students how to work together efficiently right away, it is also crucial that they are exposed to the other members of the interdisciplinary team.

Providing mentorship and regular monitoring is another example of a best practice. Mentors are essential in helping students navigate their clinical placements, giving constructive criticism, and offering emotional support. According to research, trainees are more likely to advance their clinical abilities and enhance patient outcomes if they get regular, helpful feedback from mentors (Hallin & Danielson, 2009). Clinical supervisors must be easily accessible to respond to enquiries, provide clinical technique demonstrations, and make sure students are completing jobs securely. Furthermore, according to Löfmark et al. (2012), organised reflection periods that allow students to talk about their experiences and difficulties foster critical thinking and problem-solving skills.

Last but not least, developing a culture of cooperation and communication is necessary for integrating students into clinical teams. Students feel more like valued members of the healthcare team when they participate in interprofessional rounds, team meetings, and case discussions (Reeves et al., 2010). Students are more likely to have a deeper knowledge of team dynamics and the role that each healthcare professional plays in patient care when they actively participate in decision-making processes and patient care discussions. With this collaborative learning approach, students are better prepared for their future careers in professional practice, because providing high-quality treatment requires effective teamwork and communication.

CONCLUSION

In summary, clinical placements for nursing and physiotherapy students are critical to their professional growth, preparedness for the workforce, and general patient care quality. Students who actively participate in clinical assignments gain valuable practical experience to supplement their academic education and develop crucial competencies including communication, teamwork, and clinical decision-making. In addition to improving student competency, supervision, mentoring, and structured feedback from seasoned clinicians help foster their ethical and emotional development. It has been demonstrated that integrating students into healthcare teams improves patient safety and educational outcomes, despite the difficulties presented by high-pressure environments and the need to strike a balance between learning and patient care. As healthcare continues to evolve, interdisciplinary learning opportunities and collaboration between nursing and physiotherapy students will remain essential for preparing well-rounded professionals capable of addressing complex patient needs. Consequently, effective institutional support, ethical considerations, and a focus on teamwork are crucial for optimizing the student experience and fostering the next generation of skilled healthcare providers.

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