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Knowledge, Attitude and Practice and Associated Factors on Oxygen Therapy Among Nurses and Midwives in Y12 HMC-2022 Gc

Aragaw Birhane Kassaw[1], Tewodros Kassahun Tarekegn[3]*, Seblewongel Esubalew Bitew[2], Kirubel Tesfaye Hailu[4]*, Buure Ayderuss Hassen[3], Michael Yefrashowa Betemariam[3], Feven Negasi Abriha[4], Hamlet Mulu Aberha[3], Rediet Habtu Lebelo[5], Solomon Endale Dagnachew[3], Efrata Sentayehu Teshome[7], Birukti Gebreyohannes Habtezgi[3], Helen Assefa Berhe[6], Surafel Alemayehu Tsegaye[8]**

[1]*Department of Medicine, St. Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia.*
[2]*Department of Nursing, Alkan university collage, Bahir Dar, Ethiopia*
[3]*Department of Medicine, Hayat Medical College, Addis Ababa, Ethiopia.*
[4]*Department of Medicine Jimma University Oromia Region, Ethiopia*
[5]*Department of Medicine, Mekelle University, College of Health Science, Mekelle. Ethiopia*
[6]*Department of Medicine, Addis Ababa University, Tikurs Anbessa, College of Health Sciences, Ethiopia.*
[7]*Department of Medicine: Africa Medical College Addis Ababa, Ethiopia.*
[8]*MPH Candidate at the Harvard T.H. Chan School of Public Health in Boston, Massachusetts, USA.*
Corresponding author: Tewodros Kassahun Tarekegn.

Abstract

Background: Oxygen is an essential medical therapy which saves a lot of lives. It is administered as a corrective treatment for conditions resulting in hypoxia (low level of oxygen in the blood). So, the nurse should have more skills and experience to performing this procedure in the aim to maintain the patient's life safe and avoid complications associated with incorrect oxygen administration technique.

Objective: The study was conducted to assess the level of knowledge, attitude and practice towards oxygen therapy administration and associated factors among nurses and midwives at Yekatit 12 Hospital Medical college in 2022.

Method: To achieve the research objectives a hospital based cross-sectional study was applied. The sample size drawn was 198. Pertinent data for the study were gathered through structured questionnaires. Descriptive and multiple logistic regression were used in the analysis of independent and outcome variables.

Result: Data is collected from 211 participants and my response rate is (198)93.8%. Among 198 nurse and midwives 50.5% were males, 49.5% with the range of 30-39yrs and most of them (48.5%) have work experience of 6-9yrs.The mean score of knowledge, attitude and practice were 5.7(SD=1.608),4.01(SD=1.837) and 14.5(3.49) respectively. It is found that the level of knowledge was adequate in 117(59.1%) and poor 81 (40.9%) of participants. Practical skill is found to poor in 63.1% of participants and factors associated with this were absences of oxygen therapy guide line, not participating in any training about oxygen therapy and supply of oxygen delivery system with P-value of 0.01, 0.02 and 0.002 respectively. work experience also contributes for poor practice.

Conclusion: There is a clear practical gap among nurses and midwives working in Y12HMC and this study also shows as there is poor attitude in almost have of the participants which high compared to another research. The possible associated factors for poor practice were identified as work experience less than 1yr and absence of training and oxygen guideline. So, to enhance safe use of oxygen therapy the referral hospital needs to push its effort for improving the practice and attitude of nurses and midwives towards oxygen therapy by facilitating trainings, increases the availability of guideline and supply of oxygen.

Keywords: oxygen therapy; knowledge; attitude; practice

Introduction

Oxygen is an essential medical therapy that can save the lives of many patients [1]. Oxygen therapy is used to treat many diseases which present with hypoxemia, a serious condition caused by low levels of oxygen in the blood [2]. Pneumonia is the largest infectious cause of death in children worldwide, claiming the lives of an estimated 800,000 children under the age of five, which is equivalent to around 2200 children every day [3]. Supplemental oxygen is among the most

administered medical therapies in hospitalized patients [4]. In many hospitals, supplemental oxygen can be administered and titrated without a physician order, in contrast to most medications [5]. New hypoxemia is a cardinal bedside sign of acute or impending decompensation as well as a marker of disease severity for several chronic comorbidities [3].

