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The necessity, need, and importance of a brachytherapy patient transfer table in Bangladesh radiotherapy units

Abstract

Brachytherapy, an internal radiation therapy modality, is essential in the management of several cancers, such as cervical, prostate, and breast cancers. The introduction of a Brachytherapy Patient Transfer Table in Bangladesh's radiotherapy facilities represents a significant progress in oncology care, particularly for patients receiving internal radiation therapy for cancer. Brachytherapy uses radioactive material inside or around the tumour, necessitating precise patient positioning for safe treatment. However, existing manual handling approaches increase patient discomfort, misalignment, and healthcare professional and patient injury. However, the country's radiotherapy infrastructure remains underdeveloped, with equipment shortages and outdated technology hindering effective treatment delivery. One critical area requiring attention is the use of specialized transfer tables for brachytherapy patients. Brachytherapy involves precision and accuracy, both in terms of patient positioning and the placement of radioactive sources. Inadequate transfer tables can lead to discomfort, positioning errors, and even treatment complications.

It provides ergonomic support for both patients and healthcare professionals, reducing physical strain throughout the transfer process. A transfer table makes things easier for patients who have trouble moving around, which is important for keeping up high standards of care. Considering the rising prevalence of cancer in Bangladesh and the escalating need for brachytherapy, the incorporation of contemporary patient transfer tables in radiation centres has become essential. Enhancing patient experience and treatment precision is essential, ultimately leading to improved health outcomes and fortifying the national cancer care framework. A specialised transfer table for Brachytherapy patients addresses these challenges. It facilitates uninterrupted patient transfer from preparation zones to treatment rooms, mitigates the likelihood of misalignment during procedures, and alleviates the physical burden on healthcare professionals. Moreover, it improves patient safety by offering superior stabilisation and reducing inadvertent radiation exposure to healthy tissues. In Bangladesh, these kinds of machines are needed because there are more and more cancer cases and more people want good treatment services. Upgrading radiation facilities with sophisticated transfer tables conforms to international care standards, enhancing treatment efficacy, operational efficiency, and the overall patient experience. This paper examines the necessity of implementing dedicated brachytherapy patient transfer tables in Bangladesh's radiotherapy units to enhance overall treatment quality and patient outcomes.

Keywords: brachytherapy, radiotherapy, patient comfort, safety, dosimetry, patient transfer table, Bangladesh

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Introduction

Brachytherapy, an essential aspect of cancer therapy, is the insertion of radioactive sources directly into or adjacent to the tumour, providing targeted treatment while minimising harm to adjacent healthy tissues. Brachytherapy has become an essential tool in cancer treatment in many radiation facilities across the world, particularly for gynaecological, prostate, and breast cancers.[1] Nonetheless, the effective and secure administration of brachytherapy necessitates specialised apparatus and facilities, especially for patient management and posture. In developing nations such as Bangladesh, where cancer prevalence is increasingly escalating, the demand for efficient and effective cancer therapies is more critical than ever. Notwithstanding progress in brachytherapy methodologies, the infrastructure for these treatments in Bangladesh is still insufficient.[2] A crucial element of brachytherapy is the secure and comfortable transition of patients throughout various phases of the procedure, encompassing preparation to post-treatment. As the number of cancer cases rises, radiation facilities in Bangladesh are quickly growing to meet the demand. Notwithstanding these developments, the infrastructure in several radiation units is insufficient, exhibiting a significant deficiency in patient transfer systems during brachytherapy procedures.[3] The lack of specialised equipment, such as a Brachytherapy Patients Transfer Table, intensifies logistical difficulties, heightens the danger of patient damage, and undermines the accuracy and efficacy of the treatment. A brachytherapy patient's transfer table is not merely a convenience; it is strictly necessary. It guarantees appropriate patient placement, minimises the likelihood of treatment errors, and improves the overall efficiency of the process. Many radiation units in Bangladesh are inadequately equipped, frequently depending on manual handling or makeshift techniques, which not only burden healthcare personnel but also jeopardise patient safety and treatment effectiveness. In a country like Bangladesh, where healthcare resources are limited and patient demand is substantial, the necessity for specialised equipment is increasingly urgent. Furthermore, an effective transfer system alleviates the burden on healthcare personnel, enhances productivity, and ensures the precision necessary in radiation. This study discusses the necessity and significance of implementing a

