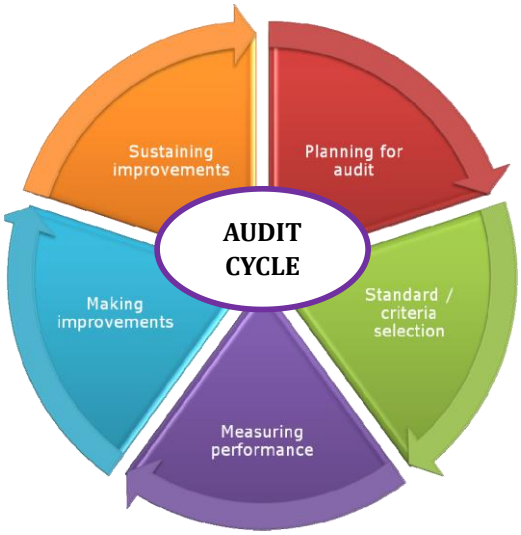
DEDER GENERAL HOSPITAL

EMERGENCY INJURY AND CRITICAL CARE DEPARTMENT



CLINICAL AUDIT TO IMPROVE THE QUALITY OF CLINICAL CARE OF EMERGENCY MANAGEMENT OF POISONING PATIENTS

By: Murad Amin (BSc Nurse)- Emergency head

Dr.Samuel Shimelis (MD, Emergency Director)-Team leader

Advisors:

☞ ***HSQU Team***

Dader, Oromia

December 2017E.C

Emergency and critical care case team clinical Audit/QI members

S/N	**Full Name**	**Status**	**Role**
1.	Dr.Samuel Shimelis	Emergency Director	Chairperson
2.	Murad Amin	Emergency Head	Secretary
3.	Wardi Usman	Staff	Deputy Secretary
4.	Dachas Shamsadin	Staff	Member
5.	Zabib Abrahim	Staff	Member
6.	Alamudin Sufiyan	Staff	Member
7.	Yosef Tesfaye	Staff	Member
8.	Buzu Seyum	Staff	Member

Table of Contents

Emergency and critical care case team clinical Audit/QI members 2
Lists of Figures and Tables 4
Implementation Status of Previous Action Plan 5
Background 5
Aim 5
Objectives 5
Methods 6
Study area & period 6
Study design 6
Source population 6
Sampling technique 6
Study Variables 6
Data collection method 6
Data Processing & analysis 6
RESULT 7
Recommendations 13
References 14

Lists of Figures and Tables

Figure 1: score for each criterion/standard for emergency management of poisoning patients, *Dec 2017E.C* 9
Figure 2: Appropriate evaluation and management 10
Figure 3: **Appropriate history and physical examination** 11
Figure 4: Appropriate history and physical examination 12

Table 1: ACTUAL PERFORMANCE ANDV PERFORMANCE AGAINST TARGET 8

Implementation Status of Previous Action Plan

The previous action plan aimed to address gaps in the emergency management of poisoning patients. Key interventions included training healthcare providers on standard poisoning care principles, improving documentation practices, and ensuring the availability of diagnostic resources. Implementation showed improvement in some areas, such as the identification information and disposition documentation, achieving 100% compliance. However, significant gaps remained in conducting relevant investigations (29%) and detailed history-taking (70%)

Background

Poisoning is a critical public health issue requiring timely and effective emergency care to prevent morbidity and mortality. The management of poisoning patients involves systematic identification, evaluation, treatment, and disposition based on evidence-based guidelines. Clinical audits are essential to assess adherence to standard care practices and identify areas for improvement. This audit was conducted to evaluate the quality of clinical care provided to poisoning patients in the emergency department.

Aim

- To improve the quality of clinical care for poisoning patients in the emergency department by identifying gaps in practice and implementing targeted quality improvement interventions.

Objectives

- To improve the quality of clinical care provided to a patient presenting to ED with poisoning
- To ensure poisoning patients presenting to the ED are resuscitated appropriately
- To ensure poisoning patients presenting to the ED are evaluated appropriately
- To ensure identification of exact poisoning or toxidrome identification is done in the ED
- To ensure appropriate initial treatment is started in the ED

Methods

Study area & period

The clinical audit was conducted in EOPD of Deder General Hospital from September 21-December 20, 2017EC

Study design

Retrospective cross-sectional study

Source population

All patients poison come to and cards are available during the study period.

