



## Original Research Article

## Study of drug utilisation pattern of COVID- 19 positive cases in isolation ward of PRM Medical College and Hospital, Baripada, Mayurbhanj, Odisha

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## ABSTRACT

Corona virus disease is a most contagious disease caused by a newly discovered corona virus, initially identified in the Mainland of China(Wuhan) in late December 2019. Covid-19 has been initiated as a highly infectious disease that can spread quickly in a community population depending the number of susceptible and infected larger number of cases and also depending on their movement in the community.

This study was conducted from September to November 2020 in PRM Medical College and Hospital Baripada, Mayurbhanj, Odisha, in COVID 19 isolation ward. This study is approved by IEC, PRM MCH Baripada.

Covid -19 pt is more male preponderant due to community movement and the incidence in more at the age of 40-50 yrs. It was seen that 20% prescription contain more than 10 drugs although it is a polypharmacy and increase cost to the pt as well as to govt. It may increase ADR. About 20 % pt are in comorbid condition and also they required parental preparation, oxygen inhalation. Only 10% pt required antiviral drugs such as Favipiravir depending on the symptoms and viral load. All the drug supplied from Govt hospital store except very few which was not available in the hospital. All are prescribed in generic name and from essential drug list except very few.

Drug utilisation pattern may improve the rational use of drugs, reduce cost, polypharmacy and ADR.

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### 1. Introduction

Corona virus disease is a most contagious disease caused by a newly discovered corona virus, initially identified in the Mainland of China (Wuhan) in late December 2019. Covid 19 has been initiated as a highly infectious disease that can spread quickly in a community population depending the number of susceptible and infected larger number of cases and also depending on their movement in the community. Since January 2020 covid 19 has reached out to many countries in world wide. The number of daily cases remains to increase rapidly. In January 30,2020 WHO declared

public health emergency International Concern (PHEIC) and on March 30 as world pandemic.<sup>1</sup> Now total no. of country affected is 216 with total no. of case detected more than 5 crore and total no of death more than 13 lakhs in world upto 1st week of Nov. In India total no. of case detected > 88 lakh and total no of death > 1 lakh at same time period. In Odisha total no of cases detected > 3 lakhs and total no of death >1500 in that period.

The drug utilisation pattern is a useful strategy achieving the basis for making amendments in drug policies and helps in rational drug use as well as cost efficient in health care facilities. The present observational study was conducted to generate data on drug utilisation in pts at our tertiary care hospital to identify potential targets

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for improving drug utilisation pattern and providing cost benefit, reducing mortality and morbidity. Also it helps in developing strategies to utilise health resources in most efficient manner. It particularly needed in develop economy country like India.<sup>2</sup>

## 2. Materials and Methods

This study was conducted from September to November 2020 in PRM Medical College and Hospital Baripada, Mayurbhanj, Odisha, in COVID 19 isolation ward. This study is approved by IEC, PRM MCH Baripada. Photo copy of 100 prescription of COVID 19 positive cases attended the isolation ward were randomly collected and data were analysed by WHO core drug indicators. The demographic characteristic and prescription characteristic such as age, sex, spo<sub>2</sub>, co morbidity and prescription characteristic eg no. of drug per prescription, dosage forms, name of drugs use, whether in essential drug list or not, in NF, either in generic name or trade name.<sup>3</sup> Data were analysed by percentage.

## 3. Results

Total no of patients attending Covid-19 isolation ward from September to November 2020 were 506. Among them 284 no of patients were male and 222 were female. Photo copy of 100 prescription were randomly collected and analysed Out of these 70% were male, 30% were female. [Table 1]. It was found that 50 % patient at the age of 40-50yrs, 20% above 50yrs, 18 % at 30-40 yrs and 12% <30yrs [Table 2]. Amongst them SPO<sub>2</sub><95% in 10% cases and >95% in 90% cases [Table 3], also 20 % pt with oxygen inhalation and in co morbid condition [Table 4]. Prescription analysis shows 10% prescription contain >10 no. Of drugs, 35% prescription contain 5 no. drugs and 45% contain 3drugs [Table 5]. Injectable preparation used in 45% of pts and 55% oral preparation with 20% liquid preparation [Table 6]. Parenteral antibiotic used in 35% pt. With most common antibiotic were Cefoperazone +sulbactam, Piperacilin+Tazobactum followed by Ceftriaxone and Amikacin with least common Metronidazole [Table 7]. 20% administered iv fluid such as RL, DNS, NS. Injectable antisecretory agents used in 35% pt with most common agents Pantoprazole and Rabiprazole. Injectable corticosteroid prescribed in 15% cases with dexona, Hydrocortisone hemisuccinate and Primacort. Bronchodilator injectable used in 15% pt such as Deriphylin, Theophylin and Ethiophylin. Antipyretic injectable used in 10% pt. Antiemetic such as Ondansetron injectable 5% and analgesic 5% injectable like Tramadol and Diclofenac were used. Least common injectable preparation used antispasmodic, Promethazine, Furosemide, Iorazepam and Insulin [Table 7]. In oral preparation antibiotic used in 65% pt with common