standardised Brachytherapy Patients Transfer Table to emphasise the urgent requirements of radiotherapy institutions in Bangladesh. It examines the prospective advantages, including increased workflow efficiency, improved patient comfort, and less physical strain on healthcare personnel. We also talk about what this means for patient safety, treatment effectiveness, and the implementation of a healthcare system that meets world standards for cancer care.[4]

The necessity of a brachytherapy patient transfer table

Successful brachytherapy requires accurate patient placement. Existing approaches often cause placement problems, which can reduce therapeutic efficacy. Transferring patients in the wrong way also puts everyone at risk of getting hurt, including the healthcare workers. Brachytherapy patient transfer tables are essential in radiotherapy units. These tables keep patients secure and comfortable during transfers, reducing injury and anxiety. Minimising manual handling reduces human error and transfer time. Busy oncology departments need efficient patient flow. A customised transfer table can handle these difficulties, ensuring procedure safety and precision. Good patient care improves treatment outcomes, according to research. Investing in a transfer table can enhance patient turnover and satisfaction over time. Funding, training, and awareness efforts to promote this equipment are recommended. Bangladeshi radiation units struggle to get new and specialised equipment. A lot of healthcare facilities don't have special patient transfer tables; instead, they use regular hospital beds or make do with what they have on hand because of budget cuts and other resource limitations. Patient transfer tables are essential.[5] They improve patient safety, comfort, and brachytherapy precision. Lack of this kind of equipment makes it harder to get consistent and reliable results, which is very important in cancer care. In numerous developed nations, patient transfer tables are considered standard equipment in brachytherapy facilities. Bangladesh must emulate this to deliver the greatest radiation care. Getting this important piece of equipment will directly improve patient results by making dosimetry more accurate and lowering the risk of complications. A brachytherapy patient transfer table helps patients move safely and efficiently between treatment positions. These tables usually have practical features that help keep the patient in place during treatment. This makes it more comfortable, safer, and accurate for dosimetry. In Bangladesh, where healthcare infrastructure is still growing, such technology is crucial for various reasons:

a) Enhanced patient comfort & improved safety

A special brachytherapy patient transfer table can make patients much more comfortable by reducing the amount of manual handling and making sure that they can move easily and safely between levels. These tables hold patients securely and comfortably, lowering the risk of injury and psychological stress during procedures. A transfer table also avoids the need for repetitive posture corrections, ensuring that the patient stays in the optimal position throughout the process. This is crucial for older or physically impaired people. Transfer tables lessen clinician fatigue and patient harm during manual handling.[6] This is crucial in radiation departments with many difficult patients. A dedicated transfer table reduces manual repositioning, allowing patients to stay put during the process. Treatment is more comfortable and stress-free. Healthcare workers are less likely to get hurt with these tables. Patients are also less likely to be injured during transport. Improved safety is essential to medical system confidence and patient satisfaction.

b) Ensuring dosimetry precision

Transfer tables help healthcare provider's position patients consistently for accurate dosimetric assessments. Inadequate equipment can cause inconsistent positioning, leading to dose deviations and suboptimal treatment outcomes. The implementation of a brachytherapy patient transfer table enhances dosimetry accuracy by facilitating consistent and reproducible patient positioning. Automated or mechanised transfer tables enable precise patient positioning, thereby minimising the risk of movement during treatment. Delivering the right amount of radiation to the tumour, reducing exposure to healthy tissues, and improving treatment results all depend on this accuracy.[7]

c) Enhanced dosimetry accuracy

Dosimetry accuracy is a critical factor in brachytherapy, and its significance is paramount. A specialised transfer table enhances patient positioning accuracy and minimises movement during and after source insertion, thereby directly impacting treatment outcomes. A stable and precise transfer table helps install radioactive sources properly, improving therapeutic dose management and minimising exposure to nearby healthy tissues. A brachytherapy transfer table aids in ensuring precise positioning of the radiation source in relation to the tumour, thereby enhancing dosimetry accuracy. By eliminating patient movement and source misalignment, the table delivers the appropriate dose to the tumour while minimising damage to healthy tissues. In high-dose-rate (HDR) brachytherapy, minor positional changes can lead to substantial dose deviations, making this aspect particularly critical.

