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Research Article

Patient Safety Incident Report Trend In Hospital Pulau Pinang

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ABSTRACT

Introduction There has been tremendous emphasis on patient safety in the past decade, and more so in the recent years. Each year, there are approximately 134 million adverse events which take place in mostly low- and middle-income countries. The initial MPSG implemented since 2013 consisted of 13 goals for hospitals with Intensive Care Units, and 11 goals for hospitals without Intensive Care Units, with 4 goals for clinics. In the launching of MPSG 2.20, there are only 7 goals, with 9 KPIS which are included for monitoring in hospitals, and 4 goals for clinics (Patient Safety Council Malaysia & Medical Care Quality Section 2021).
Objective The objective of this study is to outline the trend of patient incident reports which occur in Hospital Pulau Pinang in the past 5 years.
Methodology – this is a study which compares the trend of patient incidents which occur in Hospital Pulau Pinang for the past 5 years including the current year.
Results The results showed a total 308 incidents in year 2020, with decreasing trend in 2021 and 2022 which are 269 incidents and 184 incidents respectively. While in 2023, there is a surge in number of patient safety incidents; total of 319 incidents. In 2024, the data collected was only from January to June 2024 showed a total 196 patient safety incidents.
Discussion It seemed that the total incident reports decreased initially and this could be due to the hospital being a hub of referral for COVID-19 patients, where during the peak, 13 wards and 4 ICUs were utilised for COVID-19 patients in the region, out of the 63 total wards available.
Conclusion The number of incident reports per year is noted to be high. However, there needs to be more training and awareness among our healthcare workers with regards to the availability of this system and the maturity of the Incident Reporting System.

Keywords: Incident report, patient safety, trending and tracking, Ministry of Health

Introduction

There has been tremendous emphasis on patient safety in the past decade, and more so in the recent years. Many studies and literature have been churned out, focusing on patient safety in healthcare industry. As it is, patient safety mishaps occur in the healthcare settings throughout the world. Each year, there are approximately 134 million adverse events which take place in mostly low- and middle-income countries. Out of these numbers about 2.6 million hospitalized patients succumb to the adverse events. According to a study by Donaldson et al (2021), about 10% of those hospitalized in high-income countries were noted to suffer harm when healthcare was sought in hospitals.

A patient safety incident is said to have occur if there is an unintentional or unexpected happenings which has the likelihood to cause harm to the patient receiving care (NHS, 2023). There is a template for patient safety incident classification, which are similar throughout the world, as patient safety is an initiative born by the World Health Organisation (WHO). This classification includes an incident which causes harm to the patient, a near miss, a potential harm incident, or no harm incident. An incident which causes harm to the patient is further classified as an adverse event. (Patient Safety Council Malaysia & Medical Care Quality Section 2021). There is a precedence that in order to provide safe care to patients, which ensures patient safety, adverse events and errors in patient care must be avoided in the process of provision of patient care. It is noted that patient safety efforts have been taken by Ministry of Health Malaysia with guidelines and regulations that necessitate hospitals to provide safe, effective, patient-centric, and timely care to all patients who are seen in hospital, be it outpatient or inpatient.

Starting from 2013, Malaysia was noted as one of the few countries which launches its own national patient safety goals which were used by all hospitals and healthcare facilities throughout the nation. This effort is named the Malaysian Patient Safety Goals or in short MPSG. This effort has brought a new light to patient safety in the nation as the country incessantly make it an emphasis for extra efforts to achieve the goals set out in MPSG. It has ignited a large interest on patient safety throughout the country, apart from it being a singular benchmarking for patient safety in the nation. It has evolved throughout the years and has become a 'branding' of its own in Malaysia, both in the private and public sector clinics and hospitals. Even though the initial intention in launching Malaysian Patient Safety Goals is to highlight the main priority areas of patient safety issues and provide a wholesome patient safety status in the nation, it has carved a larger niche in creating a huge impact on outlining the importance of patient safety culture among both the healthcare staff and patients (Patient Safety Council Malaysia & Medical Care Quality Section 2021). In Malaysia, a system has been developed by the Patient Safety Unit in Headquarters of Ministry of Health Malaysia, where an e-Incident Reporting system has been established to report these incidents to the headquarters. Actions taken within the Ministry of Health is to establish a new programme, policy and guideline to tackle the increasing patient safety incidents, strengthening the existing programmes of Patient Safety initiatives, and disseminating knowledge and information by establishing training and seminars, and promoting various highlights of patient safety efforts to improve the healthcare system (Patient Safety Council Malaysia & Medical Care Quality Section 2021).

