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«Государственный медицинский университет» Министерства
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Российской Федерации

Кафедра нормальной физиологии

Фонд оценочных средств
ОТЧЕТ по производственной
практике (научно-
исследовательская работа)

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REPORT

ON MANUFACTURING PRACTICES

(RESEARCH WORK)

Topic: CPAP Intolerance (Continuous Positive Airway Pressure Device)

Perform by

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Grade 3rd course Group 36

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4 (84 бама)

Защита в течение.

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INTRODUCTION OF THE TOPIC:


Continuous positive airway pressure is applied to the people who have difficulty in normal breathing and face problems in inhalation and exhalation during sleeping or lying down on bed. (Kadamb N.F.,2016)

Continuous positive airway pressure is required to get rid of obstruction caused by different pathological, physical, or physiological disturbances in airway tract. CPAP provides an action to positive expiratory syndrome disease. CPAP devices make space in the cavities of alveoli and allow more air to enter inside the alveoli. And provides more inner surface area for Lungs and indirectly to alveoli. (Albert R.T.,2001)

Due to weakness I mean fatigue definitely can't resolves correct rest, correct sleeping time and correct diet. It can affect the persons whole activities, work body and health. The etiological factors of BE may be by or due to muscle power and physical status of humans, main thing we want to note is lifestyle and first of all the most important thing is humans mental health or mental status. (Kamalan M.A.,1998)

Literature Review

There are different machines introduced in the market which are self efficient to work to maintain good and healthy sleep throughout night for the patient suffering from respiratory failure of sleep disorder mechanisms.(Gunal .G.M.,2016)

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PAP is also used for the patients who are chronically ill and are admitted in hospitals. In those patients who require tracheal intubation for different purpose positive airway pressure can be used, or allow earlier extubation. (Aliseon K.L.,2006)

Patients having nerve and muscle disease has an adverse effect on their lungs use this type of ventilation to avoid different critical situation when they are sleeping or when they are unconcious.(Finch F.G.,2016)

CPAP Discovery:


CPAP was discovered for the first time in the neonatal intensive care unit, University of California , San Francisco America.Different variation of PAP system was Developed by Professor COLLIN Sullivan At royal Prince Allferd Hospital Sydneyy Australia. (David W.E.,1998)

DR Gregory and his colleagues played an important role in discovery of Continuous Positive airway pressure maintainance. Dr Gregory is called as father of PAP ventilation in USA.(Carey M.N.,2011)

Aim of Study

To know the information regarding intolerance caused due to Continuous positive airway pressure by using different devices, and methods to overcome those complications caused by it.

To know what types of complication can be arised due to intolerance caused due to Continuous use of positive airway pressurefor patients suffering from sleep disorder and apnoea.

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METHODS AND MATERIALS:

Mechanism of Action of continuous positive airway pressure


There are different sensors and different numericals given on the machine which determine the pressure differences on the patient.

There are different markers that can be detected as problem in upper respiratory tract for ex Snoring, apnoe, limitation in flowing of air in the respiratory tract. Problem can be determined by above symptoms and respiratory ventilation is applied.

There are different techniques which are used to detect different problems like apnoeas and hypoapneas like conjection in nasal cavity, detection of difference between maximum inspiration and expiration in the patient. There are different divices which use technique of forced oscillations which detect changes in airway by imposing oscillatory flow of airstream. This technique detect the respiratory collapse before physiological response, flattening of inspiratory air flow which occurs before upper airflow obstruction, is the main marker mechanism of action of Continuous positive airway pressure.

Measurement of inspiratory air flow volume is used in many available devices, such as (Autoset of Respiratory Medicine Sydney, Austrailia), (Goodnight, Puritton Benett Colorado, USA)

These kind of devices are now available all over the world in affordable prices by the pricription of Consultant pulmonologist, and sleep disorder Specialists.

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Intolerance of Continuous Positive airway pressure.

Before last 20 years there is tremendous change in techniques of handling patients with CPAP intolerance by different means of treatment. That can be surgical or non surgical.


Following is an example that shows Intolerance caused by CPAP to the patient suffering from hypertrophy of tonsils.

The above image shows the intolerance Caused due to continuous Positive airway Pressure, in the upper respiratory tract.

This is an clinical image of Secondary overcrowded oropharynx and hypertrophy of tonsils, lax palate and pharyngeal mucosa. In this condition if the patient still does not tolerate finally surgical method is introduced to remove the infection caused due to continuous positive airway pressure. But surgery is not suggested if the Basal metabolic rate is not less than 35kg/m². It is important to know about the severe conditions from patients if there is available of allergic rhinitis, upper respiratory tract infection, CPAP rhinitis....

Disorders related to sleep are increasing day by day in populated countries like India, China.. there are different Non surgical treatments in case intolerance of continuous positive airway pressure..

Different technical modifications, Change in lifestyle from unhealthy to healthy, and support of oral appliances to avoid pollutants that enter in mouth from environment. Surgery is always a better option to get rid of

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intolerance in use of CPAP or by using bypass surgeries that improves obstructions in the anatomy of the body. Although for intolerance surgeries patient selection is also an critical step thereafter those patients who fail to tolerate CPAP should be sent to otorhinolaryngological studies.

Further it is required to improve investigation method and evidence based studies to know the type of intolerance, long term effects and trials must be done in controlled environment, standard data along with accurate definitions are the basic methods to avoid CPAP intolerance.