Oxygen is a commonly used drug in the clinical setting and like other drugs its use must be considered carefully [4]. This is particularly true for those patients who are at risk of type II respiratory failure in whom the risk of hypercapnia is well established. In recent times, several international bodies have advocated for the prescription of oxygen therapy in an attempt to reduce this risk in vulnerable patient groups [5]. Despite this guidance, published data have demonstrated that there has been poor uptake of these recommendations. Multiple interventions have been tested to improve concordance, and while some of these interventions show promise, the sustainability of these interventions is less convincing [4]. The most common indication for the administration of supplemental oxygen is acute or chronic hypoxemia. Causes include pulmonary infection, chronic obstructive pulmonary disease (COPD), congestive heart failure, pulmonary embolism, and shock [5]. Oxygen therapy can also be beneficial in patients with burn injuries, carbon monoxide or cyanide poisoning, gas embolism, or other conditions [5]. There are no absolute contraindications to the administration of supplemental oxygen [5].

Oxygen therapy is defined as oxygen given at concentrations greater than that found in the surrounding air [2]. It is used as a treatment for respiratory failure, itself defined as an inability of the lungs and respiratory apparatus to ensure adequate systemic oxygenation and/or carbon dioxide excretion [3]. This is further classified by whether there is a failure of oxygenation (a low partial pressure of oxygen [PaO2]) with a normal partial pressure of carbon dioxide (PaCO2, "type 1" respiratory failure), or whether the PaCO2 is high ("type 2," or hypercapnic, respiratory failure) [6]

Methods and Materials

Study area: The study was conducted at Yekatit 12 Hospital medical college. Yekatit-12 hospital Medical College (Y12HMC) is located at Addis Ababa. It was established in 1923 as one of modern medical service delivery center in the country. In 2011 it was a great moment to Y12HMC; because, the hospital became a medical college by a decision of city government of Addis Ababa. Now adays, it runs undergraduate and postgraduate programs. The hospital provides services for a population of approximately 4 million people. The hospital is also furnished with various medical facilities. Recent development, in oxygen therapy, has brought new challenges for the referral hospitals. This has made nurses and midwives more accountable. In addition, Yekatit-12 hospital Medical College also acknowledges oxygen therapy use must be considered carefully. So, this study was an endeavor to assess the level of knowledge, awareness and practice towards oxygen therapy administration by focusing on nurses and midwives.

Study period

This study was conducted over a period of 5 months from April 1st to August, 29th 2022 G.C.

Study design

A Hospitals based cross-sectional study was conducted.

Source population

The source population for this study constituted nurses and midwives working at Y12HMC. Currently nurses and midwives' population stand at 451 (28).

Study population

During study period the study population constituted all nurses and midwives (Bsc and diploma) working at inpatient department of Y12HMC.

Inclusion criteria

This study included nurses and midwifes (Bsc and diploma) who were present at the working place during the study period and have also willingness to participate on the study.

Exclusion criteria

This study excluded nurses and midwives who are working in the outpatient department except E-OPD, who are working in the surgical ward and nurses and midwives who are in annual, maternity and sick leave during the study period, and in addition, those who are not willing to participate and incomplete response.

Sample size

There are 451 nurses and midwives working in Yekatit 12 Hospital Medical college and nurses and midwives who are working in the inpatient department and E-OPD will be included in this study. Since the study population are small. The researcher

took all the participants who fulfil the inclusion criteria.

Sampling technique

The careful design of the sample size and the right selection of sampling techniques are important to ensure the representativeness of the sample that can be dependable to generalize the information obtained from the sample to the whole population of the study (29). This study used non random sampling technique.

