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Research Article

Remote Continuous Patient Monitoring Using Early Warning System (Iews) for the Detection of Clinical Deterioration in Patients Receiving Active Cancer Treatment: A Phase II Randomized Controlled Trial

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Abstract

Background: Cancer patients admitted to non-intensive care unit settings and at home, who are undergoing active cancer treatment, often undergo clinical deterioration. Early identification of deterioration provides an opportunity to intervene early and improve outcomes. The trial was intended to investigate whether remote continuous patient monitoring using Dozee® Early Warning System (iEWS, Dozee®) can generate early actionable alerts leading to timely interventions which could potentially improve outcomes.

Method: In this phase II, open-labelled, randomized controlled trial, conducted in a tertiary care centre in Bangalore (India). In the 'Group I: Hospital Cohort', we randomly assigned 60 patients who were admitted for surgery, chemotherapy, stem cell transplant or those who were admitted in the hospital Day-Care Unit or the Inpatient Unit, for the treatment of complications due to surgery, chemotherapy, or stem cell transplant to receive either remote continuous patient monitoring using the iEWS (Dozee® Arm) or spot check monitoring which is the Standard of care (Control Arm). On discharge from the Day-Care or the Inpatient Unit of the hospital these patients then continued in their previously randomized arms as 'Group II: Home Cohort'. The patients in Dozee® arm were monitored with Dozee® (iEWS) in hospital & also at home after discharge. The patients in Control arm were monitored with spot checks done by healthcare workers in hospital and by caregivers at home after discharge. The primary outcome measures were time to actionable alert by Dozee® or healthcare worker, time to intervention and outcomes. The secondary outcome measure was mortality.

Result: Patients in the Hospital Cohort were monitored from randomization until they were discharged from the hospital, median day 1, range (0-39). Those in the Home Cohort were monitored from their date of randomization until their next hospital admission or until the closure of data collection on 11 Sep 2023, whichever was earlier mean ± 2SD, 54 ± (2*14). In the Hospital

Cohort, 7 out of 30 (23.3%) patients in the Dozee® Arm had actionable alerts compared to none in the control cohort, p=0.006. These actionable alerts led to 32 interventions [enhanced monitoring (8), diagnostic intervention (8) & therapeutic intervention (16)]. 6/30 (20%) patients in Dozee® hospital cohort needed therapeutic interventions. One patient in each arm required Intensive Care Unit (ICU) transfer. The patient from the Dozee cohort required ICU care for 3 days while the one from the Control Cohort was in the ICU for 17 days. In the Home Cohort, 2/18 (11.11%) patients in Dozee® Arm had 2 clinically significant alerts. These actionable alerts led to changes in their medication and a visit to hospital in both the patients. There were no alerts in the control cohort, p= 0.071.

Conclusion: Remote continuous patient monitoring using the Dozee® iEWS led to higher number of alerts in both the Hospital and Home Arms, which led to closer monitoring, diagnostic tests, and therapeutic interventions. Larger studies need to be performed to assess the impact of this on clinical outcomes.

Keywords: Cancer patients, Non-intensive care unit settings, Clinical deterioration, Early identification, Remote continuous patient monitoring, Dozee® Early Warning System (iEWS, Dozee®), Early actionable alerts

Introduction

Delayed identification of clinical deterioration is an important cause of preventable morbidity & mortality in non-ICU settings in hospitals, as vital cardiorespiratory parameters may change several hours prior to the occurrence of an adverse event [1-6]. Therefore, early detection of clinical deterioration and timely intervention could potentially reduce or prevent ICU transfer, cardiopulmonary arrest, or death [7-12]. Given these challenges, the need for an effective system that can bridge the monitoring gap between ICU and non-ICU settings is evident. In this study we assess the utility of a centralized, remote, 'Intelligent Early Warning System' (iEWS) via the Dozee® Pro contactless vital sign monitoring system. The "Dozee® Pro" device is certified for usage in India and has been validated for its capacity to monitor Heart Rate (HR), Respiration Rate (RR), and Blood Pressure (BP) without direct contact [13-16].