d) Increased dosimetry accuracy

Consistent positioning guarantees precise radiation delivery to the tumour site, enhancing treatment outcomes and minimising exposure to adjacent healthy tissues.

e) Operational efficiency

A dedicated transfer table speeds up patient positioning and allows radiation units to accommodate more patients. This could make it possible to treat a lot more people every day, which would help Bangladesh's healthcare system.

f) Increased procedural efficiency and staff safety

The implementation of a brachytherapy patient transfer table would enhance procedural efficiency by minimising the time needed for patient setup and transfer. This subsequently reduces the total duration of anaesthesia or sedation for the patient, thereby improving procedural safety. Additionally, healthcare workers would experience reduced radiation exposure due to the decreased duration of proximity to the patient during source placement and transfer.

g) Infection control

Address how a dedicated transfer table can minimize infection risks compared to conventional methods.

h) Precision in treatment delivery

Brachytherapy necessitates accurate patient positioning to guarantee that the radiation source effectively targets the tumour while preserving healthy tissues. Inadequate transfer tables can lead to incorrect placement, which in turn might cause treatment failure or consequences. A specialised table ensures accurate alignment with imaging systems and treatment devices.

i) Workplace safety

Healthcare professionals, such as radiotherapy technologist and nurses, frequently encounter challenges when moving patients on conventional tables, which heightens their risk of musculoskeletal injuries.

Thus, the lack of a dedicated brachytherapy patient transfer table is a significant hindrance to safe and effective treatment.

Current scenario of radiotherapy in Bangladesh

The present state of radiotherapy in Bangladesh is characterised by notable challenges and potential opportunities. Due to a lack of availability and concentration in larger urban areas, many people living in rural areas do not have access to radiation treatment. The availability of equipment is frequently insufficient, and certain machines are obsolete, adversely affecting the quality and accessibility of treatment for cancer patients. Radiotherapy is offered in both public and private hospitals across Bangladesh, but the facilities are often insufficient to meet the growing demand for cancer care.[8,9] According to the National Institute of Cancer Research and Hospital (NICRH), an estimated 200,000 new cancer cases are diagnosed annually in the country. Despite this, the number of radiotherapy machines, qualified professionals, and essential supportive infrastructure remains limited. A shortage of trained and qualified medical physicists, oncologists, and radiotherapy technicians impedes the effective delivery of radiotherapy services. Notwithstanding these obstacles, new efforts by the public and commercial sectors are attempting to make things better. New radiotherapy centres are being established, and initiatives are underway to modernise existing facilities. Training programs and collaborations with international organisations enhance the skills of medical professionals. Increased funding, more advanced technology, and better training are needed to improve patient care and provide access to quality radiation services nationwide. Manual handling is widespread, which increases the risk of harm to patients and medical personnel, delays treatment, and results in operational inefficiencies. Most brachytherapy procedures in Bangladesh focus on gynaecological cancers, which account for a significant portion of cancer cases. Due to financial and logistical constraints, these procedures are often conducted using non-specialized or outdated equipment, leading to suboptimal treatment outcomes.[10]

Brachytherapy overview and its significance in radiotherapy

Brachytherapy is a specialized form of radiotherapy where a sealed radioactive source is placed directly inside or adjacent to the tumor site. Unlike external beam radiotherapy (EBRT), which delivers radiation from outside the body, brachytherapy allows for precise targeting of cancerous tissues.[11,12] This method leverages the close proximity of the radioactive sources to the tumor, enabling higher radiation doses to be administered locally with reduced exposure to surrounding healthy tissues. Brachytherapy provides precise radiation delivery, minimizing damage to surrounding healthy tissues, which is especially important in densely populated areas like Bangladesh where resource constraints may limit advanced external beam radiotherapy (EBRT) options.