Study variables

Dependent variables

Nurses and midwives' knowledge: it was assessed by 8 questions linked to supplemental oxygen therapy. Nurses and midwives' attitude: it was assessed by 6 questions linked to attitude toward oxygen administration. Nurses and midwife's practice: it was assessed by 7 essential steps of administrating oxygen therapy.

Independent variables

Based on the literature review, the socio demographic factors and the independent variables that affect nurses and midwives' knowledge, attitude, and practice for oxygen therapy were briefly defined and summarized in the table below.

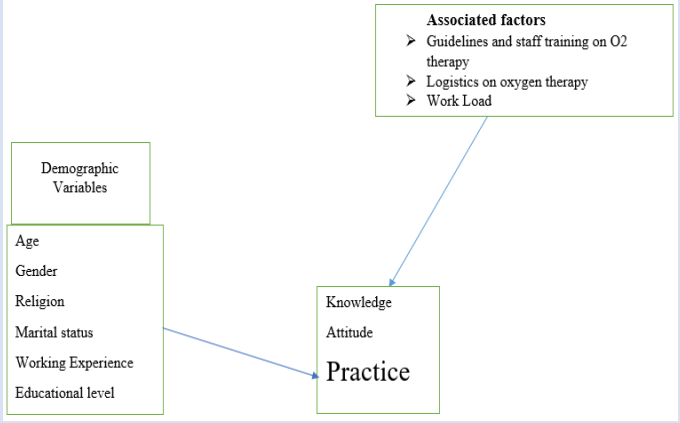

Figure 1: Conceptual frame-work on Knowledge, attitude and practice of nurses toward oxygen administration at Y12HMC.

Data source and collection method

According to Wimmer and Dominick (2011), method is a specific data collection process in accordance with the assumption of the selected methodology. Primary data are those which are collected a fresh and for the first time and thus happen to be original in character. For this study primary data sources were nurses and midwifes (Bsc and diploma) working at Y12HMC. Thus, this study applied mainly the standard questioners for the knowledge and attitude and check lists for the practical part.

Data collection procedure

A self-administered and structured questionnaire which is adopted from a previous study and in-depth literature review is used for data collection except for the practical part which was conducted by observation with checklist. Enumerators or data collectors were trained from each study areas on the structured questionnaire. Details about the questionnaire was discussed during training. There are 27 questions including 8 knowledge ,6 attitude, 7 practical and 5 associated factor questions. The questionnaires are developed to meet the specific objectives of the study. The questionnaire is prepared in English and was deployed for the respondents. To measure the standard of the structured questionnaire a pre-test was given to the data collectors before the actual data collection. The role of a supervisor was assurance of data completeness, consistency and clarity during data collection. One enumerator was collected on an average data of 5 nurses self-administered questionnaire or practical checklist each day.

Data Reliability

The content of the tool was developed by researcher with the help of the Supervisor and it was formulated to local context. A pre-test was done involving 10 nurses and midwives, who were excluded from the study to test the tool. The purpose of this pre-test study was to check whether the tool was well designed in a way that would allow participants to understand it and to estimate the time required for participants to fill in the questionnaire. The tool was also tested for internal consistency through Cronbach's alpha for reliability which was 0.71.

Method of data analysis

Data was cleaned, coded, and entered using SPSS version 26 software (IBM Corporation, Armonk, NY, USA). Multivariate logistic regression was used for the analysis of the data. An adjusted odd Ratio with 95% confidence intervals (CI) was computed to identify the presence and strength of associations, and statistical significance was declared at $p < 0.05$. Finally, the result was presented in the form of table.