In order to monitor the patients remotely & continuously in non-ICU settings, while improving patient comfort, Dozee® uses a combination of Ballistocardiography and next-generation AI algorithms to monitor the vital health parameters (Heart Rate, Respiratory Rate, Blood Pressure, Oxygen Saturation & Temperature) of the patient on near real-time basis and shares them with the health care providers on a web-based patient monitoring system and mobile apps. Dozee® comes with intelligent Early Warning System (iEWS) algorithms which track the trends of various health parameters for early detection of clinical deterioration of patients and to enable timely medical intervention. In an earlier prospective, observational clinical study, Dozee® had 91% sensitivity for identifying patient deterioration as compared to the 67% sensitivity of spot checks at a tertiary multispecialty hospital in Lucknow, India (currently under review for publication).

Method

Study Design

The study was designed as a phase II open-labelled randomized controlled trial in which patients were randomized to either the Dozee® Arm or Control Arm. The patient population can be classified into 2 groups. Group I (Hospital Cohort) was those who were admitted for surgery, chemotherapy, stem cell transplant or complication arising due to surgery, chemotherapy, stem cell transplant in the hospital Inpatient Unit or the Day-Care Unit. Group II (Home Cohort) were those patients who were being discharged after surgery, chemotherapy, or stem cell transplant. Patients in both the Groups were randomly assigned to Dozee® Arm or Control Arm using a simple randomization table and study CONSORT diagram represented in Fig;1. The trial was approved by the Institutional Ethics Committee of study centre and initiated on June 30th, 2023. All the patients provided written informed consent (Figure 1).

Study Population

The study was conducted in a referral Cancer Centre at Bangalore, India. The inclusion criteria for the Hospital Cohort included all consecutive, unselected patients who were admitted for surgery, chemotherapy, stem cell transplant or complication due to surgery, chemotherapy, stem cell transplant in the hospital Inpatient Unit or the Day-Care Unit and were willing to give informed consent. On discharge from the hospital, these same patients were then followed up as the home cohort. Exclusion criteria included patients <18 years of age, Patients <40 Kg & >120Kg, patients experiencing symptoms of deterioration at the time of randomization, patients in ICU and refusal to consent.

Study Procedure

Baseline vitals (Heart Rate, Respiratory Rate, Blood Pressure, Mean Arterial Blood Pressure, Oxygen Saturation, Temperature, Glasgow Coma Scale (GCS)) were recorded at the time of randomization for all the patients.

Vitals monitoring in the Dozee® Arm: In Dozee® Arm, the patients were monitored remotely & continuously using Dozee® iEWS. A dynamic tier based alerting system was developed that utilized median vitals for every 10 minutes for Heart Rate (HR) and Respiratory Rate (RR), 30 minutes for Blood Pressure (BP) moving with an increment of two minutes to assess an alert positive condition. Furthermore, alerts were categorized in to 4 tiers (0,1,2,3), depending on the degree of worsening, refer Table 1. Once an alert was triggered, "Snooze time" or periods of no alerts were set to three hours unless the next tier was breached. In the final tier, i.e. Tier 3, there was no snooze condition and alerts would occur every 10-minute period. If no alert occurred in the snooze period, the threshold would be set to the lowest tier (Table 1).