Sampling technique

A total of 10 medical records (client chart) of the last reporting quarter should be sampled for the audit. The individual client charts were withdrawn by systematic random sampling. Clinical audit is not research. It is about evaluating compliance with standards rather than creating new knowledge, therefore sample sizes for data collection are often a compromise between the statistical validity of the results and pragmatic issues around data collection i.e., time, access to data, costs. The sample should be small enough to allow for speedy data collection but large enough to be representative. In some audits the sample will be time driven and in others it will be numerical.

Study Variables

Dependent variables:

Poison care

Independent Variables

Demographic poison, Emergency OPD

Data collection method

Data extraction sheet was adapted from National clinical audit tool

Data Processing & analysis

Data from extraction sheets was manually verified and entered into the SPSS version 25 software for analysis. The software checked data types, sizes, classifications, and allowable values. Corrections were made, and the findings were presented in tables and figures.

RESULT

The overall compliance rate was calculated at 79%, emphasizing the need for targeted interventions to bridge the remaining gaps (**figure 1**).

The audit revealed mixed compliance levels across various components of emergency care for poisoning patients. Identification information, diagnosis, treatment, and disposition all achieved 100% compliance, indicating that standard protocols for these aspects are well-established and adhered to effectively. Similarly, documentation of care provider identification and patient discharge outcomes also demonstrated perfect compliance, reflecting robust administrative practices in these areas. However, significant gaps were identified in conducting relevant investigations (29%) and detailed history-taking and physical examinations (70%). These deficiencies suggest potential limitations in resource availability, clinical workflow, or provider training. Evaluation and management of acute life-threatening injuries scored 96%, indicating minor lapses that require attention (**Table 1**).

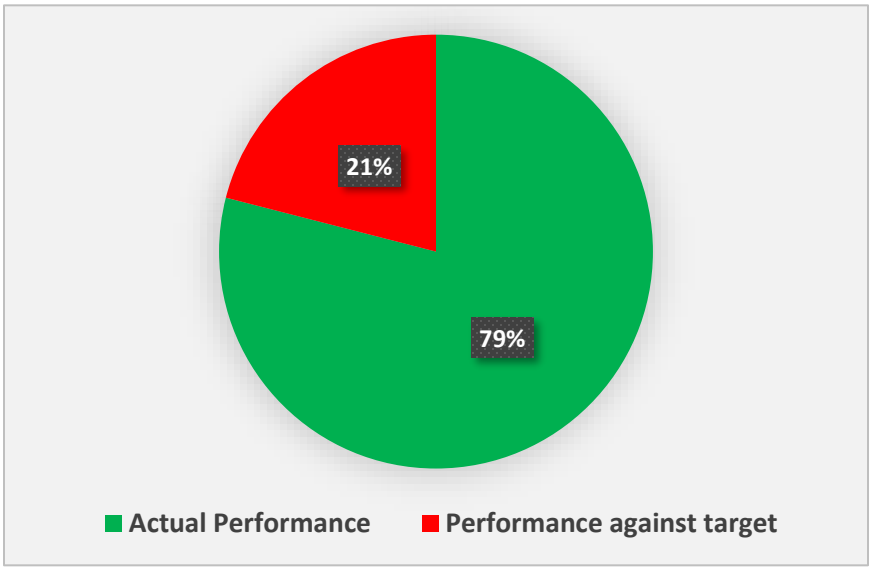


Figure 1: Overall Performance of emergency Management Poisoning Patients, Dec, 2017E.C

Table 1: ACTUAL PERFORMANCE ANDV PERFORMANCE AGAINST TARGET

Sno	**Variables**	**Target**	**Actual Performance**	**Performance against target**
1	Identification information recorded	100	100	0
2	Evaluation and management of acute life-threatening injuries	100	96	4
3	Detailed history and physical examination	100	70	20
4	Relevant investigation (RFT, LFT, Coagulation profile, and ECG) conducted	100	29	79
5	Accurate diagnosis	100	100	0
6	Appropriate treatment	100	100	0
7	Appropriate disposition:	100	100	0
8	Care provider identification documented	100	100	0
9	Patient discharged alive	80	100	0
	Total Percentage (%)	**100**	**795/9=70**	**103**

Graph showing score for each criterion/standard for emergency management of poisoning patients.