Ethical consideration of the study

Confidentiality was considered in all levels of the study during information gathering. This section of the research presented the ethical concern to be considered by the researcher while conducting this study and handling the respondents' information (confidentiality), honesty of the information, data collection and analysis. In respective of data collection, there are a number of ethical principles to which the researcher strictly sticks and considered. For instance, to collect pertinent data from the respondents, the researcher took support letter from Yekatit 12 Hospital Medical College. Once the necessary data were collected, the researcher tried to handle and process the data obtained with great care by considering ethical principles. The data were handled property after it was received from the participants, and then kept carefully. Finally, the researcher kept the collected data for the coming five years in safe custody. Regarding data analysis and reporting, the researcher tried to be honest, while analyzing and reporting the obtained results. A great deal of trust was placed in each researcher's integrity, and it would clearly be a major ethical issue. Therefore, the duty to represent data honestly extended to the analysis and reporting stage of the research. This protects the distortion of the study's conclusion and recommendation.

Dissemination of result

Timely dissemination of the study findings to the relevant organizations and stakeholders will be carried out. The plan for dissemination of the project result will be based on the schedule from Yekatit 12 Hospital Medical College. The report paper will be conjointly disseminated to the priority bodies which Yekatit 12 Hospital Medical College, department of master of Pediatrics and Child Health, Addis Ababa Addis Higher Referral Hospitals and different interested governmental and non-governmental organizations. Publication in scientific journals and online dissemination will be considered.

Operational definitions

1. Assess: This is the mean used to find the level of KAP of midwives and nurses on oxygen administration. 2. Knowledge: This means the information received from education or experience of nurses and midwives on oxygen administration as shown by their knowledge grade which are measured as adequate knowledge who answered the knowledge questions above the median and inadequate who scored below the median [28]. 3. Practice: This means the work of applying the specific actions in the oxygen administration whereby it can be measured by used check list and the following terms are used; good practice and poor practice with their scores are above and below the median respectively [29]. 4. Attitude: This is the way of responding to something which can be positive or negative to wards to ideas, situations, object and person. These can be seen as above median and below median as positive and negative attitude respectively [29]. 5. Oxygen Administration: This is the action of giving oxygen which is a gas that is used as a medication in case of needed to the patient according to the known condition, and it is given as medical support issue.

Results

Introduction

This chapter attempted to analyze and interpret the collected data. The data was collected from 211 participants and my response rate is (198)93.8%. The results are made to relate to the key considerations discussed in the literature review sections. This study assessed the level of knowledge, attitude and practice towards oxygen therapy administration and associated factors of practical skills among nurses and midwives at Yekatit 12 Hospital Medical college in 2022G.c. The presentation and analysis of the data in this chapter were organized in to six sections. Section one presented sociodemographic characteristics of nurses and midwives. Section two illustrated knowledge status of nurses and midwives towards oxygen therapy. Section three presented nurses and midwives' attitude level towards oxygen therapy. Section four presented nurses and midwives' practice for oxygen therapy. Section five illustrated factors affecting the practice of nurses and midwives. Section six discussed about the result and findings. The analysis was done in several steps. Descriptive statistical values such as; mean, standard deviations (SD) and median that have been used for continuous variables and distribution frequencies. In testing the relationship between

nurses' and midwives' Practice on the oxygen administration with demographic variables and associated factors, bivariate and multivariate analysis were used.

Sociodemographic characteristics of nurses and midwives

Nurses and midwives' socio demographic status was collected. It includes age, educational status, sex as presented (Table 1).

Table 1: Socio demographic variables of Nurses and Midwives in Y12HMC

Socio-demographic variables	Frequency	Percent
Sex		
Male	100	50.5%
Female	98	49.5%
Age		
20-29 years	76	38.4%
30-39 years	98	49.5%
40-49 years	19	9.6%
>49 years	5	2.5%
Educational background		
Diploma Nurse	24	12.1%
Degree (BSC Nurse)	174	87.9%
Work experience		
Less than 1 year	12	6.1%
2 to 5years (including 5 years)	55	27.8%
6 to 9 years (including 9years)	96	48.5%
10 to 15 years (including 15 years)	10	5.1%
>15 years	25	12.6%
Total	198	100

As illustrated in the above table, total of 198 nurses and midwives participated, of which the majority (49.5%) are in the age group of 30-39 years. The minimum and maximum age was found to be 20 and 61yrs respectively. Further, among 198 nurses and midwives included in the study, 49.5% were females. Moreover, among 198 nurses and midwives the type of nursing profession were diploma nurses 24 (12.1%), and Bsc nurses 174 (87.9%). This was an outstanding outcome indicating that the referral hospital was allocating professionals to carryout nursing activities.

knowledge status of nurses and midwives towards oxygen therapy

During this study, eight questions were posed for the study participants to measure their knowledge about oxygen therapy (Table 2). **Table 2** Clinical and Behavioral characteristics of the patient with LBP on follow-up at TASH neurology OPD from July-October 2022.

