

INTRODUCTION

OBJECTIVES

MATERIAL & METHODS

RESULTS

During the COVID-19 pandemic, there were many difficulties and functionality issues in Cancer Surveillance and Operations, globally. The Population based cancer registry (PBCR) setup by Tata Memorial Centre (TMC) in four Nuclear Power Plant Locations in India, Tarapur in Maharashtra, Kaiga in Karnataka, Kakrapara in Gujrat and Rawatbhata in Rajasthan, faced similar hardships. There were delays in diagnosis, referrals, patient care management, PBCR provided valuable inputs into health system disruptions to estimate the direct/ indirect impact of pandemic on cancer outcomes. As with many institutions during the pandemic the operations of PBCR have been affected

To assess the impact of the first wave of Covid 19 of the pandemic on NPP registry operation and outcomes.

Four NPP registries data accrual was assessed. Comparison of active registration by traditional methods and by innovative methods (electronics) during pandemic was undertaken. In NPP registries, TAB-PC is used by investigators for real time data capture and is made available online.

In our study we have shown that the COVID-19 pandemic has disrupted surveillance operations in our NPP population-based cancer registries. We found that the impact on the PBCR's operations mainly stems from the inability to actively retrieve data from the usual sources of information. Disruption in data collection was noted with respect to the retrieval of medical records in hospitals, and access to data in specialized oncological units and pathological laboratories Travelling restrictions imposed by lockdowns are partly responsible for this. There was around 20% reduction in data accrual across all the NPP Registries. The highest of 30% reduction was observe in Rawatbhata.

Difficulties during Covid-19 pandemic :

- Visits by Investigator to Sources was not possible.
- No House visits for obtaining additional information.
- Tracking of patient information was limited in accessibility.
- Fear of contacting infection totally restricted mobility
- Staff remuneration was reduced.
- Opportunity to educate health awareness was lost
- Some Staff infected by Covid-19 abstained from work/ some had to take care of family

A complete disruption of passive data collection varied and impacted registries across data sources, while complete disruption to active data collection was even more common across sources. In addition to operational factors, various external factors have caused additional challenges for cancer registries to deliver on their mandate in providing a comprehensive and timely situation analysis of the cancer burden. Methodology to correct reporting delays have previously been used, and today knowledge transfer of these methods have assisted in national monitoring and planning of cancer control strategies

This is linked to the PBCR system supported by adequate resources and technological innovations. As such, issues surrounding data access are be counteracted by a better remote access to the data sources along with the expansion of the use of electronic medical records, where applicable and feasible.

The development of innovative IT solutions and the ability to import data from sources electronically is key to future sustainability of PBCRs. PBCRs reported that contingency measures have been taken to mitigate impact of the pandemic, including enhanced IT capacity and security. Rapid technological uptake and implementation during this early period of the pandemic have been raised by many registries as a silver lining of the pandemic.

Passive method for data accrual

	Telephonic calls	Cases accrued
Kakrapara	620	240
Karwar	139	620
Tarapur	90	350
Rawatbhata	922	575

Registry	Average Cases in Normal times	Covid-19 times	% Reduction in data accrual
Kakrapara	275	240	12.7
Karwar	770	620	19.5
Tarapur	400	350	12.5
Rawatbhata	825	575	30.3
TOTAL	2270	1785	21.4

Summary- NPP - location Registries Outcome					
Registry Name	Year	Estimated Population (in lacs)	ASR (per 100,000)		No of sources
			Male	Female	
Palghar	2017-18	5	57.9	56.9	29
Rawatbhata	2017-18	1.6	48.6	47.8	28
Karwar	2017-18	4	68.1	62.3	36
Kakrapara	2017-18	5.02	67.1	28.7	29

*the outcomes include data accrual during the pandemic

DISCUSSION & CONCLUSION

The pandemic has also felt the need of linkage of other PBCRS, hospitals, Municipal Corporations data sharing with PBCRS. There were financial constraints and the registry staff received less salary (excluding the transportation cost, daily allowance etc.) Details of hardships in data accrual is presented, both qualitative and quantitative. An active collaboration between different registries with innovative methods will be useful for better outcomes, even in the pandemic. This has steered the innovation and explore the technology for cancer data accrual even in the times of pandemic