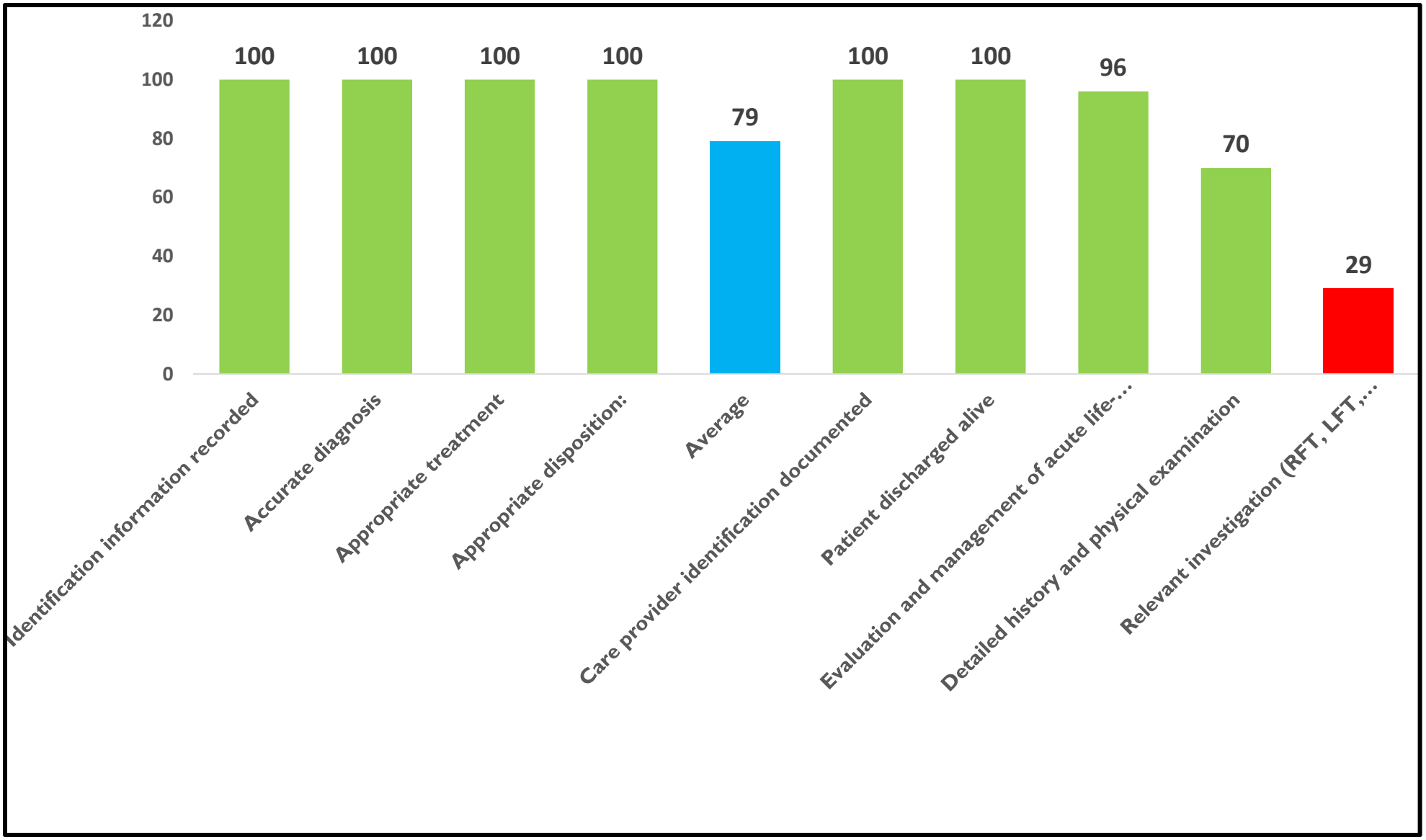


Figure 1: score for each criterion/standard for emergency management of poisoning patients, ***Dec 2017E.C***