Table 2: Percentage of Nurses and Midwifes who knows correctly about oxygen therapy at Y12HMC.

Statements	Frequency	Percentage (%)
Supplemental oxygen therapy is used to prevent and treat hypoxia	182	91.9%
The normal oxygen saturation for adult is 95–100%	40	20.21%
Supplemental oxygen therapy is indicated during surgery	155	78.29%
Supplemental oxygen therapy is indicated during shock	135	68.2%
Pulse oximetry monitoring is affected by nails varnish/ paint, hypothermia, and or patient position	147	74.2%
Humidifier reduces the risk of dry oxygen and its side- effects	162	81.8%
Non-rebreathing oxygen face mask with a reservoir bag is used to deliver higher oxygen concentration than a nasal prong	149	75.3%
During oxygen therapy, apply water-based gauze if lips or nose become dry	160	80.8%
Mean	**5.7**	

From the eight questions asked about oxygen therapy 7 questions were answered correctly by more than 50% except that question about normal oxygen saturation which is correctly answered only by 20.21%%. The mean knowledge score of the participants was 5.7. Most (182 (91.9%)) of participates were aware that SOT should be administered to treat and prevent hypoxia, while only 40 (18.9%) nurses were aware that oxygen saturation for adult. The 135 (68.2%) respondents knew oxygen is indicated for shock patients (table 2). Based on the research 90 (45.5%) of participants have adequate knowledge,83(41.8%) participants have moderately adequate knowledge. Overall, the mean score was 5.7. The level of knowledge assessment was found good 117(59.1%) and poor 81 (40.9%) (Table 3).

Table 3: Knowledge score of nurses and midwives on oxygen therapy at Y12HMC.

Knowledge scores out of 8 questions	Frequency (%)	Knowledge percentage (%)	Level of knowledge	Measurement of central tendency
			Inadequate knowledge	Mean=5.7
1	1	0.50%		Median=5.5
2	2	1%		Mode=7
3	22	11.10%		SD=1.608
4	28	14.10%		Variance=2.586
5	28	14.10%		Range=7
6	27	13.60%	Adequate knowledge	Minimum=1
7	76	38.40%		Maximum=8

Nurses and midwives' attitude level towards oxygen therapy

As part of descriptive survey, the investigator contacted nurses and midwives via Likert scale questions about the attitude towards oxygen therapy. The majority of participants strongly agree on the care of the patient on oxygen therapy, for example, (50.3%) participants replied that using expert guideline is advantageous and 62% of participants are aware that a patient on oxygen does not mean that he/she is at the end of life. Most of the participants (72%) disagrees that using guideline for oxygen therapy is not complex. The surveyed nurses and midwives have positive opinion with using expert guidelines or protocols on oxygen therapy. This is shown 179 (90.4%) agreement by respondents. Meanwhile, the surveyed nurses and midwives consider the guideline as complex. This is indicated by 144 (72.7%) disagreement by respondents to the positive construct of the statement. Further, most nurses and midwives consider oxygen therapy as it is not worthwhile learning experience. This is also shown by 148 (74.8%) disagreement by respondents to the positive construct of the statement. Overall, the mean score was 14.5, mode 16, median 15 and St. Deviation 3.49. So, the result of level of attitude assessment was found good 102 (51.5%) and poor 96 (48.4%).

