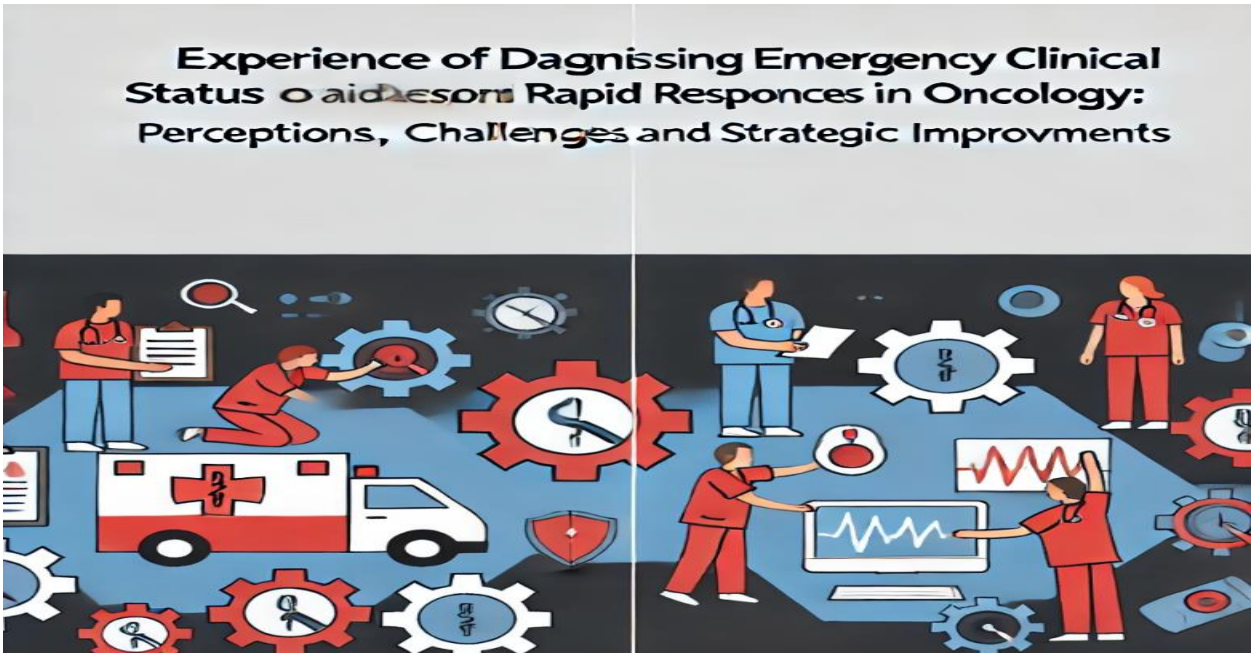
Chapter 14: Experience of Diagnosing Emergency Clinical Status to Activate Rapid Response Teams in Oncology: Perceptions, Challenges, and Strategic Improvements



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Summary

This project explored the challenges and barriers to effective Rapid Response Team (RRT) activation in an oncology setting at the Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC). It identified key issues, including communication breakdowns, resource shortages, inadequate team coordination, and improper handover processes, which contribute to delayed responses and suboptimal patient outcomes. Through a mixed-methods approach, the project highlighted the need for targeted interventions, such as enhanced communication protocols, standardized handover processes, improved resource management, and ongoing education and simulation training. Implementing these strategies can optimize RRT performance, ensure timely and accurate responses to clinical emergencies, and ultimately improve patient safety and care quality in oncology.

Key Points

- **Improved Communication Protocols** are essential to reduce misunderstandings and delays during Rapid Response Team (RRT) activations, ensuring timely and effective responses in high-stress situations.
- **Enhanced Resource Availability** and appropriate staffing levels are critical for preventing burnout and supporting efficient emergency responses, especially during peak times or high-risk periods.
- **Standardizing Handover Processes** with tools like checklists and digital updates ensures seamless communication of critical patient information, reducing errors during shift changes or unit transfers.
- **Ongoing Education and Simulation Training** tailored to the unique challenges of oncology settings can strengthen team preparedness, adherence to updated protocols, and overall RRT effectiveness.

Introduction

Rapid Response Teams (RRTs) are essential in providing immediate medical attention to patients showing early signs of clinical deterioration, thereby averting potential adverse outcomes (Samuel, 2023; Azie, 2024). In oncology settings, where patients often face complex and rapidly evolving health conditions, the effective and timely activation of RRTs is critical. Despite their importance, several barriers, such as communication breakdowns, resource shortages, and inadequate coordination among team members, can hinder the optimal performance of RRTs (Longstreth et al., 2023; Egozcue et al., 2023).