GRAPH SHOWING APPROPRIATE EVALUATION AND MANAGEMENT

The evaluation of acute life-threatening poisoning management demonstrates strong compliance with critical interventions, such as airway management, oxygen administration, IV access establishment, and decontamination, each achieving compliance rates of 95–100%. However, areas requiring improvement include Glasgow Coma Scale (GCS) assessment (60%) and Random Blood Sugar (RBS) monitoring (79%), which are crucial for neurological and metabolic support. These gaps suggest a need for enhanced training and reinforcement of protocols to ensure consistent application of these assessments. Overall, the results reflect a well-implemented poisoning care protocol with opportunities for targeted improvements to further optimize patient outcomes (**figure2**).

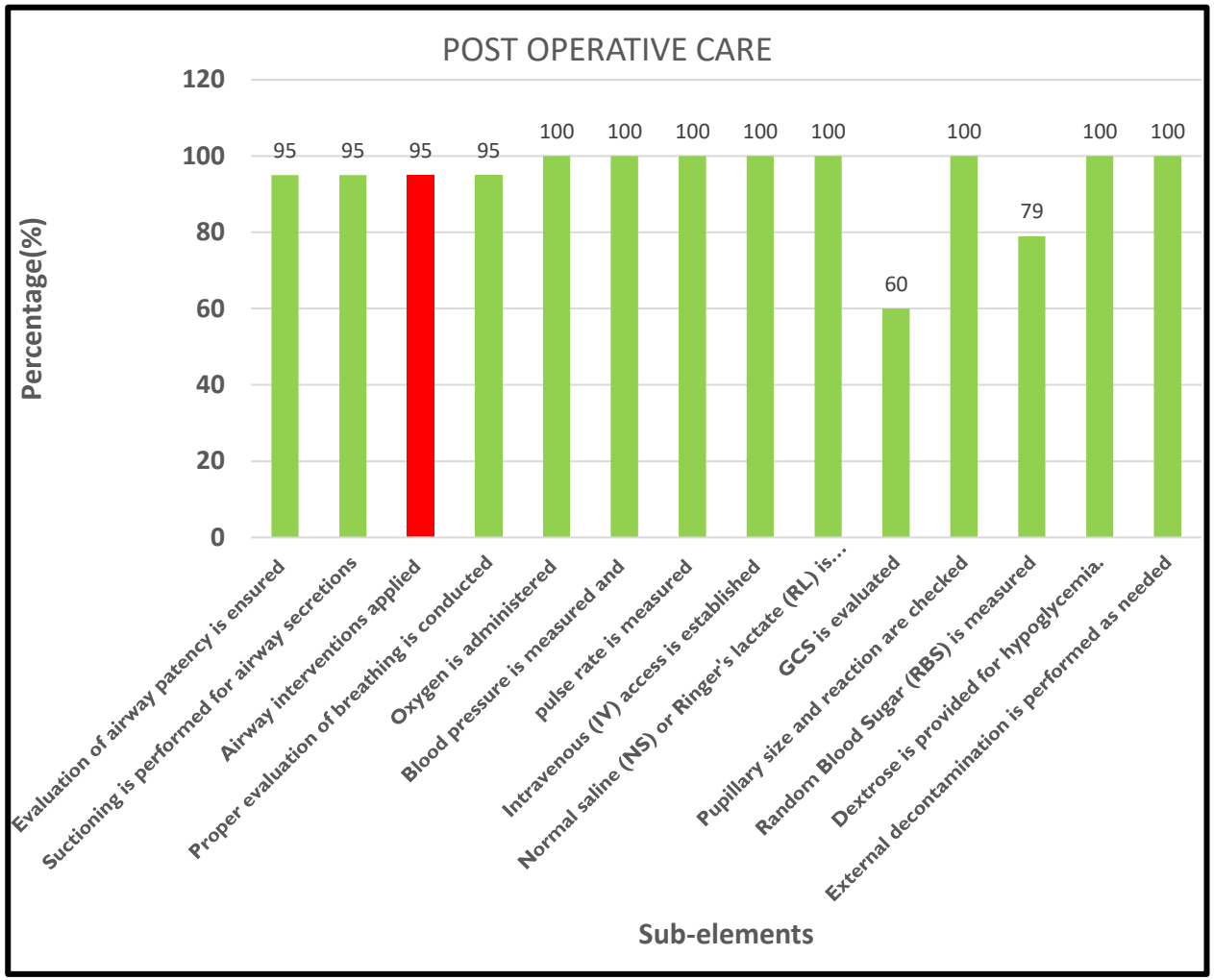


Figure 2: Appropriate evaluation and management

GRAPH SHOWING APPROPRIATE HISTORY AND PHYSICAL EXAMINATION

While several critical aspects of history-taking and examination were completed thoroughly (e.g., signs/symptoms, type of poisoning, time of exposure), some areas, such as allergy/medication history and last oral intake, were entirely omitted. Additionally, the inquiry into the reason for exposure was only partially addressed. (**figure *3***).