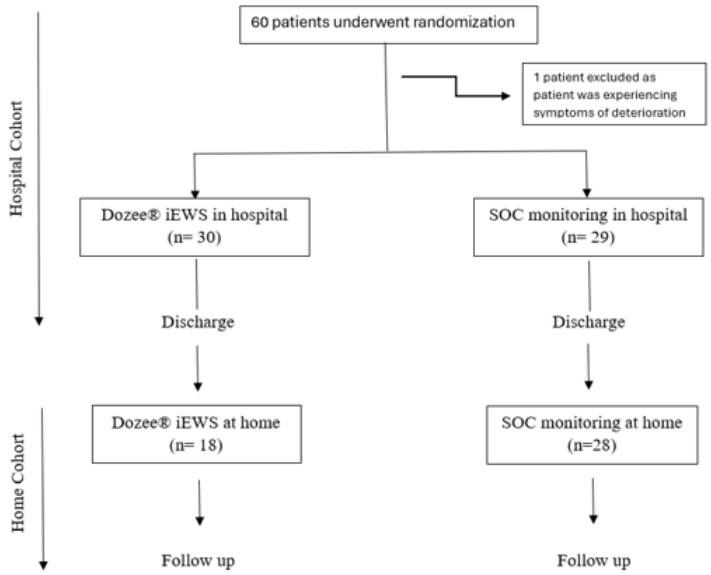

Figure 1: Randomization, hospital Monitoring & home monitoring.

Table 1: EWS Smart Alerts Tiered Framework.

	Tier 0	Tier 1	Tier 2	Tier 3
Heart Rate (HR)				
High HR	99<HR≤119	120<HR≤129	130<HR≤139	HR≥140
Low HR	44>HR≥39	40>HR≥36	HR≤35	
Breath Rate (RR)				
High RR	24<RR≤29	30<RR≤34	35<RR≤40	RR≥40
Low RR	11>RR≥9	8>RR≥7	RR≤6	
Systolic Blood Pressure (Sys BP)				
High BP	139<BP≤159	160<BP≤178	BP≥179	
Low BP	101>BP≥92	91>BP≥82	BP≤81	
Saturation (SpO2)				
Low_SpO2	94>SpO2≥93	92>SpO2≥91	SpO2≤90	
Temperature (Temp)				
High Temp	37.76<Temp≤38.32	38.32<Temp≤38.87	Temp≥38.88	
Low Temp	35.56>Temp≥34.99	35>temp≥33.32	Temp≤33.33	

The alerts (Tier 0,1,2,3) based on individual vital or based on composite score of vitals were raised on centralized monitoring station which was placed in the Inpatient Unit or the Day-Care Unit for the Hospital Cohort or was an App-based alert for the Home Cohort. The alerts by Dozee® were informed to the treating Physician or their designated team member by the nursing staff.

Vitals monitoring in the Control Arm: In the Hospital Cohort, patients in the Control Arm were monitored by spot checks conducted by nurses as per the hospital protocol and as per the instructions of the treating physician. These alerts were informed to treating Physicians or their designated team by the nursing staff. In the Home Cohort, those patients who were randomized to the control arm were monitored by the patient's caregivers based on the discharge instructions given to them by their treating team of doctors and nurses. The alerts, events, interventions & outcomes were recorded for patients monitored at home in similar manner as it was done in hospital. The emergency revisit to hospital based on Dozee® alert, caregiver alert was recorded for patients after discharge from hospital.

Alerts: The alerts on which any intervention (whether increased monitoring, diagnostic intervention, or therapeutic intervention) was done were classified as 'actionable alerts.' In the Dozee® arm, tier-based alerts were raised by the Dozee® system. While in the Control Arm they were raised by either the caregivers (in both the Hospital and Home Cohorts) or the healthcare workers such as the doctors or nurses in the Hospital Cohort. The details of all actionable alerts were recorded for both Dozee® and control arms. Values of all the vitals (Heart Rate, Respiratory Rate, Blood Pressure, Mean Arterial Blood Pressure, Oxygen Saturation, Temperature, GCS) were recorded at the time of actionable alert.

Events, Interventions, and Outcomes: Details of 'events' such as bleeding, seizure, cardiac arrest, deterioration in level of consciousness were recorded with date and time. 'Interventions' which were conducted done based on actionable alerts and/or events were recorded with date and time. The interventions were categorized as increased monitoring, diagnostic interventions, and therapeutic interventions. Diagnostic interventions included blood test, urine test, ECG, Radiologic tests (CT- Scan, MRI, PET Scan etc.). The therapeutic interventions included a change in medication, administration of Intravenous (IV) fluids, administration of oxygen, transfer to ICU, Cardio Pulmonary Resuscitation (CPR) or an emergency revisit to hospital in the Home Cohort. The details of 'outcomes', such as the necessity of admission to the ICU were recorded. In the patients who required ICU care, the details of, the duration of ICU treatment, the requirement of assisted ventilation, inotropes and dialysis were documented.