Table 4: Attitude of nurses and midwives towards oxygen therapy at Y12HMC

Frequency	Responses	Value %)
Using expert guidelines or protocols on oxygen therapy is advantageous	Strongly disagree	10 (5%)
	Disagree	9(4.5%)
	Agree	79(39.8%)
	Strongly Agree	100 (50.3%)
Using the guideline on oxygen therapy is not complex	Strongly disagree	95 (48%)
	Disagree	49(24.7%)
	Agree	10(5%)
	Strongly Agree	44 (22.2%)
It is important to document all observation made during oxygen delivery	Strongly Disagree	112 (56.5%)
	Disagree	50(25.2%)
	Agree	14(7%)
	Strongly Agree	22 (11.1%)
It is important to monitor patient's reaction to oxygen	Strongly disagree	109 (55.1%)
	Disagree	55(27.8%)

	Agree	20(10.1%)
	Strongly Agree	14 (7.1%)
Oxygen therapy procedure is worthwhile learning experience	Strongly disagree	96 (48.5%)
	Disagree	52(26.3%)
	Agree	29(14.6%)
	Strongly Agree	21 (10.6%)
A patient on oxygen therapy does not indicate the patient is at the end stage of life	Strongly Disagree	50 (25.3%)
	Disagree	25(12.6%)
	Agree	33 (16.7%)
	Strongly Agree	90(45.5%)

Nurses and midwives' practice for oxygen therapy

During the study the researcher observed the surveyed participants as they demonstrate oxygen therapy undertakings in respect of essential considerations as presented (Table 5).

Table 5: Nurses and midwives' practice on oxygen therapy at Y12HMC

Statements	Frequency	Percentage (%)
Assess oxygen saturation before administration	155	78.3%
Assess oxygen saturation during administration	88	44.4%
Check the device before administration	99	50%
Collect all necessary equipment before administration	96	48.5%
Adjust the flow rate appropriately during administration	112	56.6%
Use appropriate device size and way	122	61.6%
Follow patients' vital signs during administration	127	64.1%

As per Table, Below the participants' practice regarding oxygen administration is presented, where the observations were in all participants who were willing to participate. A few points were found to have high competence frequencies by participants during observation, such as; assessing oxygen saturation before administration, Adjust the flow rate appropriately during administration and Follow patients' vital signs during administration at 155(78.3%),112(56.6%) and 127 (64.1%) respectively. Overall, the mean score was 4.01. Practical assessment found to be good 73 (36.9%), and poor 125 (63.1%) (Table 6).

Table 6: Nurse and Midwives Practical score on oxygen therapy at Y12HMC

Practical scores out of 7 Questions	Frequency (%)	Practical percentage (%)	Level of Practical Skill	Measurement of central tendency
0	3	1.5%		Mean=4.01
1	5	2.5%	**Poor Practice**	Median=4
2	41	20.7%		Mode=3
3	42	21.2%		SD=1.837
4	33	16.7%		Variance=3.376
5	25	12.6%	**Good Practice**	Range=7
6	20	10.1%		Minimum=0
7	29	14.6%		Maximum=7

Factors affecting the practice of nurses and midwives

Bivariate and Multivariate regression analysis was applied to assess whether there is a significant association between the independent variables and the practice of nurses and midwives (Table 7).

Table 7: Associated factors with the practice of nurses and midwives at Y12HMC.