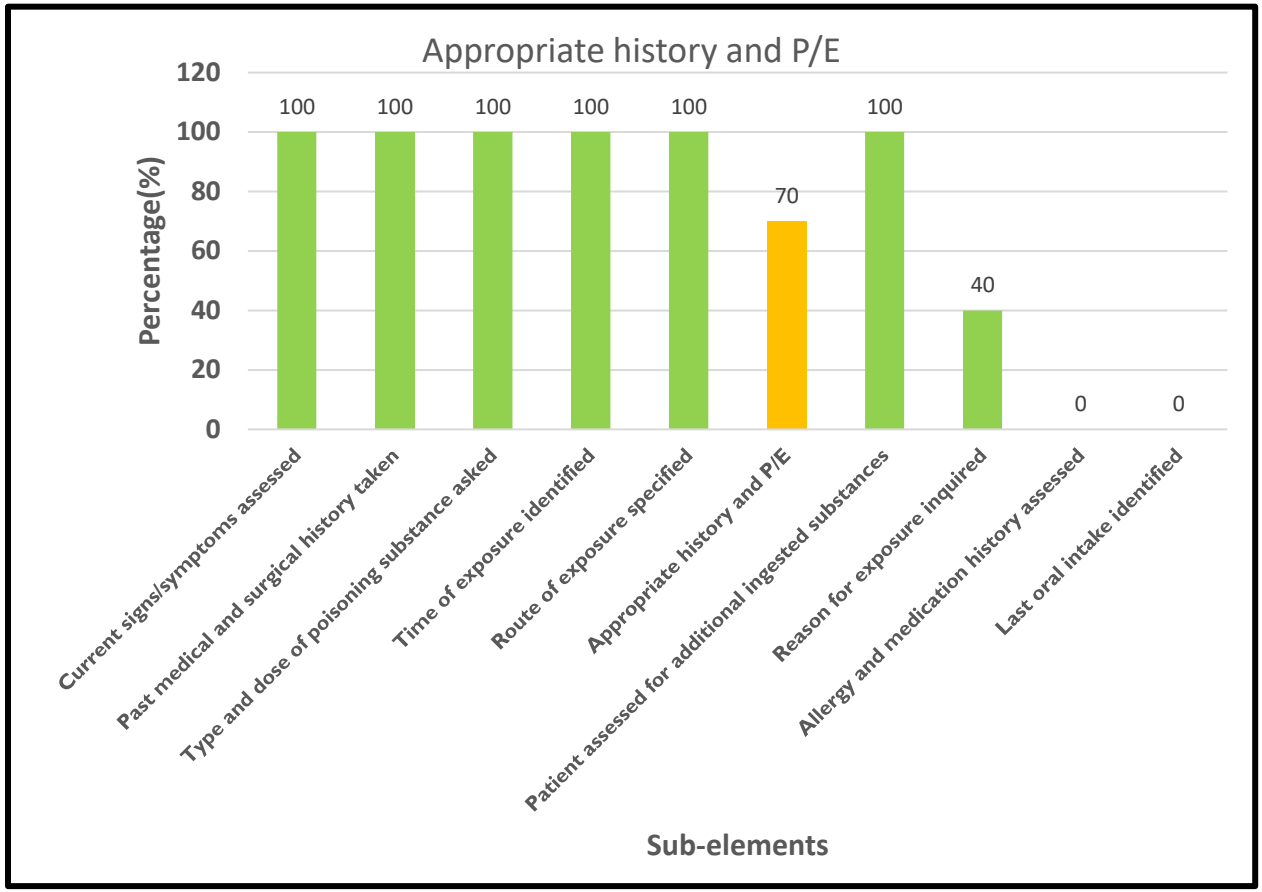


Figure 3: ***Appropriate history and physical examination***

The findings indicate a significant gap in performing investigations essential for managing a poisoning case. While only CBC investigations was completed, the following key investigations were not performed, even for patients with indications:

- Renal and Liver Function Tests (RFT and LFT):
- Serum Electrolytes (Na, K, Mg)
- Coagulation Profile (PT, PPT, INR).
- ECG (**figure 4**).