antibiotic Azithromycin, Doxycycline, Cefixime and least with Lenozolid and Ofloxacin. Oral antipyretic, zinc sulphate, vit c used in 80% cases. Bcomplex, levocetirizine in 75% cases. Antisecretory in 65% cases. Oral Ivermectin in 35% cases and Montek LC in 25% cases. Vit D3 and Calcium in 15% cases with 15% anti emetic drug like Ondansetron. Oral analgesic, antiviral like Favipiravir and Prednisolone in 15%, 10% and 5% respectable [Table 8]. Liquid preparation like cough syrup, Salbutamol, alkasol and Sucralfate prescribed [Table 9]. All the injectable and oral preparation given from Govt hospital except Ivermectin and Montek LC. All are in generic name and in essential drug list except Ivermectin, Montek LC and cough syrup.<sup>4</sup>

**Table 1:** Sex distribution of patients

Male	Female
70%	30%

**Table 2:** Age distribution

AGE<30 yr	AGE - 30-40 yr	AGE- 40-50 yr	AGE >50
12%	18%	50%	20%

**Table 3:** SP02 percentage

<95%	>95%
10	90

**Table 4:** Comorbidity

Without other disease	80%
With other disease like diabetes, hypertension, pneumonia	20%

**Table 5:** Average number of drugs per prescription

>10	≥5	≥3
20%	35%	45%

**Table 6:** Dosage form

Injectables	Oral
45%	55%

## 4. Discussion

Covid -19 pt is more male preponderant due to community movement and the incidence is more at the age of 40-50 yrs.<sup>5</sup> It was seen that 20% prescription contain more than 10 drugs although it is a polypharmacy and increase cost to the pt as well as to govt. It may increase ADR. About 20 % pt are in comorbid condition and also they

**Table 7:** Parenteral preparations used

S.No.	Drugs Used	Percentage %
1	Antibiotic	35%
2	Antisecretory agents- Pantoprazole, Rabeprazole	35%
3	IV fluids- ringers lactate, dextrose normal saline	20%
4	Corticosteroids (Dexona, Hydrocortisone Hemisuccinate, Primacort)	15%
5	Deriphyline, Theophylline, Ethiphylline	15%
6	Anti pyretics (Paracetamol)	10%
7	Anti emetic (Ondansetron)	5%
8	Metronidazole	5%
9	Analgesics (Tramadol, Diclofenac, Aceclofenac)	5%
10	Furosemide	2%
11	Antispasmodic (Drotaverin)	1%
12	Promethazine	1%
13	Lorazepam	1%
14	Insulin	1%

**Table 8:** Oral preparations used in covid 2019 isolation wards

S.No.	Name of the drug used	% use
1	Antipyretic (Paracetamol)	80
2	Zinc sulphate	80
3	Vitamin c	80
4	B complex	75
5	Levocetizine	75
6	Antibiotic (Azithromycin, Cefixime, Linezolid, Oflaxacin)	65
7	Anti secretory	65
8	Ivermectin	35
9	Montek-Lc	25
10	Vit D3+ calcium	15
11	Anti emetic ( ondansetron)	15
12	Analgesic	15
13	Favipiravir	10
14	Prednisolone	5

**Table 9:** Liquid preparation used in Covid 19- Isolation ward

S.No.	Name of the drug	%
1	Salbutamol syrup	15
2	Abetus- P	3
3	Alkasol	1
4	Sucrafate	1

required parental preparation, oxygen inhalation. Only 10% pt required antiviral drugs such as Favipiravir depending on the symptoms and viral load.<sup>6</sup>All the drug supplied from Govt hospital store except very few which was not available

in the hospital. All are prescribed in generic name and from essential drug list except very few.<sup>7</sup>

## 5. Conclusion

Drug utilisation pattern may improve the rational use of drugs, reduce cost, polypharmacy and ADR.

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## 7. Conflicts of Interest

No conflicts of interest.

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