In its infancy, the initial MPSG implemented since 2013 consisted of 13 goals for hospitals with Intensive Care Units, and 11 goals for hospitals without Intensive Care Units, with 4 goals for clinics. However, in the launching of MPSG 2.20, the indicators have since gone through transformation and more consolidated and practical goals have been chosen as priority areas in patient safety which necessitate monitoring. There are only 7 goals, with 9 KPIS which are included for monitoring in hospitals, and 4 goals for clinics (Patient Safety Council Malaysia & Medical Care Quality Section 2021).

The KPIs which are monitored are:
1. Hand Hygiene Compliance Rate
2. Catheter Associated Blood Stream Infection (CABSI) Rate
3. Number of wrong surgeries performed
4. Number of unintended retained surgical items
5. Medication Safety (Medication without harm) – number of medication error related to severe harm or death
6. Transfusion safety – Number of actual incorrect blood transfusion transfused
7. Patient fall prevention – rate of patient fall in inpatient and outpatient
8. Number of incident caused by wrong patient identification
9. Implementation of Patient Safety Incident Reporting and Learning System

Hospital Pulau Pinang is a tertiary hospital in the northern region, and is the largest and main referral hospital for all patients in the northern region of Malaysia. It houses clinical services of 91 specialties and subspecialties and have 538,000 outpatients in past year with 30,000 surgeries in the last year itself. Hence, there is very important effort taken by the hospital to reduce the number of adverse events with its large number of patients in the hospital.

Objective – the objective of this study is to outline the trend of patient incident reports which occur in Hospital Pulau Pinang in the past 5 years.

Methodology – this is a study which compares the trend of patient incidents which occur in Hospital Pulau Pinang for the past 5 years including the current year.