GRAPH SHOWING RELEVANT INVESTIGATION

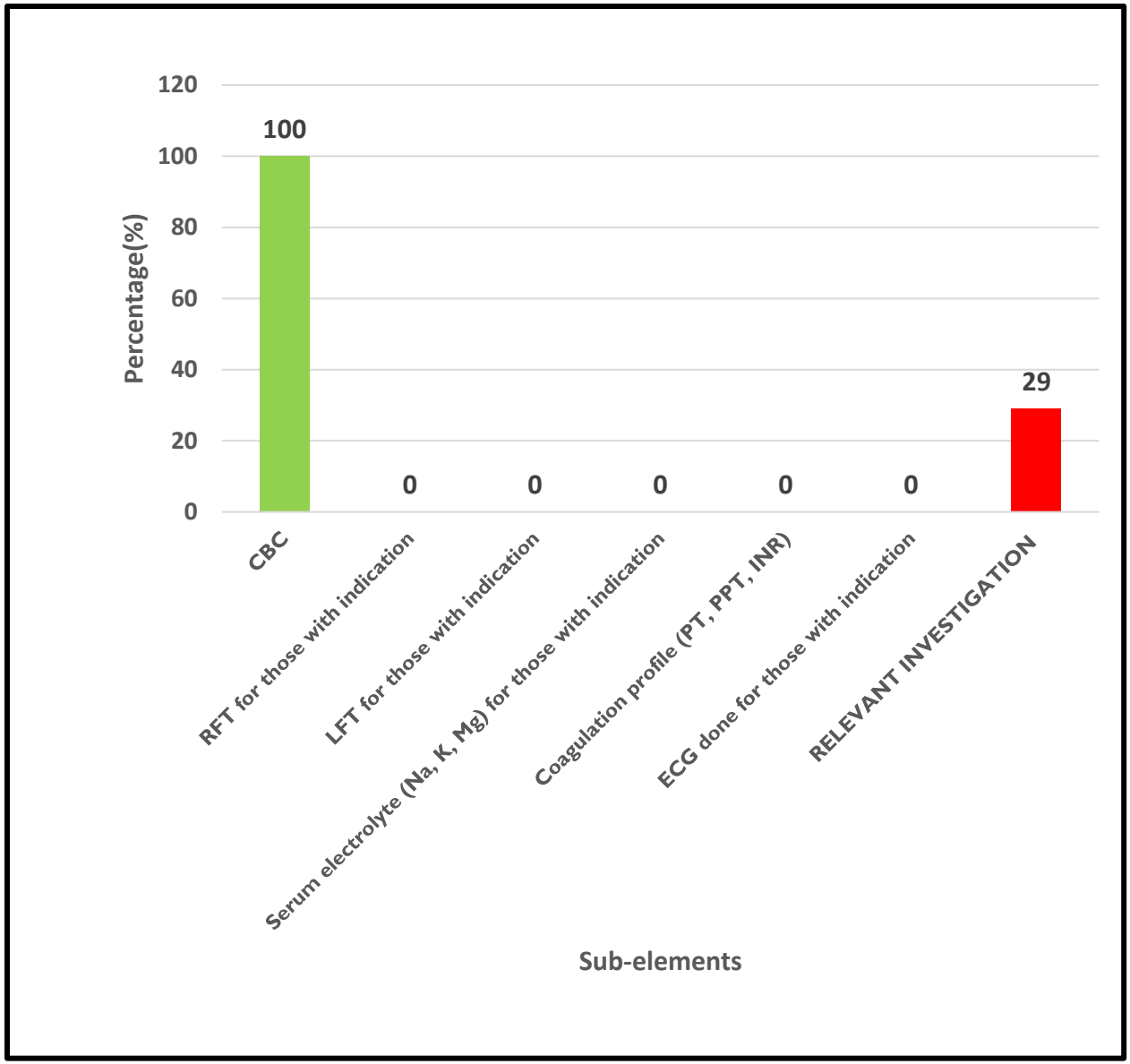


Figure 4: ***RELEVANT INVESTIGATION***

Recommendations

1. Strengthen the process for ordering and performing investigations:
2. Conduct regular training on POISON management protocols.
3. Monitor and evaluate the implementation of corrective actions through periodic audits.
4. Improve interdepartmental coordination to expedite investigations.

DEDER GENERAL HOSPITAL

CLINICAL AUDIT QUALITY IMPROVEMENT PLAN/PDSA FORM

Clinical Audit Title: TO IMPROVE THE QUALITY OF CLINICAL CARE OF EMERGENCY MANAGEMENT OF POISONING PATIENTS

Clinical Audit Lead: Dr.Samuel Shimelis (GP). Department /Team: EOPD **Date:28/4/2017E.C**

	Plan					DO	STUDY	ACT
Recommendation	**Actions to address the recommendation/Change idea**	**Person Responsible**	**Target Date**	**Data collection plan**		Carry out the plan. Record data, observations and modifications to the plan. Use visual descriptions such as run charts to describe what actually happened	Complete analysis and synthesis. Do the results align with the explicit criteria? Write the progress made in the implementation, the difficulties faced and actions taken to address them.	**Decision**: What action are we going to take as a result of this cycle (**Adopt, Adapt, or Abandon**)? Are we ready to implement? What other processes or systems might be affected by this
	What change will we test? What do we need to try the change?	***Who will perform the test? (Name or Role)***	***When will this be complete?***	***How will we collect data? (Checklist, Chart audit,)***	***Who will collect the data? (Name or Role)***			