Statistical Analysis: The descriptive data were reported as means with standard deviation or medians with range and frequencies with percentages as appropriate. Continuous data were compared with t-test or Mann–Whitney U-test as appropriate. Proportions were compared using the Pearson's Chi-square test or Fisher's exact test. All statistical tests were two-tailed, with a P = 0.05 or less considered statistically significant. Data were analysed using the IBM SPSS Statistics for Windows, Version 23.0 /Stata 16.0.1.

Results

Baseline Characteristics

The patient demographics, disease and treatment details and the baseline vital parameters given in Table 2. All the baseline characteristics were comparable between the Dozee® and control arms. There was no statistically significant difference in the underlying diagnosis, past medical and surgical history, previous treatment and reason for admission between two groups at randomization.

Table 2: Baseline Characteristics.

	Dozee® (N=30) N (%) Median(range) Mean ± SD	Control (N=29) N (%) Median(range) Mean ± SD	P Value
Age	58.33 ± 15.15	56.80 ± 12.61	0.534
Gender:			
Male	15 (50)	15 (52)	1
Female	15 (50)	14 (48)	
Education:			
Below Graduate	17 (56.7)	18 (62.0)	
Graduate	3 (10.0)	7 (24.1)	0.149
Postgraduate	4 (13.3)	3 (10.3)	
Unknown	6 (20.0)	1 (3.4)	
Caregiver:			
Present	30 (100)	29(100)	
Diagnosis:			
Lymphoma	7 (23.3)	7 (24.1)	
AML	3 (10.0)	2 (6.9)	
Head & Neck Tumour	2 (6.7)	2 (6.9)	
Breast Cancer	3 (10.0)	4 (13.8)	0.733
GI Cancer	9 (30.0)	4 (13.8)	
Urologic & Gynaecological Cancer	1 (3.3)	3 (10.3)	
Others (MDS, Myelofibrosis, Multiple Myeloma)	6 (16.7)	7 (24.1)	
Stage of Diagnosis:	(N=14)	(N=13)	
Stage 1	1 (7.1)	1 (7.7)	
Stage 2	6 (42.9)	3 (23.1)	
Stage 3	2 (14.3)	6 (46.2)	0.325
Stage 4	5 35.7)	3 (23.1))	
Not applicable for haematological malignancies	-	-	

Medical & Surgical History:	(N=6)	(N=5)	
History of MI	1 (16.7)	1 (20.0)	
Major surgery in last 6 months	3 (50.0)	3 (60.0)	0.402
Others	2 (33.3)	-	
Unknown	-	1 (20)	
Funding Details:			
Govt. Scheme	11 (37.9)	9 (31.0)	
TPA	14 (48.3)	13 (44.8)	0.651
Out of pocket	4 (13.8)	6 (20.7)	
TPA+Out of pocket	-	1 (3.4)	
Previous Treatment:			
Low Intensity Chemo	2 (16.7)	-	
High Intensity Chemo	1 (8.3)	2 (16.7)	
Surgery for Solid Tumours	6 (50.0)	4 (33.3)	0.408
Stem Cell Transplantation	-	2 (16.7)	
Radiation Therapy	1 (8.3)	2 (16.7)	
Chemotherapy for solid tumour	2 (16.7)	2 (16.7)	
Reason of Visit:			
Stem Cell Transplantation	3 (10.0)	1 (3.4)	
Supportive Care	9 (30.0)	4 (13.8)	
Febrile Neutropenia	2 (6.7)	-	0.161
Chemotherapy	15 (50.0)	22 (75.9)	
Surgery	1 (3.3)	2 (6.9)	
Vitals at Randomization:			
Heart Rate	88.30 ± 15.37	88.93 ± 14.20	0.808
Respiratory Rate	19.43 ± 3.90	20.66 ± 1.14	0.076
BP Systolic	119.80 ± 13.47	119.03 ± 9.89	0.587
BP Diastolic	74.90 ± 7.97	75.38 ± 5.73	0.852
Mean Arterial BP	89.86 ± 8.45	89.93 ± 5.99	0.738
Oxygen Saturation	91.59 ± 24.93	94.87 ± 18.27	0.741
Temperature	94.46 ± 17.86	94.39 ± 18.17	0.687
Vitals at Discharge:			
Heart Rate	88.22 ± 13.24	83.37 ± 8.30	0.206
Respiratory Rate	20.19 ± 1.44	19.78 ± 1.25	0.306
BP Systolic	119.46 ± 11.62	122.59 ± 8.54	0.318
BP Diastolic	76.29 ± 7.15	77.59 ± 6.62	0.449
Mean Arterial BP	90.68 ± 7.04	92.60 ± 6.27	0.345
Oxygen Saturation	97.93 ± 2.17	98.89 ± 0.80	0.052
Temperature	97.76 ± 0.69	98.14 ± 0.58	0.052