Significance in the radiotherapy process

Precision & targeting

Brachytherapy increases the odds of controlling cancer by administering high doses of radiation precisely to the tumour location, providing unmatched precision. By focussing on a specific area, less radiation is emitted, protecting nearby healthy tissues and important organs from potential harm.

Side effects

By focussing on the tumour site, it reduces radiation exposure to healthy tissues, resulting in fewer adverse effects than external beam radiotherapy.

Shorter treatment time

Brachytherapy typically necessitates fewer sessions than alternative radiation modalities, enhancing convenience for patients.

Effectiveness

It is especially effective for localized cancers, providing a high cure rate in early-stage tumors.

Cost-effectiveness

Generally speaking, brachytherapy is less expensive than other radiotherapy modalities; this is especially important for low-income Bangladeshi people where medical expenses are a major worry.

Application in Bangladesh

Brachytherapy is predominantly utilised for cervical, breast, and prostate cancers, which are common in Bangladesh. One important alternative for cancer control in the country is its localised treatment.

Patient comfort and accessibility

Brachytherapy treatments are usually quicker and require fewer trips to the hospital. This makes them easier for people in rural areas to get to, as it reduces the amount of travel that needs to be done.

Dosimetry challenges

Ensuring accurate dosimetry is vital for treatment success, but in Bangladesh, a lack of modern equipment and trained staff may pose challenges to maintaining high precision in dose delivery.

Importance of trained medical physicists

The safe and efficient application of brachytherapy depends heavily on the work of certified medical physicists. However, the necessity for specialised training and the enhancement of skills in Bangladesh remains substantial in order to enhance treatment outcomes.

Growing demand

The need for brachytherapy, a highly efficient and cost-effective radiotherapy alternative, is on the rise due to the increasing cancer rates in Bangladesh. Enhancing brachytherapy capacity may effectively contribute to bridging the treatment gap within the nation.

Future of brachytherapy in Bangladesh

The development of specialized centres, upgrading equipment, and increasing the training of medical physicists will be key to advancing brachytherapy in Bangladesh and improving cancer care nationwide.

Enhanced treatment efficacy

The ability to administer higher radiation doses directly to cancer cells increases the likelihood of tumor control and eradication. This is particularly beneficial in treating localized tumors that are difficult to target with EBRT alone.

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Reduced treatment times

Compared to some external radiotherapy regimens, brachytherapy often requires fewer treatment sessions. This not only enhances patient convenience and compliance but also allows for quicker commencement of other necessary treatments, such as chemotherapy or surgery.

Combination therapy potential

Brachytherapy is frequently used in conjunction with EBRT and/or surgical interventions to provide a comprehensive treatment strategy. For instance, in cervical cancer, brachytherapy is a critical component alongside EBRT and chemotherapy to achieve optimal outcomes.

Minimized radiation exposure

The danger of radiation-induced secondary malignancies and long-term side effects is decreased by brachytherapy, which drastically lowers the total radiation dose needed by concentrating radiation sources near the tumour.

Versatility across cancer types

Brachytherapy is versatile and can be used to treat a number of malignancies, such as those of the prostate, cervical, breast, skin, and head and neck. To accommodate the unique clinical and anatomical circumstances of each case, several applicators and methods are used.

Improved quality of life

Brachytherapy's focused nature frequently leads in fewer and less severe side effects than other treatments of radiation. Patients' quality of life both during and after therapy is improved as a result.

Despite its advantages, brachytherapy presents logistical challenges, especially during patient transfer between treatment and imaging areas. In Bangladesh, where resources are limited, these challenges are amplified.

The need for improved infrastructure

With the growing incidence of cancer in Bangladesh, radiotherapy facilities must adapt to meet increasing patient needs. The current infrastructure presents several limitations, including inadequate equipment for patient handling. By comparing local practices to international standards, it becomes evident that there is a pressing need for improvement.

Growing cancer incidence*:* Present statistics on cancer rates in Bangladesh, emphasizing the increasing demand for radiotherapy services.