Perform appropriate evaluation and management	Write feedback to emergency OPD assigned physicians	EOPD Director (Dr. Samuel Sh)	until Jan 20, 2017E.C	Audit patient records monthly managed for poisoning	QU (Abdi T+ Abdella A)			
Facilitate Access to Essential Investigations (RFT, LFT, serum electrolytes, coagulation profile, ECG).	• Procure necessary laboratory investigation. • Order/do necessary lab investigation for all poisoning patients.	• Hospital leaderships CEO & MD (Nuredin & Dr. Derese) respectively, and • Emergency Director (Dr. Samuel Sh)	Until Mar 20, 2017E.C	Audit patient records monthly managed for poisoning	Quality U(Abdi T+ Abdella A)			

☐ **Adapt** *(Modify this change and plan next PDSA cycle; loop back to "Plan")* ☐ **Abandon** *(Change didn't work/won't lead to improvement. Identify new change; plan new PDSA cycle; loop back to "Plan")*

☐ **Adopt** *(Data revealed this change was effective and worked well; Next step, develop implementation plan)* >>>>

Completed by:	Sign off:	Date of review of PDSA:

References

1. World Health Organization (WHO). **Clinical Management of Acute Poisoning: Guidance for Health-Care Providers**. WHO, 2020.
2. American College of Emergency Physicians (ACEP). **Clinical Policy for the Initial Approach to Patients Presenting with Acute Toxic Ingestion**. Annals of Emergency Medicine, 2017.
3. National Poisons Information Service (NPIS). **Management of Poisoning in Emergency Care**. Clinical Toxicology Guidelines, 2019.
4. Goldfrank, L. R., et al. **Goldfrank's Toxicologic Emergencies** (11th Edition). McGraw-Hill Education, 2019.