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ORIGINAL ARTICLE

SURGICAL IN-PATIENTS' INTENDED RESPONSE AND PERCEPTION TO ACCEPTING SUPPLEMENTAL OXYGEN THERAPY IN A TERTIARY HOSPITAL

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ABSTRACT

Introduction: Despite the importance of oxygen therapy and its inclusion in the list of essential medicine by the World Health Organization (WHO), there are still documented evidences of patients declining the life-saving intervention for different reasons. This study was conducted to determine the intended responses and perceptions of surgical in-patients toward accepting oxygen therapy.

Methods: This cross-sectional descriptive study was performed on a cohort of surgical in-patients in a tertiary health care centre in north-central Nigeria. Data were collected through a paper-based proforma and analyzed in Microsoft Excel using descriptive and inferential statistics.

Results: Of 33 surgical in-patients, 23(69.7%) were males while 10(30.3%) were females. The majority of the patients had chronic illnesses. Seventeen (51.5%) of the patients will not want to accept oxygen therapy. The main reason for not wanting to accept oxygen therapy was the belief that oxygen therapy is meant for patients who are about to die. Previous use of oxygen therapy (p=.0004), knowledge about oxygen (p=.0025), and chronic illness (p=.0227) were statistically significant associated factors towards accepting oxygen therapy. Accepting oxygen therapy had no significant association with demographic characteristics (gender, age, educational status, and marital status).

Conclusion: This study has shown that more than half of surgical in-patients will not want oxygen therapy due to misconceptions about oxygen therapy. There is a need for public and community education to increase community awareness of the benefit of oxygen therapy when the need arises.

Keywords: oxygen therapy; surgery; in-patients

INTRODUCTION

Supplemental oxygen therapy is the use of oxygen in medical treatment above 21% in room air and is a common therapeutic intervention in clinical practice.[1-4] Despite the importance of oxygen therapy and its inclusion in the list of essential medicines by the World Health Organization(WHO) there are still documented evidence of poor acceptance of oxygen therapy among patients.[4,5] One of the major indications for oxygen therapy is hypoxia which may become severe enough to endanger the patient's physiological functions with an attendant risk

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of death. Low tissue oxygen levels can be improved through supplemental oxygen therapy. Non-documented observations by some of the authors have shown that many patients and caregivers tend to have negative perceptions of oxygen therapy for different reasons. This study was conducted to find out the surgical in-patient'sperceptions and intended responses to accepting supplemental oxygen therapy.

METHODS

This prospective cross-sectional survey was carried out among surgical in-patients at Federal Medical Centre, Keffi, Nigeria, a tertiary medical centre in Northen Nigeria, over a three-month period. Patient's consent and approval were obtained for the study. Convenient sample size was used for the study. Surgical in-patients who were conscious with insight into their diagnosis with a Kanofsky performance index above 80 were enrolled into the study. Relevant data were obtained through a pre-tested paper-based questionnaire that was designed by the authors following an extensive review of literature on similar studies. Each patient completed an interviewer-administered questionnaire. Data were presented in the form of ratios, proportions, and percentages using Microsoft Excel. Chi-square and student t-test were used for the test of significan**ce** for continuous and categorical variables respectively with a *p*-value of less than 0.05 considered to be statistically significant.

RESULTS

Thirty-three patient interview**s** were analyzed after editing for completeness. The mean age of the patients was 42.18±1.57 years with a male to female ratio of 1:1.2. The other socio-demographic characteristics of the participants are shown in Table 1.

Seventeen (51.5%) of the 33 patients will not like to accept oxygen therapy if need be for various reasons. The main reason for not wanting to accept oxygen therapy was the belief that oxygen therapy is associated with poorer outcomes such as early death (Figure 1). Four (23.5%) of the 17 patients who will accept oxygen therapy will do so mainly due to faith in the prescription by health care providers.

Table 1. Socio-demographic characteristics of the participants

Parameters	Accepting oxygen therapy	Not accepting oxygen therapy
Marital status		
Single	3	4
Married	11	10
Divorce	2	3
Type of illness		
Acute	6	14
Chronic	10	3
Education level		
None	4	9
Secondary	3	7
Tertiary	9	1
Mode of admission		
Emergency	13	11
Elective	3	6
Previous oxygen therapy		
Yes	11	1*
No	4	16

*A patient could not differentiate between nebulization and oxygen support therapy thus given a missing value of 1

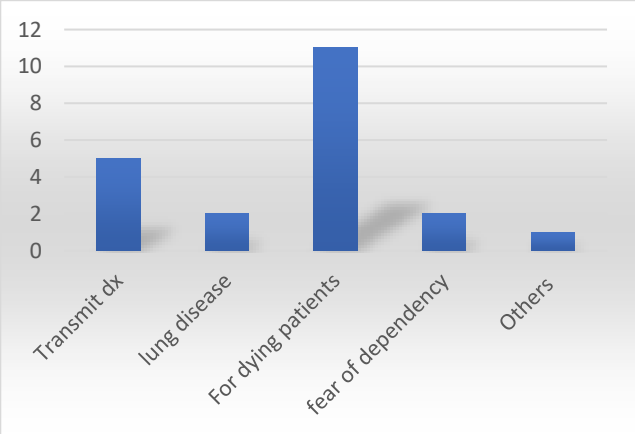

Figure 1. Reasons for not wanting to accept oxygen therapy

Concerning their source(s) of information regarding oxygen therapy as therapy for patients who are about to die; 6 (54.5%) of the 11 patients claimed to have seen patients who died a few minutes after the commencement of oxygen therapy while in the ward at some point, while 3 (27.3%) and 2(18.2%) of the patients claimed that they overheard it from some health care workers and co-patients that once oxygen therapy is commenced, majority of the patients will die from it. Further analysis of the perceived negative effect(s) of oxygen therapy revealed that 14 (70%) of the 20 patients who were admitted for acute illnesses tend to have negative perceptions towards it compared to 3 (23.1%) of 13 of those patients who were admitted for chronic illnesses (p=0.0227).