Variable	Practical outcome		Odds Ratio		P-value
	Poor	Good	COR95%CI	AOR95%CI	

SEX					
Male	65(65%)	35(35%)	1.17(0.66-2.09)		
Female	60(61.2)	38(38.8)	1		
Age					
20-29 years	51(67.1%)	25(32.9%)			
30-39 years	56(57.1%)	42(42.9%)	.735(0.115-4.68)		
40-49 years	15(78.9%)	4(21.1%)	1.125 (0.18-7.08)		
>49 years	3(63.1%)	2(36.9%)	1		
Religion					
Orthodox	79(63.2%)	46(36.8%)	0.89(0.40-1.96)		
Muslim	26(65.0%)	14(35.0%)	0.82(0.31-2.15)		
Protestant	20(60.6%)	13(39.4%)	1		
Educational Background					
Diploma	18(75.0%)	6(25.0%)	1.879 (.71-4.97)		
Degree	107(61.5%)	67(38.5%)	1		
Marital Status					
Single	48(67.6%)	23(32.4%)	.727(.11-4.60)		
Married	73(61.9%)	45(38.1%)	.933(.0.14-5.74)		
Divorced	1(25.0%)	3(75.0%)	.307(0.25-80.5)		
Widowed	3(60.0%)	2(36.9%)	1		
Work experience					
<1years	11 (91.7%)	1(8.3%)	.162(.018-1.464)	22.7 (1.47-352)	0.02*
2 to 5years	31(56.4%)	24(43.6%)	1.37(.51-3.64)	1	
6 to 9 years	63(65.6%)	33(34.4%)	.931(.37-.33)		
10 to 15 years	4(40.0%)	6(60.0%)	2.667(.59-12.02)		
>15 years	16(64.0%)	9(36%)	1		
Participate on the on-job training linked to oxygen therapy/administration:					
No	88(69.8%)	38(30.2%)	2.191(1.20-3.98)	1.97 (1.07-3.64)	0.02*
Yes	37(51.4%)	35(48.6%)	1		
The presence of oxygen therapy guideline					
No	88(72.7%)	33(27.3%)	2.88(1.58-5.25)	2.32(1.19-4.49)	0.01*
Yes	37(48.1%)	40(36.9%)			
Supply of oxygen and delivery systems in emergency department					
Inadequate	85(72%	33(28%)	2.57(1.42-4.66)	2.55(1.40-4.63)	0.002*
Adequate	40(50.0%)	40(50.0%)	1		
Influence of work load					
Influence	86(66.7%)	43(33.3%)	1.53(.84-2.80)	1.50(0.81-2.78)	0.19
Not influence	39(56.5%)	30(43.5%)	1		
The amount of oxygen cylinders against the number you need					
Inadequate	75(72.8%)	28(27.2)	2.41(1.33-4.35)	0.51(0.27-0.96)	0.03*
Adequate	50(52.6%)	45(47.4%)	1		

Discussions

The aim of this study is to assess the knowledge, attitude and practice of nurse and midwifes of Y12HMC.Therefore, this section is going to highlight in detail about the independent variables which were demographic characteristics and dependent variables which were knowledge, attitude and practical skills of nurses and midwives. The results are presented based on the current literature, objectives and conceptual frame-work of the study and P-value <0.05 was considered to show statistical significance among demographic variables with KAP and associated factors. And finally, data discussed here are from 198 participants who filled self-administered questionnaires properly and who agreed to participate in practical Skills.

Knowledge of nurses and midwives towards oxygen therapy

Assessment of knowledge of nurses and midwives on oxygen therapy was mainly focused on indications of oxygen therapy, factors that affect the pulse oximetry and benefits of non-reservoir non breathing face

mask. Concerning of knowledge status of nurses and midwives towards oxygen therapy slim majority are at the state of good condition. Previous results obtained in University Teaching Hospital of Kigali concurred with this finding [1]. In addition, previous empirical results revealed at South Gondar zone hospitals also comply with this finding [2]. The nurses and midwife's knowledge were found as inadequate on the normal oxygen saturation of adult patients and on the indications of oxygen for shock patients with magnitude of 20.21% and 68.2% respectively. In this study Slight majority of them (59.5%) of nurses and midwives have adequate and 40.9% have inadequate knowledge which comparable with the study done in turkey where 63.6% of nurse scored above the average [3]. but slightly is higher than the study done in Asmara, Eretria where 43.3% have adequate knowledge [4]. In the study done at Debre Tabor hospital, about 52% of the nurses had good knowledge which is comparable with our study [2]. The result in this study was higher when compared with the study done by Girma Lema in Ethiopia, in which 36.2% of the nurses had good knowledge [5].