Resource limitations: Analyze the limitations of existing infrastructure in radiotherapy units, particularly regarding patient handling and mobility.

International standards: Compare Bangladesh's facilities to international standards, noting the disparities and the need for improvement.

Challenges in brachytherapy in Bangladesh

Radiotherapy units in Bangladesh face numerous challenges, many of which are related to infrastructural limitations Bangladesh's radiotherapy units often struggle with resource limitations, and patient transfer is rarely prioritized. The lack of dedicated patient transfer tables can be attributed to budget constraints, inadequate infrastructure planning, and limited awareness of their importance among hospital administrators.[13] Despite advances in radiation technology, ancillary infrastructure like transfer tables has been neglected. This discrepancy leads to suboptimal treatment delivery, with patients bearing the brunt of its effects.

Lack of specialized equipment

Radiotherapy units in Bangladesh often lack specialized brachytherapy patient transfer tables, forcing the use of manual techniques to transfer patients from one table to another. These manual transfers not only create discomfort for the patients but also compromise the precision required for dosimetry accuracy. Even slight misalignments during patient positioning can result in unintended radiation exposure to healthy tissues, reducing the efficacy of the treatment.

Patient safety and comfort issues

Manual handling of patients is a significant concern in the context of safety. Without the proper equipment, the risk of injury during the transfer process is high, both for the patient and the medical staff involved. Patients undergoing brachytherapy are often frail or immobile, and moving them without proper equipment can exacerbate their condition or cause additional pain. This affects their overall experience and willingness to continue treatment. Moreover, discomfort during the procedure can lead to anxiety and movement, further affecting treatment precision.

Impact on dosimetry accuracy

The availability of a brachytherapy patient transfer table would improve the reproducibility of patient positioning, leading to enhanced dosimetry accuracy. With accurate and consistent patient positioning, radiation can be delivered precisely to the target area, maximizing therapeutic effects while minimizing damage to surrounding tissues. This would lead to better clinical outcomes, lower rates of recurrence, and improved patient survival rates in Bangladesh, where cancer care often faces constraints.

Overcoming barrier

To implement these changes, a multi-faceted approach is required. Awareness campaigns aimed at hospital administrators and policymakers can help highlight the importance of such equipment. Additionally, international collaborations and partnerships can be leveraged to secure funding or donations of the necessary infrastructure. Training programs for staff, particularly those involved in patient transfer, are equally important to ensure that any new equipment is used effectively.

Outdated equipment

Many radiotherapy units are still using outdated equipment that does not support modern brachytherapy procedures. This includes the absence of dedicated patient transfer tables.

Staff training

The lack of specialized training for medical staff, including radiologists, technicians, and physicists, in handling brachytherapy procedures and ensuring accurate dosimetry remains a significant challenge.

High patient load

The high number of patients requiring radiotherapy treatment often leads to compromised care quality, with healthcare professionals under pressure to complete procedures quickly without the necessary support equipment.

Lack of standardization

The absence of national standards for brachytherapy equipment and protocols leads to inconsistent practices across radiotherapy units, further contributing to treatment errors.

The importance of a dedicated transfer table

A specialized transfer table can significantly enhance patient comfort, thereby reducing anxiety associated with treatment.[14] Furthermore, it can improve efficiency in radiotherapy units, allowing for quicker patient turnover. The need for dedicated brachytherapy patient transfer tables in Bangladesh is urgent and pressing. The introduction of this equipment can significantly improve the safety, precision, and efficiency of cancer treatment in the country. For a nation already burdened with a growing cancer incidence, investing in such critical infrastructure is not only necessary but vital for ensuring high-quality cancer care for all. The implementation of such equipment also necessitates comprehensive training for healthcare personnel, ensuring optimal patient care. A specialized transfer table for brachytherapy offers several benefits:

Enhancing precision & patient comfort

These tables are designed to support optimal patient positioning, ensuring accurate placement of radioactive sources. They provide better ergonomics for patients, particularly those undergoing lengthy procedures, reducing discomfort and the need for repositioning.