When patients were asked about the reason(s) why doctors prescribed oxygen therapy, 8 (24.2%) of the patients believed that it is to ease the process of death among other reasons (Figure 2)

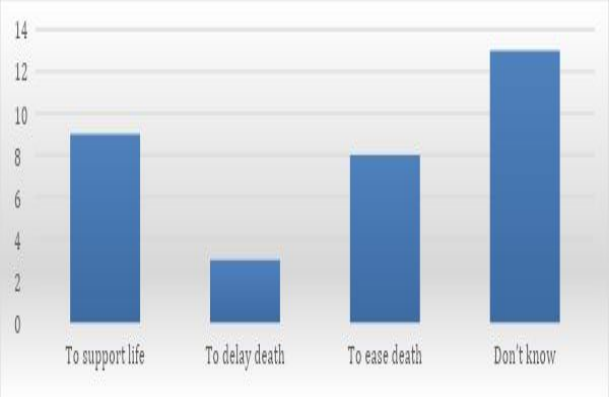

Figure 2: Reasons for oxygen prescription

Fourteen (42.4%) of the 33 patients were not aware that the main component of the air that we breathe in to sustain life is oxygen. On the effect of awareness of the components of the air we breathe in, only 2 (14.3%) of the 14 patients that were not aware of the components of the air we breathe in will accept oxygen therapy as compared to 14(73.7%) of the 19 patients who were aware (p=0.0025).

Five (26.3%) of the 19 patients who knew that we breathe in oxygen from room air did not agree that oxygen from room air is the same as medical oxygen but in a lower concentration.

DISCUSSION

The use of oxygen therapy is an important aspect of care for acutely ill patients and is also required in many patients following surgery when the tissue oxygen saturation can no longer be maintained due to ineffective respiration resulting from the disease processes or the effect of the anaesthetic agents. Despite this, many patients will not want such life-saving therapy for various reasons. This study was thus carried out to determine the surgical in-patients' intended response to accepting supplemental oxygen therapy and their perceptions toward supplemental oxygen therapy.

Our study found that about 52% of surgical in-patients will not want to accept oxygen therapy. This finding was at variance with the findings of Adeoti *et al* in Ekiti State, Nigeria, where the majority of the patients and caregivers have a positive attitude toward oxygen therapy.[6] The main reason for not wanting to accept oxygen therapy in our study was fear that oxygen therapy can kill followed by the belief that the therapy is meant for patients that are about to die and fear of dependency. The erroneous belief of oxygen therapy for patients who are about to die or signifying worsening health condition was also reported by Adeoti *et al* in Ekiti and by many other authors.[5-10] The finding of fear of dependency as a reason for not wanting to accept oxygen therapy is also consistent with a previous report by Demirel *et al* of a patient who declined oxygen therapy due to fear of addiction.[11]

Most of the misconceptions about oxygen therapy were gotten through the patients' personal experiences of seeing other patients dying while on supplemental oxygen therapy in hospitals. This form of learning experience was previously reported, where memories of others were linked with one's situation with a patient saying, "he knew that he would be on

oxygen because he had seen his mother deteriorate".[8]

This study also found that about 70% of patients who were admitted for acute illnesses tend to have misconceptions about oxygen therapy. The possible reason could be attributed to a direct lack of experience with oxygen therapy among patients with acute illness as the study was able to demonstrate that previous oxygen therapy was statistically significantly associated with positive perception and attitude towards oxygen therapy as the majority of patients who had chronic illnesses had oxygen therapy in the past and have positive perceptions to accepting oxygen therapy compared to patients with acute illnesses.

About 39% of the patients did not know why healthcare professionals prescribe oxygen therapy while about 24% and 9% held the view that it is often prescribed to ease death or delay the death process respectively. Also, about 42% of the patients did not know the components of the air we breathe to sustain life. Further analysis on the effect of awareness of components of the air we breathe in and perceptions toward oxygen therapy revealed that being aware of the components of the air we breathe in was statistically significantly associated with positive perceptions towards oxygen therapy. This finding further strengthens the effect of knowledge on positive perceptions towards better compliance in accepting medical therapy.

The low sample size was a limitation of our study. However, the prospective nature of the study is a strength. We advocate for a future multi-centre study with a larger sample size that will incorporate other factors that may influence patients' perceptions and attitude.

CONCLUSION

This study has identified factors that may contribute to the refusal of oxygen therapy among surgical in-patients and thus may be an important factor to target in patients and caregiver education.

There are numerous negative perceptions towards accepting oxygen therapy that require immediate intervention in the form of public and community education to increase community awareness of the benefits of oxygen therapy.

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