Results

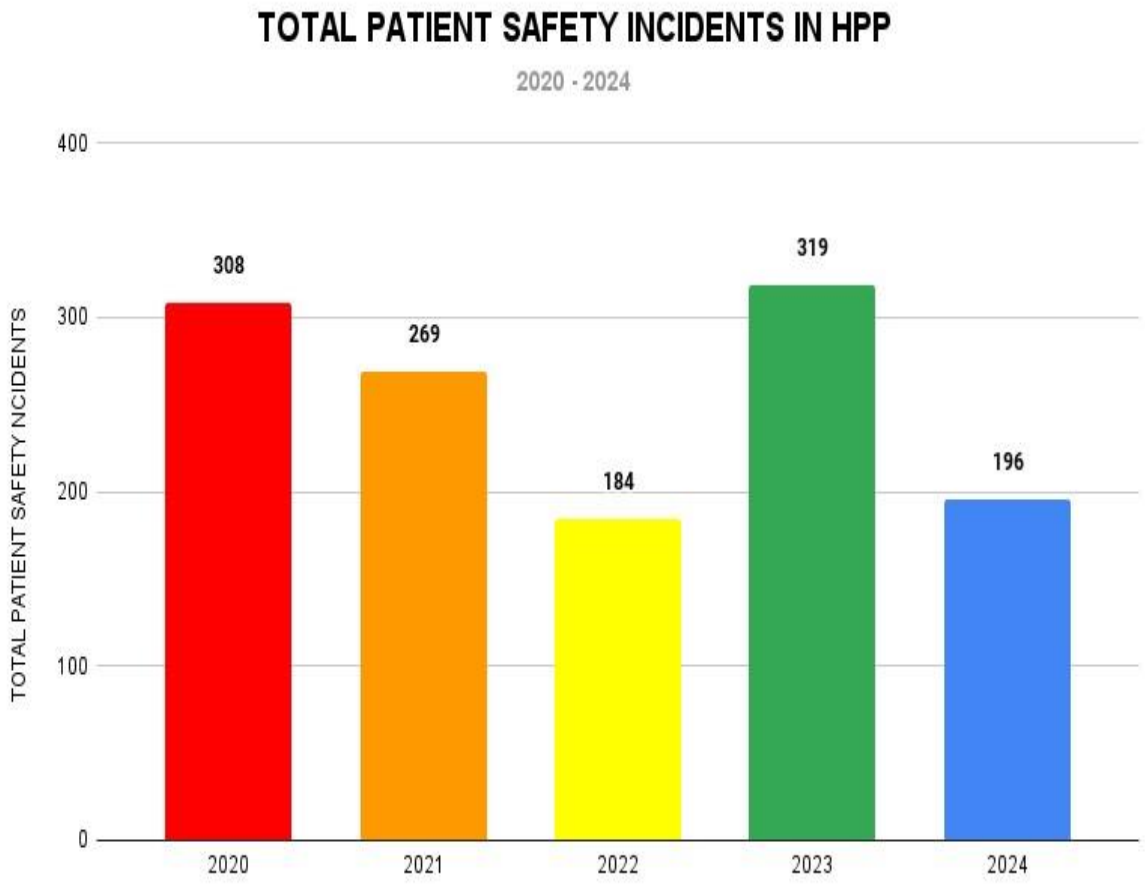

Figure 1

The results in **Figure 1** shows the distributions of total Patient Safety Incidents reported in Hospital Pulau Pinang for five years, year 2020 until year 2024. The results showed a total 308 incidents in year 2020, with decreasing trend in 2021 and 2022 which are 269 incidents and 184 incidents respectively. While in 2023, there is a surge in number of Patient safety incidents; total of 319 incidents. In 2024, the data collected was only from January to June 2024 showed a total 196 patient safety incidents.

Figure 2 shows types of Patients Safety Incidents reported in Hospital Pulau Pinang for the year 2020 until the year 2024 categorized according to Incident Reporting Form 2.0 (IR Form 2.0). The total patient safety incidents reported over the five years are 1276. The highest reported patient safety incidents are the others types of incident; 608 patient safety incidents (47.7%). The list of others types of incident reported in Hospital Pulau Pinang are showed in **Table 1**. This is followed by fall in the facility; 352 patient safety incidents (27.6%), medication error; 133 patient safety incidents (10.4%) and transfusion error; 93 patient safety incidents (7.3%). The remaining patient safety incidents reported are assault/battery of patient; 39 incidents (3.1%), adverse outcome of clinical procedure; 18 incidents (1.4%), patient suicide; 14 incidents (1.1%), obstetrics related incidents; 10 incidents (0.9%), pre-hospital care and ambulance service related incident; 3 incidents (0.2%) and unintended foreign body in patient after an operation/procedure; 3 incidents (0.2%). Only 1 incident (0.007%) reported for wrong surgery/procedure (year 2023), radiotherapy related incidents (year 2021) and unanticipated fire (year 2023) reported in these five years. Otherwise no incident of patient discharged to wrong family members (0%).