The study involved a comparison between two arms: the Dozee®-monitored arm (30 patients) and the control arm (29 patients).

Hospital Cohort

In the Dozee® monitored arm, as indicated in Table 3, 7 patients (23.3%) received a total of 18 actionable alerts, whereas none were observed in the control arm (p=). These alerts were triggered after a median duration of 101.21 hours (range: 0.41 - 195.61) following randomization. As a result of these alerts in 7 patients in the Dozee® arm, 32 interventions were carried out. 4/7 (57%) patients underwent enhanced monitoring, 2/7 (29%) patients underwent additional diagnostic tests and 6/7 (86%) patients received additional therapeutic interventions. Out of these, 50% of the interventions were therapeutic interventions, 25% were diagnostic, and 25% were increased monitoring. Time to interventions post-alert in Dozee® was median 13 minutes (range 4-55 minutes). One patient in each arm required ICU care for ionotropic support. The patient in the Dozee® arm, who required ICU care, did so or 3 days while the one from the control arm was in the ICU for 17 days. In both arms, 1 patient experienced reduction in GCS scale without an alert, which required oxygen administration (Table 3).

Table 3: Results in Group I (Hospital Cohort).

Results (Hospital cohort)	Dozee® (30)	Control (29)	P-value
Actionable Alerts	**18**	**0**	
Actionable Alerts (No. of patients)	7 (23.3%)	0	0.006
1 Actionable Alert (No. of patients)	3 (42.9%)		
Patients with 2-3 Alert (No. of patients)	2 (28.6%)		
>3 Alert (No. of patients)	2 (28.6%)		
Time to Actionable Alert, Median (Range) in Hrs			
From Randomization to 1st Alert	101.21 (0.41-195.61)	N.A.	
1st Alert-2nd Alert	20.81 (6.05-38.45)		
2nd Alert-3rd Alert	21.43 (9.96-26.1)		
3rd Alert-4th Alert	10.35 (3.16-17.53)		
4th Alert-5th Alert	184.55 (100.35-268.75)		
Events			
Events (No. of Patients)	1	1	
1 Event (No. of Patients)	1 (3.33%)	1 (3.4%)	0.981
2-3 Event (No. of Patients)			
Event without Alert (No. of Patients)	1	1	
Event with Alert (No. of Patients)	0	0	
Type of Event			
Bleeding			
Seizure			
Cardiac Arrest			
Deterioration in GCS	1	1	
Intervention Based on Alert	**32**	**0**	
Enhanced Monitoring (No. of Patients)	4/7 (57%)		
Enhanced Monitoring (No. of Times)	8/32 (25.0%)		
Diagnostic Tests (No. of Patients)	2/7 (29%)		
Diagnostic Tests (No. of Tests)	8/32 (25.0%)		
Therapeutic Interventions (No. of Patients)	6/7 (86%)		
Therapeutic Interventions (No. of Interventions)	16/32 (50.0%)		
Intervention based on Event without Alert	**1**	**1**	
Enhanced Monitoring (No. of Patients)			
Enhanced Monitoring (No. of Times)			
Diagnostic Tests (No. of Patients)			
Diagnostic Tests (No. of Tests)			
Therapeutic Interventions (No. of Patients)	1	1	
Therapeutic Interventions (No. of Interventions)	1	1	
Time to Intervention [Median, (Range)] in Minutes post Alert	**13 (4-55)**	**N.A.**	
Time to Intervention 1	12 (10-23)		
Time to Intervention 2	15 (4 – 55)		
Time to Intervention 3	25 (8 – 44)		
Time to Intervention 4	13		
Time to Intervention 5	15 (2 – 28)		
Time to Intervention [Median, (Range)] in Minutes when Event occurred without Alert			
Time to Intervention 1	25	5	0.317

