



An Appraisal of Awareness and Practice of Hyperbaric Oxygen Therapy (HBOT) among Nigeria-trained Doctors.

Omobamidele Betiku¹, Ehimen Ferguson²

¹Oxford University Hospitals NHS Foundation Trust

²Spas strategic research and consultancy services, United Kingdom

ABSTRACT

Article's QR code



Background: Hyperbaric oxygen treatment (HBOT) is a systemic medical procedure in which a patient is placed within a specially designed hyperbaric chamber and given a high proportion of oxygen at pressures greater than one atmosphere. These days, it is being increasingly utilised to treat medical diseases including decompression illness and to help patients with chronic conditions like osteonecrosis, hypoxic wounds, air or gas embolism, carbon monoxide poisoning; cyanide poisoning; smoke inhalation.

Objectives: This study aims to assess the awareness, knowledge and practice of Hyperbaric Oxygen Therapy (HBOT) as a treatment modality among Nigeria trained doctors.

Methodology: This study was carried out using a 24-question anonymous questionnaire to gauge participants' awareness, knowledge, and use of hyperbaric oxygen therapy. The study's participants were qualified Nigerian physicians, and descriptive statistics were used to examine the data.

Results: The study observed that most of these doctors demonstrated limited awareness and knowledge of HBOT. Sadly, about 86% reported never visited a hyperbaric unit or chamber which is a critical facility for HBOT delivery. Similarly, only 23% and 15% knew HBOT is indicated for carbon monoxide poisoning and gas embolism.

Conclusion: The findings of the study simply reflect the huge awareness and knowledge gap as well as practice of Hyperbaric Oxygen Therapy among Nigeria trained doctors. Therefore, there is need for all concerned authorities to urgently set up awareness campaigns, training programs and set up centres for hyperbaric oxygen therapy to bridge this knowledge and practice gap.

ARTICLE'S INFO

Article No.: 091625139

Type: Research

Full Text: [PDF](#), [PHP](#), [EPUB](#), [MP3](#)

DOI: [10.15580/gjbs.2025.1.091625139](https://doi.org/10.15580/gjbs.2025.1.091625139)

Accepted: 20/09/2025

Published: 30/09/2025

***Corresponding Author**

Omobamidele Betiku

E-mail: bamidelebetiku@yahoo.com

Keywords: Hyperbaric Oxygen Therapy, Awareness, knowledge, practice, Doctors, Nigeria

INTRODUCTION

Hyperbaric Oxygen Therapy (HBOT) is a specialized medical intervention in which patients breathe 100% oxygen at pressures greater than atmospheric pressure.¹ Treatment is delivered in either monoplace chambers, accommodating a single patient, or multiplace chambers, designed for 2–14 patients. Pressures commonly range between 2 to 3 atmospheres absolute (ATA), where 1 ATA represents normal atmospheric pressure (14.7 psi or 101 kPa).² In monoplace chambers, the entire chamber is pressurized with oxygen, whereas in multiplace chambers, ambient air is used, and patients inhale oxygen through a mask, hood, or endotracheal tube. Each session typically lasts 1.5–2 hours, with treatment frequency ranging from one to three times daily depending on indication. During HBOT, arterial oxygen tensions may exceed 2000 mmHg, while tissue levels can rise to 200–400 mmHg, resulting in enhanced oxygen delivery and promotion of angiogenesis.²

The physiological basis of HBOT is grounded in gas laws, particularly Boyle's Law, which explains the reduction of gas bubble volume under increased pressure. This principle underlies HBOT's benefit in conditions such as decompression sickness and air embolism, where increased oxygen tension facilitates the dissolution of inert-gas bubbles while preventing new bubble formation.^{3,4} Breathing 100% oxygen at ambient pressure increases dissolved oxygen in plasma fivefold (to ~1.5 ml/dL), while at 3 ATA, levels may reach ~6 ml/dL—sufficient to meet resting cellular metabolic demands independent of hemoglobin-bound oxygen.³