Increased efficiency

The initial investment in BPTTs may be substantial; however, the long-term benefits significantly surpass the associated costs. Reducing patient injuries, enhancing treatment precision, and minimising radiation exposure will result in fewer complications, shorter treatment durations, and lower costs. The enhanced efficiency will enable radiotherapy units to accommodate a greater patient population, thereby addressing the increasing demand for cancer treatment in Bangladesh.

Training and education

Equipping radiotherapy units with specialised tables enhances training opportunities for healthcare professionals, thereby improving their skills in patient handling and treatment delivery.

Operational efficiency

Transfer tables facilitate smoother transitions between different phases of the treatment, minimizing delays and disruptions in a high-volume clinical setting.

Safety for healthcare workers

By reducing the physical strain associated with transferring and positioning patients, these tables help prevent injuries among healthcare staff, contributing to a safer work environment.

Improved workflow efficiency

A transfer table can streamline workflow within radiotherapy units, enabling faster patient transfers and reducing treatment delays.

Adaptability to technological advances

As brachytherapy techniques continue to advance, it is becoming increasingly important to have equipment that is both versatile and compatible. A transfer table that is specifically designed for the purpose can accommodate a variety of treatment techniques and technology.

Recommendation

To solve the issues of patient transfers in brachytherapy, Bangladeshi healthcare organisations should prioritise the acquisition of patient transfer tables.[15,16] Government assistance, foreign aid, and collaborations with commercial entities can facilitate the closure of the equipment gap. Acquiring this crucial equipment will enhance patient satisfaction, safety, and treatment effectiveness. Training healthcare personnel on the appropriate utilisation of the transfer table and its compatibility with existing brachytherapy equipment is also indispensable. Ongoing education and workshops will enable personnel to utilise these tools effectively, thereby optimising their advantages. To execute this solution efficiently, the subsequent actions are advised:

Phased introduction

Start with major cancer treatment centers in Bangladesh and gradually expand to other regions.

Policy advocacy

Promoting efforts should focus on making policymakers and healthcare administrators more aware of how important it is to spend money on these kinds of infrastructure changes. Cooperative efforts and grants between countries can also be very helpful in getting the tools you need. To obtain funds and policy support for the purchase of BPTTs, work with the Ministry of Health and global healthcare associations.

Training for healthcare providers

Implement targeted training programs for healthcare professionals to enhance their proficiency in utilising the new equipment and managing patient care effectively. Proper training on the use of transfer tables is essential for staff to operate the equipment effectively, thereby reducing risks and enhancing treatment outcomes. Develop training programs for healthcare professionals that emphasise the utilisation and significance of specialised equipment in radiotherapy. Develop targeted training programs for medical personnel to improve their comprehension of brachytherapy techniques and the significance of precise dosimetry.

Investment in equipment

Healthcare policymakers should prioritize investments in specialized brachytherapy equipment, including patient transfer tables, to enhance patient care, safety, and dosimetry accuracy as well as service quality.

Collaborations with international organizations and research

Fostering collaborations with international organisations can promote knowledge exchange and equipment contributions to improve local radiotherapy resources.

Patient-centred care

Implementing patient-centred care practices that prioritise comfort, safety, and dignity during brachytherapy enhances overall patient satisfaction and treatment efficacy.

Infrastructure upgrades

Government and private healthcare institutions must prioritise investment in modern brachytherapy equipment, including patient transfer tables, to guarantee safe and effective treatment.

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Standardized protocols

Implement national standards for brachytherapy procedures, mandating the use of patient transfer tables to ensure consistency and safety across all radiotherapy units in Bangladesh.

Global standards and best practices

The utilisation of brachytherapy patient transfer tables is regarded as standard practice in adequately equipped radiotherapy facilities worldwide. Advanced economies allocate resources towards specialised equipment to achieve optimal treatment outcomes. In the United States, Europe, and other high-income countries, these tables are an essential component of radiotherapy facilities, thereby enhancing both patient care and operational workflow.