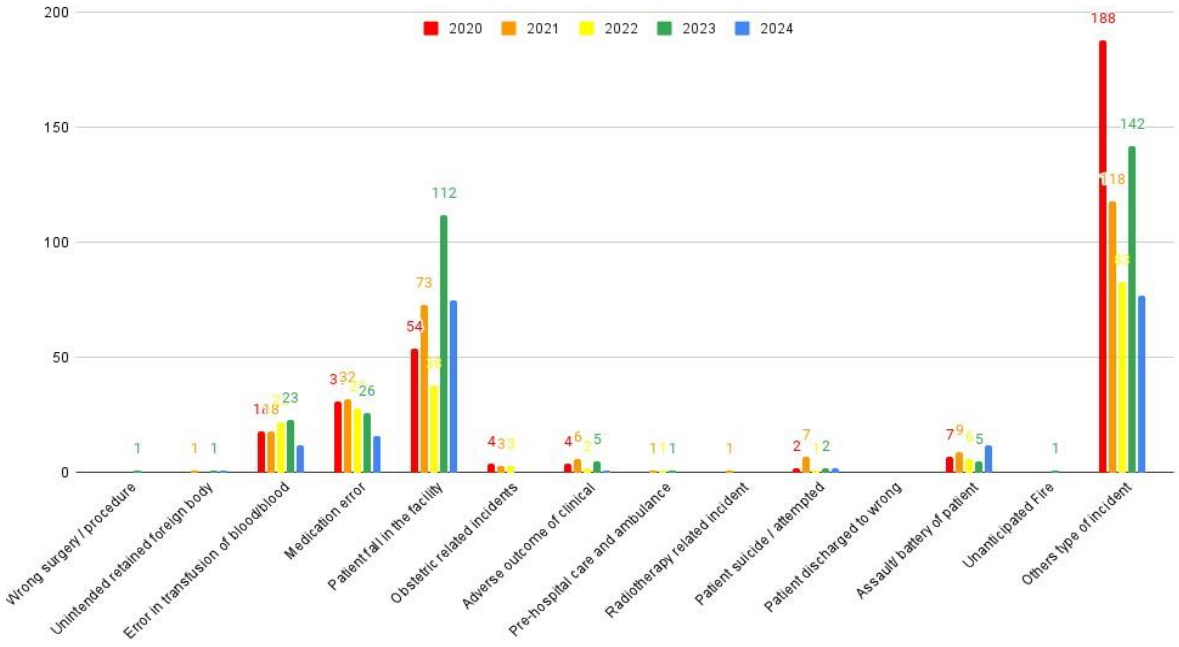

Figure 2

Table 1

No	Other types of incident
1.	Postponed/Cancel Operation
2.	Patient absconded / attempted to abscond
3.	Self Extubation / ETT dislodged
4.	Mislabelled specimen
5.	Injury from ward environment (Ceiling fell on patient /protruding nail)
6.	Admission issue / refuse to review
7.	Damage / Failure of Equipment in OT
8.	Injury During Restrain
9.	Wrong X-Ray Provided/Taken
10.	Sample Mixed / missed / switched / Missing
11.	Delay in transporting patient GOT/HDA
12.	Diathermy Burn
13.	Missed Diagnosis
14.	Discrepancy/ mislabeled/wrong X-RAY Identification
15.	Patient long waiting in OT
16.	Vacuum / Air Conditioning Failure during Operation
17.	Patient deliberate self-harm
18.	Patient being aggressive in ward
19.	Wrong Identification
20.	Incomplete implant Set
21.	Missing Immunofluorescence sample
22.	Ray Tec Gauze Missing during Op.
23.	Bone marrow cytogenetic sample missing
24.	Failure in securing GSH/GXM
25.	Patient given sedation but CTPA Cancelled
26.	Wrongly printed HPE in other's patient report
27.	Delay in sending sample
28.	Right IJC Dislodge
29.	Air in Infusion Tubing
30.	Power Blackout During Operation (Load Test)
31.	Over Supply Oral Tramadol
32.	Patient Transfer not Follow SOP (PSY/AE)
33.	Delayed in patient Treatment (AE)
34.	Mismatched Of Tissue Reagent Installed
35.	Delay in postoperative CXR
36.	Blood sample kept in fridge and sent after 14 days
37.	Ventilation within 24 hours in ward after T/O from ICU
38.	Patient harassed by methadone patient
39.	Missed medication due to unavailibility of floor stock
40.	UAC retained at base
41.	10-0 suture sucked in sucker

Patients safety incidents reported are further classified as actual incident and near miss which are shown in **Table 2**. The total 308 patient safety incidents in 2020 with 294 actual incidents (95.5%) and 13 near miss incidents (4.5%). In the year 2021, 249 incidents (92.6%) are actual and 20 incidents (7.4%) are near miss followed by 167 actual incidents (90.8%) and 17 near miss (9.2%) in subsequent year. The actual incidents in 2023 are 297 (93.1%) and near miss incidents are 22 (6.9%). In 2024 up to Jun, there are 185 actual incidents (94.4%) and 11 near miss incidents (5.6%) from a total of 196 patient safety incidents reported. In total, there are 1192 actual patient safety incidents (93.4%) and 84 near miss incidents (6.6%) reported in Hospital Pulau Pinang in these 5 years of duration.

