

ABSTRACT: INNOVATIONS

Analysis of Oxygen Consumption Pattern and Assess the Benefit of Oxygen Concentrator at District General Hospital, Matale

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Introduction: An oxygen concentrator (OC) was established at District General Hospital, Matale in March 2022 to enhance the treatment procedures without any interruptions and to reduce the total expenditure for oxygen purchase, transport, and handling. Operation of the oxygen concentrator is carried out by existing health staff.

Objective: To analyze the oxygen consumption patterns and assess the benefit of OC.

Methodology: Data was collected by using Key Informant Interviews and secondary data.

Results: For 2018, 2019, and 2020, the average monthly filling of the oxygen tank (AMFOT) was 7784 Kg, 8976 Kg, and 9759 Kg, respectively. In response to the COVID-19 epidemic, AMFOT was increased to 12509 Kg in 2021. From January to March 2022, AMFOT was 8603 Kg, and from April to September 2022, it was 3632 Kg. However, the functioning of the OC had no effect on electricity usage. Furthermore, the average number of oxygen cylinders utilized each month in 2018, 2019, 2020, and 2021 was 163, 216, 248, and 398, respectively. The average number of oxygen cylinders utilized each month after the introduction of the OC was 206.

Discussion: Analysis of AMFOT revealed a reduction of oxygen usage by the oxygen tank after the introduction of OC. Furthermore, it revealed a slight reduction in oxygen cylinders usage. Although oxygen charges, cylinder handling charges, and delivery charges were reduced after the installation of OC, the monetary value could not be evaluated due to inflation, fuel cost, transport cost, etc. during the study period.

Conclusion and Recommendations: The filling of the oxygen tank was reduced after the establishment of OC. The addition of an oxygen outlet to OC to fill cylinders will help to get optimum utilization.

Key words: oxygen concentrator, oxygen consumption patterns,

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