Previous studies have indicated that a lack of standardized processes and insufficient staff training contributes to improper RRT activations, leading to delayed responses and potentially worsening patient outcomes (Rajwani et al., 2023). Furthermore, the unique challenges of oncology, such as patients' critical conditions and complex treatment regimens, necessitate tailored strategies for RRTs to function effectively (Longstreth et al., 2023; Egozcue et al., 2023). This project aims to explore the experiences and perceptions of healthcare staff and RRT members in diagnosing emergency clinical status, identifying barriers to effective RRT activation, and proposing strategic improvements for optimizing RRT processes in an oncology setting.

Problem Statement

The effectiveness of Rapid Response Teams (RRTs) in oncology settings is often compromised by multiple challenges, including communication gaps, lack of standardized protocols, resource limitations, and inadequate team coordination. These issues lead to improper activations, delayed responses, and suboptimal patient outcomes. This project seeks to identify the key barriers and

challenges faced during RRT activation and assess the effectiveness of current practices to propose targeted improvements.

Methods

Project Design:

A cross-sectional study using a mixed-methods approach was conducted to assess the experiences of healthcare staff and RRT members in activating RRTs for emergency clinical situations in an oncology setting. The project involved two surveys: one for general healthcare staff (103 respondents) and another for RRT-specific team members (44 respondents). These surveys aimed to capture demographic information, perceived barriers to RRT activation, challenges faced by RRT members, and suggestions for improvements.

Data Collection:

The surveys were complemented by the analysis of quality statistics related to RRT activation outcomes over two years. This included the percentage of improper activations, the number of patient transfers to critical care, and cases stabilized within the unit.

Data Analysis:

The data collected from the surveys and quality statistics were analyzed to identify key barriers and challenges, quantify improper activation rates, and assess patient outcomes following RRT activations. The project employed descriptive statistics to summarize the data, and thematic analysis was used to interpret the qualitative responses.

Results

Demographics and Workforce Characteristics:

The majority of general staff participants were female (57%), aged between 31-40 years (58%), and held a bachelor's degree (71%). Staff nurses constituted the largest group (64%), with a significant portion having 10-15 years of professional experience (34%). Among the RRT-specific team members, staff nurses also made up the majority (52%), with most members aged between 31-40 years (75%) and holding either a bachelor's (61%) or a master's degree (39%).

Barriers to RRT Activation:

- **Communication Breakdown:** As reported by 11% of RRT members, communication issues between the responsible physician and the RRT were significant barriers, leading to delays in decision-making and unclear roles during emergencies (Samuel, 2023; Azie, 2024).
- **DNR-Related Issues:** The absence of clear Do Not Resuscitate (DNR) code decisions was identified as a major challenge by 18% of RRT members, resulting in uncertainty and delays in appropriate interventions (Azie, 2024).
- **Improper Handover:** Improper handover of patient information was cited by 12% of RRT members and 11% of general staff, especially problematic during unit transfers or shift changes, leading to incomplete communication of critical information (Longstreth et al., 2023).
- **Resource Challenges:** Resource shortages were reported by 23% of RRT members, including insufficient tools, equipment, and human resources (Egozcue et al., 2023).

Challenges Faced by RRT Members:

- **Resource Shortages:** Frequent resource shortages, including physical tools and human resources, were identified by 23% of respondents as major challenges.
- **Increased Workload in the ICU:** The increased workload in the ICU, coupled with RRT responsibilities, led to burnout and decreased efficiency in managing RRT calls, as reported by 13% of team members.
- **Coordination Issues:** Poor coordination among team members during RRT activations was reported by 13% of the RRT team, attributed to unclear roles and inadequate communication (Longstreth et al., 2023).

RRT Activation Outcomes (Quality Statistics):

- **Improper Activation Processes:** Improper activations peaked at 17% in July 2022 and May 2023, exceeding the target of 5%. Despite improvements, certain months continued to show high rates of improper activations, indicating the need for ongoing education and process refinement (Azie, 2024).
- **Patient Transfer to Critical Care:** Patient transfers to critical care showed variability, with peaks in May 2023 (16 cases) and April 2024 (14 cases), reflecting challenges in early intervention and stabilization within the unit.
- **Stabilization in Unit:** The number of cases where patients were stabilized within the unit increased, peaking at 18 cases in May 2023, suggesting improvements in managing patients effectively without needing transfer to critical care.

Discussion

The project findings highlight significant barriers to the effective activation of RRTs in oncology settings, including communication breakdowns, resource shortages, and inadequate team coordination. Communication issues, cited by 11% of RRT members, are consistent with previous research emphasizing the need for clear, structured communication to ensure effective RRT activation (Samuel, 2023; Egozcue et al., 2023). The absence of clear DNR decisions, reported by 18% of respondents, further complicates RRT activation, leading to delays in decision-making (Azie, 2024).

Resource shortages, identified by 23% of respondents, align with other studies highlighting the critical role of adequate resources in the effectiveness of RRTs (Egozcue et al., 2023). Addressing these shortages, along with improving coordination among team members, is crucial to enhancing RRT effectiveness (Rajwani et al., 2023). The findings also suggest that ongoing education and simulation-based training could reduce improper activations, bolster staff confidence, and improve team coordination, consistent with recommendations from existing literature (Longstreth et al., 2023; Azie, 2024).