Outcome			
Transfer to ICU (No. of patients)	1/30	1/29	0.981
Put on Inotropes (No. of patients)	1/30	1/29	0.981
Put on Ventilator (No. of patients)			
Days in ICU	3	17	
Days on Inotropes	3	4	
Days on Ventilator	-	-	

Home Monitoring Cohort

Although 30 patients were randomized to the Dozee®-monitored arm, the Dozee® device could be fitted in the home of only 18 patients. Failure of installing the Dozee® device in the homes of 8 patients was due to multiple reasons like unavailability of proper bed to install device, patient relocated to some other place, one patient reported discomfort with technology. The control arm in the Home Cohort had 28 patients, there was no dropout. 2 (11.11%) patients in the Dozee® monitored arm received 2 actionable alerts. There were no actionable alerts in control arm. The time from discharge to actionable alert in Dozee® arm was a median of 139.48 hours (range 80.5 -587.66 hours). 2/2 (100%) patients had therapeutic intervention in Dozee® arm. One patient visited emergency department based on the Dozee® alert and had to be transferred to the ICU due to sepsis. The other patient required an increase in the dose of antihypertensive medication based on the Dozee® alert. Details of this are given in (Table 4).

Table 4: Results in Group I (Home Cohort).

Results (Home Cohort)	Dozee® (18)	Control (28)
Actionable Alerts (Dozee® Generated)	**2**	**0**
Actionable Alerts (No. of patients)	2 (11.11%)	0
1 Actionable Alert (No. of patients)	2 (11.11%)	0
Actionable Alerts (Non Dozee®)	**1**	**0**
Actionable Alerts (No. of patients)	1 (5.55%)	0
1 Actionable Alert (No. of patients)	1 (5.55%)	0
Time to Alert [Median, (Range)] in Hrs		
From discharge to 1st Alert	139.48 (80.5-587.66)	-
Events	**0**	**0**
Intervention Based on Dozee® Alert	**2**	**0**
Diagnostic Intervention (No. of Patients)	0	0
Diagnostic Intervention (No.)	0	0
Therapeutic Intervention (No. of Patients)	2	0
Therapeutic Intervention (No.)	2	0
Intervention not based on Dozee® Alert	**3**	**0**
Diagnostic Intervention (No. of Patients)	1	0
Diagnostic Intervention (No.)	1	0
Therapeutic Intervention (No. of Patients)	1	0
Therapeutic Intervention (No.)	2	0
Time to Intervention [Median (Range)] in Minutes		
Time to Intervention 1	270 (11-1515)	-
Outcome		
Transfer to ICU (No. of Patient)	1	0

Discussion

The results of our study demonstrate the potential clinical utility of Dozee® monitoring in both hospital and home settings. In the hospital monitoring phase, Dozee® was associated with increase in significant actionable alerts, leading to therapeutic and diagnostic interventions as well as enhanced monitoring in a subset of patients. These findings are consistent with previous research indicating the effectiveness of continuous remote monitoring systems in identifying early signs of deterioration and facilitating timely interventions [17-20].