Medical Uses

There are different medical uses that is caused by positive airway pressure in disease like Congestive heart failure, Chronic obstructive Pulmonary Disease, in these kinds of diseases there is severe hypoxia and community acquired Pneumonia these complications are avoided by CPAP.

Positive airway pressure is mainly used to the patient who have type 1 and 2 respiratory fail. This kind of PAP treatment is given to the patient who is not able to get enough amount of oxygen through Mask and hence require artificial ventilation.

The main condition in which the CPAP is given to the patient who is hospitalised for congestive heart failure and obstructive pulmonary disease which indirectly saves the life of patient.

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CPAP is not given to the patients who airways are impaired and patient is unconcious, if CPAP is given to the patient who is conciousness the paintent immediately suffers from high thoracic pressure and leads to Coma and may be death of patient.

Mainly these patients are kept under the obeservatin of specialed doctor in intensive care unit, high dependancy unit and coronary care unit with at least one pulmonologist with the patient.

The mask which is given to the patient must be completly sealed properly and patient should take complete advice of the health professional and follow the instructions given by him time to time.

Adverse effects of CPAP Intolerance

The main issue in case of CPAP intolerance is non-adherence, that came to the pont that some of the patients use it for very short while and neglect it and stops the use of CPAP, and further the intolerance starts to increase and may lead to severe complications. However this may lead to severe change in Behaviour of the patientand has to undergo Cognitive behavioural therapy. For different patient airflow required may be severe or aggressive and that does not happent due to non usage of CPAP, and may lead to severe hypoxia and hypotension and further may lead to heart related disorders.

Policies of Different countries against CPAP

1) In case of United States OF America: CPAP machines are available at different places in the country in tremendous amount of discounts for



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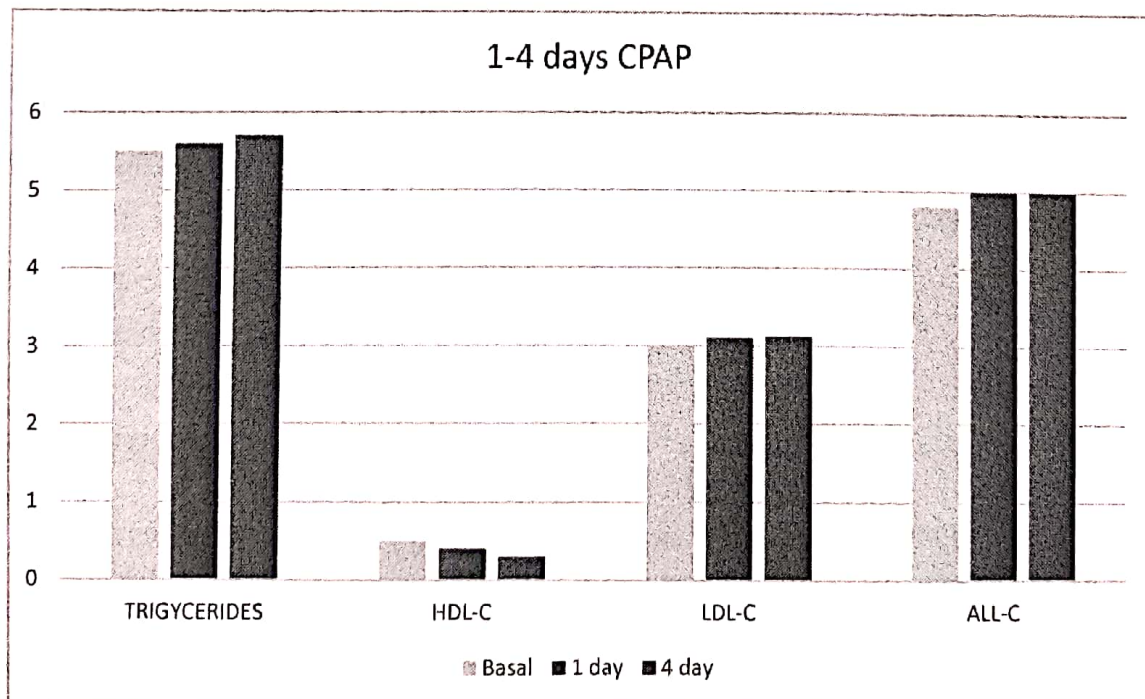
common people, but the person who purchase PAP machine must be master in handelling the machine and he/she must take the responsibility of handelling the machine.


2) United Kingdom:PAP machines are given to the citizens by the government under special permission by the health care professional in a very cheap cost.

3) Austrailia:PAP machines are purchased by the people in the shops or in internet, in this country we don't require any prscription by doctors.

4) Canada:CPAP machines are available at different provincial organisations and rules to purchase varies from state to state.

RESULT:



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SUMMARY:


This research studies about the Patient suffering from CPAP intolerance of the person even though some features that was undergone by adults those who are healthy, and there is severe & has disabling impact on their activities of their daily routine life. The observation made by me in this research study was based on the different textbook information read by me by many authors. And disorders seen in some patients in a more percentage that underlies the individuality of the complaint made by the person.

The similarities based on the qualitative between adults those who are healthy and patients those who are affected by CPAP. The important difference between them is the healthy persons activity is normal and the person with CPAP feels tired due to hypoxia often and their activity is less when compared to healthy person.

However there is no positive correlation among the patient suffering from CPAP intolerance distinct on their signs are complicated and which leads to inability of the person and they are predicted by impairment on the upper respiratory track affected by CPAP.

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