Table 2

INCIDENT REPORTING HOSPITAL PULAU PINANG											
BIL	TYPE OF INCIDENT	2020		2021		2022		2023		2024	
		Actual	Near Miss	Actual	Near Miss	Actual	Near Miss	Actual	Near Miss	Actual	Near Miss
i	**Wrong surgery / procedure**							1			
ii	**Unintended retained foreign body in patient after an operation /procedure**			1				1		1	
iii	**Error in transfusion of blood/blood products**	4	14	1	17	8	14	3	20	1	11
iv	**Medication error**	31		29	3	26	2	25	1	16	
v	**Patient fall in the facility**	54		73		38		112		75	
vi	**Obstetric related incidents**	4		3		3					
vii	**Adverse outcome of clinical procedure**	4		6		2		5		1	
viii	**Pre-hospital care and ambulance service related incident**			1		1		1			
ix	**Radiotherapy related incident**			1				0			
x	**Patient suicide / attempted suicide**	2		7		1		2		2	
xi	**Patient discharged to wrong family members / next-of -kin**							0			
xii	**Assault/ battery of patient**	7		9		6		5		12	
xiii	**Unanticipated Fire**							1			
iv	**Other types of incident**	188		118		82	1	141	1	77	
TOTAL		294	14	249	20	167	17	297	22	185	11
		308		269		184		319		196	

Discussion

As a general trend, the total numbers of incidents declined from 2020 to 2022, and an increase in 2023 and the first half of the year 2024. It seemed that the total incident reports decreased initially and this could be due to the hospital being a hub of referral for COVID-19 patients, where during the peak, 13 wards and 4 ICUs were utilised for COVID-19 patients in the region, out of the 63 total wards available.

Denning et al (2020) have supported the findings of this incident report trending which shows up in their study too. They reported a significant decrease in number of patient safety incidents during the COVID-19 pandemic compared to times prior to that. One of the reasons found to contribute to this trend is the decreased opportunities for these safety incidents to arise. This has proven to be the case as well for Hospital Pulau Pinang, as the wards are filled with COVID-19 patients during the height of the pandemic. Other than these, Denning et al have attributed the cause of reduction in patient safety reports to medical staff's increased workload, and a different paradigm of error perception among the healthcare workers.

A study by Kawaguchi et al. (2024) has further found that there have been discrepancy in patient safety incidents among the non-COVID patients compared to cohort of COVID patients. The group of patients with COVID-19 diagnosed, seemed to chart 135 incident reports in 52 patients, whereas the group of patients without COVID-19 diagnosis chart a total of 189 incident reports in 110 patients. The percentage of incident reports among the COVID-19 group was 49.1%, whereas the incident reports among the non-COVID 19 group was 24.4%. It seemed that the non COVID-19 patients had charted a statistically significant ($p<0.001$) reduction of patient reports compared to the patients with COVID-19. However in this particular study, the keywords that kept showing on the incident reports revolve around "respiratory," "circuit," "settings," "connection," ventilator," "tape," "artificial nose," and the parameters that relate to the COVID-19 illness (Kawaguchi, Kakeya & Nakagami-Yamaguchi 2024).

However in Hospital Pulau Pinang, we received very few incident reports with regards to these parameters. Our parameters for incident reports revolve around the patient safety incidents as stipulated in our result section.

There are many parameters which need to be addressed in order to make sure that patient safety become a paramount agenda in a tertiary care centre. The healthcare workers need to understand that patients have legitimate expectation to get well when they come to hospital, instead of the general onus that only those who are critically unwell are admitted to the hospital.

According to Dhamanti et al. 2024, a variety of reasons have been reported to cause a barrier to incident reports, and these include worry and fear, lack of protection, insufficient awareness, and insufficient training.

Conclusion

In conclusion, the Incident Reporting System which has been implemented in Hospital Pulau Pinang is sufficient to capture the main patient safety incidents which occur in the hospital. The number of incident reports per year is noted to be high. However, there needs to be more training and awareness among our healthcare workers with regards to the availability of this system and the maturity of the Incident Reporting System. As it is, it is postulated that 1 in 10 inpatients suffer from some form of patient safety incidents. Hence there is generally still an under-reporting in the hospital. However, we also aim to increase awareness and training which will increase number of patient safety incidents, at the same time also trying to decrease the numbers of patient safety incidents by practising good medical practice.

Hence it is a very interesting future and outlook surrounding this topic. More research into patient incidents can be explored in the future, and this report brings further advancement to an already well-researched topic.

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