While the overall outcomes, such as transfer to the Intensive Care Unit (ICU) and use of inotropes, did not show statistically significant differences between the Dozee® and control arms, it is important to note the numerical trend towards fewer days spent in the

ICU in the Dozee® arm. The current findings, which align with earlier studies, indicate that the use of Continuous Monitoring System Technology in hospital settings to optimize clinical practices may yield favourable outcomes, including reductions in ICU utilization, Length of Stay, and associated costs [21]. This suggests a potential benefit of Dozee® monitoring in preventing or mitigating the need for intensive care, although further studies with larger sample sizes are warranted to confirm these observations. In the home monitoring phase, Dozee® continued to demonstrate its ability to generate clinically significant actionable alerts, resulting in therapeutic interventions and timely hospital admissions. The variability in the time to the first alert after discharge underscores the importance of continuous monitoring in detecting subtle changes in patients' health status, particularly in the post-discharge period when they may be at risk of deterioration [22-24].

The interventions triggered by Dozee® alerts, including adjustments to medication dosages and timely hospital admissions, highlight its role as a valuable tool in remote patient management. These findings align with previous studies indicating the potential of remote monitoring technologies to improve patient outcomes and reduce healthcare costs by preventing unnecessary hospital readmissions and complications [25-27]. The observed increase in actionable alerts presents a promising avenue for potentially enhancing clinical outcomes, including reductions in mortality rates and decreased incidence of ICU transfers. These assertions find support in our study's findings, as well as corroborating evidence from previous research. [28,29]. Collectively, the evidence suggests that increasing the frequency and sensitivity of actionable alerts within remote monitoring systems has the potential to yield tangible improvements in patient outcomes, including reductions in mortality rates and mitigated risks of ICU transfers.

However, it is important to acknowledge the limitations of our study, including the relatively small sample size and the need for further analysis to fully understand the clinical implications of Dozee® alerts. Future research should explore the long-term impact of Dozee® monitoring on patient outcomes, as well as its integration into existing healthcare systems to optimize its effectiveness in routine clinical practice.

Conclusion

Our phase II randomized controlled trial evaluating remote continuous patient monitoring using the Dozee® Early Warning System (iEWS) in cancer patients undergoing active treatment demonstrates promising results for improving clinical outcomes. The use of Dozee® led to a higher number of actionable alerts, facilitating timely interventions and closer monitoring both in hospital and home settings. These interventions ranged from enhanced monitoring to diagnostic and therapeutic interventions, potentially averting adverse events and reducing the need for ICU transfers. While our study suggests the potential clinical utility of Dozee® monitoring, larger-scale investigations are needed to confirm these findings and assess its long-term impact on patient outcomes. Nevertheless, the observed increase in actionable alerts highlights the importance of continuous remote monitoring in detecting early signs of deterioration and enabling timely interventions. Incorporating technologies like Dozee® into routine clinical practice may offer a valuable tool for improving patient care and reducing healthcare costs by preventing complications and optimizing resource utilization.

Ethics Statement

The studies involving human participants were reviewed and approved by Ethics Committee of HealthCare Global (HCG) Hospital, Bengaluru, India. Written informed consent to participate in this study was provided by the participants.

Author Contributions

SJ involved in the Conception, Design of the work, Analysis, Interpretation of data, and Revision of drafted work. AA involved in the Acquisition, Analysis, Interpretation of data, and Revision of drafted work. KC involved in the Interpretation of data, and Revision of drafted work. GP involved in the Conception, Design of the work, Analysis, Interpretation of data, and Revision of drafted work. PK involved in the Acquisition, Analysis, Interpretation of data, and drafted the work and Revision of drafted work. All authors approved the final manuscript as submitted and agreed to be accountable for all aspects of the work.

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Guarantor

No specific guarantor was designated for this study.

Conflicting Interests

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Summary

Our study underscores the importance of leveraging innovative technologies for remote patient monitoring in non-ICU settings, particularly in high-risk populations such as cancer patients undergoing active treatment. Further research is warranted to elucidate the full potential of Dozee® monitoring and its integration into comprehensive care strategies aimed at enhancing patient outcomes and reducing healthcare burden.

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