Attitude of nurses and midwives towards oxygen therapy

Good attitude or positive attitude was found to be 102(51.2%) with mean score of 14.5 whereas poor attitude or negative attitude for oxygen therapy was 48.5%). Even if more than half of nurses have positive attitude for oxygen therapy much more awareness should have to be done. The guideline for oxygen therapy and delivery devices for paediatrics describes nurses should have encouraging attitude to the needs of oral and nasal hygiene in children, use of humidification devices when administering oxygen therapy [6]. It is possible to link the possible negative attitude to the high practical gap reported by the participated nurses and midwives. The positive attitude that appears to be comparable with those of negative attitude of participants suggested that proper information on oxygen therapy needed which influences the willingness of nurses and midwives towards the practical skill. A similar study which was done in Addis Ababa Ethiopian in 2009 shows good attitude of the nurse and midwives was 53.3% and poor attitude was found to be in 46.7 which is nearly comparable to this study [33]. This result is the same as that of research done in cape coast, Ghana which shows 37.9% of the nurses and midwives have satisfactory attitude and 62.8% have fairly satisfactory attitude [7].

Practice of nurses and midwives on oxygen administration

The practice level of nurses on oxygen administration in this research showed that only 73 (36.9%) of the nurses had good practice and 125 (63.1%). % Have poor practice. Findings of this study showed that most of participants have poor practice which is consistent with the study done in Debre Tabor hospital where 67% of participants were having Poor practice factors incriminated in this study were lack of training and increased work load [2]. In the study which is done in Addis Ababa the majority of participants 56.6% were having poor practice (5)and in the same study done in Eretria 55% had poor practice which might be due to absence of oxygen therapy guidelines and increased work load [4]. From the lists of questions to assess the practical skills of participants, assessing saturation before administrations of oxygen, adjust the flow of oxygen during administration and follow vital signs during administrations of oxygen therapy were answered by 78.3%,56.6% and 64.1% respectively. The poor practice of nurses and midwives again was found in Australia where reviewed the gaps on following the guideline for oxygen administration, administration of oxygen according to prescription, measurements of pulse oximetry and to the patients with respiratory distress, the arterial blood gases were not taken as it had to be in the guideline at rates 87%, 91%, 91% and 68 % respectively [4]. Concerning this study Work experience of more less than one 1year, inadequate supply of oxygen and delivery systems, lack of training and absence of oxygen guideline were also significantly associated with poor practice for oxygen therapy.

Conclusion

This study showed that there is a clear practice gap among nurses who were working in Y12HMC and the knowledge and attitude of nurse also need improvement. Various scholars and academicians have conducted many studies across the globe to assess the level of knowledge, awareness and practice towards oxygen therapy administration. This research work was an attempt to assess the level of knowledge, awareness and practice towards oxygen therapy and associated factors of practical skills among nurses and midwives. Slim majority of the surveyed nurses and midwives are at the state of good condition with their knowledge about oxygen therapy. Participating on-job training, work experiences of more than 1 year, and

availability of guidelines were significantly associated with good knowledge towards oxygen therapy.

Recommendation

Based on the findings the following recommendations are forwarded. To enhance safe use of oxygen therapy the referral hospital needs to push its effort for improving the knowledge and attitude of nurses and midwives towards oxygen therapy. In limited resource setting regarded bodies need to put their resources in align with prominent variables which affect the practice of nurses and midwives such as on-job training, availability of guidelines, and availability of oxygen and delivery system. The study is conducted on site therefore there is need of further research that could be conducted in other to generalize outside the participating institution.

Strength

This paper has relatively large sample size when it is compared with most of previous literatures. It is the first study for this hospital with this much sample size and it can be used as base line for feature improvement.

Limitation

The self-reporting nature of the data collection is a limitation in that some participants might have under-reported or over-reported their views. Another limitation is the mode of data collection at the work setting itself and Peoples are busy during their work hours and may have read the questionnaire with incomplete concentrations. There was time constraint to conduct the study in other sites.

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