Improper activation rates remained high in certain months, highlighting the need for continued process refinement and staff training. Simulation-based training could help reduce these rates by providing healthcare providers with opportunities to practice RRT protocols in a controlled environment, thereby improving decision-making skills and response times (Egozcue et al., 2023).

Conclusion

This project identifies significant challenges in diagnosing emergency clinical status for RRT activation in an oncology setting, including communication issues, resource limitations, and poor team coordination. To improve RRT effectiveness, targeted interventions, such as enhanced communication practices, better resource management, and ongoing education and training, are essential. By addressing these barriers, oncology centers can strengthen their rapid response capabilities, ensuring timely and accurate responses to clinical emergencies and ultimately enhancing patient safety and care quality.

Recommendations

Based on the findings of this project, the following recommendations are proposed to enhance the effectiveness of Rapid Response Teams (RRTs) in oncology settings:

1. **Improve Communication Protocols:**
    - Implement standardized communication protocols, such as the Situation-Background-Assessment-Recommendation (SBAR) tool, to ensure clear and concise communication between healthcare providers during RRT activations. This approach can help reduce misunderstandings and delays in decision-making, particularly in high-stress situations.
    - Conduct regular communication workshops and simulation exercises to reinforce effective communication practices among all team members, including physicians, nurses, and support staff.
2. **Enhance Resource Availability:**

- Ensure that necessary equipment and tools are readily available during RRT activations. This includes maintaining a well-stocked emergency cart and ensuring that critical supplies are accessible.
- Review staffing levels and allocate additional personnel as needed during peak times or high-risk periods to prevent burnout and ensure efficient emergency response.

3. **Standardize Handover Processes:**
    - Develop and implement standardized handover protocols, such as checklists, to ensure all critical patient information is accurately communicated during shift changes or unit transfers.
    - Use digital tools, such as electronic health record (EHR) systems with real-time updates, to facilitate seamless information exchange and reduce errors during handovers.
4. **Strengthen Team Coordination and Role Clarity:**
    - Clearly define the roles and responsibilities of each RRT member to minimize confusion and ensure all team members understand their duties during activations.
    - Conduct regular team-building exercises and multidisciplinary training sessions to foster a culture of collaboration and enhance team dynamics.
5. **Implement Ongoing Education and Simulation Training:**
    - Regularly schedule education sessions and simulation-based training for all RRT members to keep them updated on the latest protocols and practice coordination in a controlled environment.

- Include scenario-based training that reflects the unique challenges of oncology settings to improve team preparedness for emergencies.

6. **Regular Monitoring and Feedback:**
    - Establish a system for continuous monitoring of RRT performance, including tracking key performance indicators (KPIs) related to response times, activation accuracy, and patient outcomes.
    - Implement feedback mechanisms where RRT members and general staff can provide input on challenges faced during activations, allowing for iterative improvements to processes and protocols.
7. **Enhance Decision-Making Support:**
    - Develop decision-support tools to aid healthcare providers in recognizing early signs of clinical deterioration and activating the RRT more promptly.
    - Incorporate real-time data analytics and alert systems within the EHR to support timely decision-making and facilitate early intervention.
8. **Encourage a Culture of Safety:**
    - Foster an organizational culture that encourages reporting of near-misses and errors without fear of punitive action. This will help identify and address systemic issues contributing to improper RRT activations.
    - Promote open dialogue and learning from past incidents to continuously improve RRT activation processes and patient care.
9. **Integrating the early warning score in the nurses' workflow.**
10. **Utilizing technology to calculate the EWS.**
11. **Creating a clear process for doctors to consult ICU doctors.**

References

Samuel, P. (2023). Evaluating a Rapid Response Team Performance to Implement Best Practice in Rapid Response Team Protocol (Doctoral dissertation, Andrews University).

Longstreth, M. T., Whiteman, K., Stephens, K., Swanson-Biearman, B., & Cartwright-Stroupe, L. M. (2023). Implementing Best Practices for Decreasing Nurse Hesitancy to Call the Rapid Response Team: An Evidence-Based Quality Improvement Initiative. The Journal of Continuing Education in Nursing, 54(6), 281-288.

Azie, E. A. (2024). Creation of a Structured Rapid Response Team and Early RRT Activation.

Egozcue, E., King, M. A., Bermudez, N., Rios, N. S., Villalba, M., & Miller, A. (2023). Empowering Nursing Staff to Activate Rapid Response Teams: Using In Situ Simulation to Bolster Knowledge and Confidence. Default journal.

Rajwani, A., Clark, N., & Montalvo, C. (2023). Understanding best practices in implementation of behavioral emergency response teams through a scoping review. Journal of the American Psychiatric Nurses Association, 29(5), 375-388.