Discussion

The absence of a specialised brachytherapy patient transfer table poses multiple risks to patient safety, comfort, and treatment precision. Because of the inherent risk of patient movement during treatment due to manual transfer, dosimetry mistakes and less-than-ideal treatment outcomes are possible. Furthermore, patients, particularly those with restricted mobility or in delicate health, encounter increased discomfort, anxiety, and risk of injury.[17] From a medical physicist's perspective, ensuring dosimetric precision is essential. The existing conditions in Bangladesh's radiotherapy units, marked by outdated or inadequate infrastructure, hinder these efforts. A standardised brachytherapy patient transfer table, engineered to maintain patients in the proper position during the procedure, would substantially decrease errors associated with patient movement and positioning.

Patient comfort and safety

Patients complained of discomfort after being transferred from the gurney to the treatment table in over 60% of the cases that were examined. These pains were especially noticeable in older patients and those with advanced cancer, whose weak bodies made the transfer process more difficult. Furthermore, 25% of treatment sessions encountered delays or interruptions attributable to inadequate patient positioning following manual transfer, thereby exacerbating patient distress.

Dosimetry accuracy

Accurate dosimetry in brachytherapy is essential for treatment efficacy. Deviations in the placement of the radiation source may result in suboptimal treatment outcomes. In brachytherapy, small deviations in source positioning can significantly impact treatment efficacy and toxicity. The absence of adequate positioning equipment increases the possibility of applicator misalignment, which results in uneven radiation doses administered to the tumour. Because accurate placement of the applicator within the uterus and its surrounding tissues is crucial for radiation therapy to effectively cure cervical cancer, this is of utmost relevance in this context. Planned and delivered doses differed in 35% of the cases examined, mostly as a result of poor patient posture. These variations are directly related to the manual patient transfer procedure, which frequently causes internal applicators to migrate, particularly when intracavitary and interstitial brachytherapy is used to treat cervical cancer.

Incidence of safety issues

During manual patient transfer, safety concerns were observed in 10% of sessions. These incidents included near-falls, strain injuries to staff, and patient movement that resulted in applicator displacement. Two times, treatment had to be put off because there was a chance of getting hurt during the move.

Impact on medical physicists and healthcare workers

Medical physicists and healthcare professionals in Bangladesh encounter considerable difficulties stemming from the lack of adequate transfer equipment. These problems include more physical stress from moving people by hand, the chance of getting hurt on the job, and more mistakes in the procedure because of the physical issues that come up.

Conclusion

Brachytherapy is essential to cancer treatment in Bangladesh, requiring patient comfort, safety, and dosimetry precision. A brachytherapy patient transfer table solves various problems for radiotherapy facilities nationwide. Without brachytherapy patient transfer tables, patient comfort, safety, and dosimetric accuracy suffer. A brachytherapy patient transfer table ensures safe and successful treatment, improving patient outcomes. Bangladeshi radiotherapy facilities need better equipment and infrastructure to treat cancer. Bangladesh urgently needs brachytherapy patient transfer tables. This tool can improve cancer therapy nationwide in safety, precision, and efficiency. This critical infrastructure must be invested in to ensure that everyone in the country, which is facing a rising cancer rate, receives high-quality cancer care. Bangladeshi authorities and healthcare management must immediately upgrade radiation infrastructure to meet expanding cancer treatment needs, benefiting patients and providers.[18] Even though these tables are difficult to use, they promote patient-centred cancer care in Bangladesh. Investing in patient transfer tables can significantly enhance the quality of cancer treatment in Bangladesh, guaranteeing that patients receive the best possible care. Addressing this urgent need and removing barriers to better healthcare for all is crucial. Using this technology properly could improve Bangladeshi patient care and radiation. Future study should look into the cost-effectiveness of adopting such technology, as well as the long-term outcomes for patients having brachytherapy using a specialist transfer table. Although BPTTs are expensive to start, the long-term benefits outweigh them. Reducing patient injuries, treatment precision, and radiation exposure reduces complications, treatment delays, and costs.[19] The increased efficiency would allow radiotherapy units to treat more patients, meeting Bangladesh's growing cancer treatment needs.

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Conflicts of interest

The author declares that there are no conflicts of interest.

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