HBOT has been increasingly applied across several medical specialties, though its mechanism of action is complex and not fully understood, combining the physiological and biochemical effects of hyperoxia with pressure-related gas dynamics.⁵ The Undersea and Hyperbaric Medical Society (UHMS) recognizes thirteen approved indications supported by research and clinical experience. These include air or gas embolism, carbon monoxide poisoning, cyanide poisoning, smoke inhalation, clostridial myositis and myonecrosis (gas gangrene), crush injuries and compartment syndromes, decompression sickness, enhancement of healing in selected chronic wounds, exceptional blood loss anaemia, intracranial abscess,

necrotizing soft tissue infections, refractory osteomyelitis, compromised skin flaps and grafts, delayed radiation injury, and thermal burns.⁶

While generally safe, HBOT is not without risks. The most frequent adverse effect is reversible myopia, attributed to lens changes, though no association with cataract formation has been reported.⁷ Neurological oxygen toxicity, described as early as 1878 by Paul Bert, may precipitate seizures but is rare within established tolerance limits.^{6,8,9} Barotrauma to the middle ear and sinuses is common but preventable with equalization manoeuvres or tympanostomy tubes.^{10–12} Pulmonary barotrauma, pneumothorax, and dental pain are rare complications. Psychological effects such as claustrophobia and the risk of chamber fires remain important safety considerations, with over 50 fire-related fatalities reported in the last two decades.¹³

Concerns regarding HBOT's potential to stimulate tumour progression or cause teratogenic effects have not been substantiated. Feldmeier (1994, 2003) reported no evidence linking HBOT to cancer growth, while clinical and experimental studies have shown no association with foetal malformations, including neural tube defects or limb anomalies.^{14–16} The only absolute contraindication to HBOT is untreated tension pneumothorax, while relative contraindications include cardiac disease and difficulty with pressure equalization.⁶

Despite its therapeutic potential, HBOT remains underutilized in Nigeria, where awareness, physician training, and infrastructure development are limited. Greater integration into mainstream medical practice could expand treatment options in fields such as wound care, neurology, and emergency medicine.

Justification for the study

There is a scarcity of research on HBOT based on a thorough review of the literature and anecdotal reports.^{17,18} This is concerning because oxygen is a critical component in the treatment of critically ill patients, and its appropriate use or lack thereof can have a negative impact on patients' outcomes. Considering the foregoing, this study is being conducted to fill any knowledge gaps by assessing doctors' awareness and practice of HBOT and as an alternative therapy in the management of some medical conditions. Moreover, the frontier of hyperbaric

medicine is fast gaining grounds and more indications for the HBOT is discovered especially in developed countries. Nigeria-trained doctors need to align with this global trend in patient care, and it is important to assess their knowledge and awareness of HBOT.

Aim of the study

This study aims at assessing the level of awareness and practice of HBOT among Nigeria-trained doctors within and outside the country.

Specific objectives of the study

1. To ascertain the awareness of hyperbaric medicine among Nigeria-trained doctors practicing in Nigeria or in the diaspora.
2. To assess the knowledge of Nigeria-trained doctors on HBOT as an alternative medical therapy in the management of certain diseases.
3. To determine the awareness of Nigeria-trained doctors practicing in Nigeria or in the diaspora on availability of referral centers for HBOT in the country.
4. To ascertain the practice of HBOT of Nigeria-trained doctors practicing in Nigeria or in the diaspora.

MATERIALS AND METHODS

This study was conducted with the use of anonymized questionnaire comprising 24 questions and designed using Google Forms. The study design was a total sampling of all eligible doctors and who gave consent. Moreover, two scoring systems were used to gauge subject knowledge on HBOT. Participants were questioned on the approved indications by the Undersea and Hyperbaric Medical Society (UHMS) and location of functional hyperbaric chambers with "Yes" or "No" answers and a negative scoring system. Subjects were allowed to complete the questionnaire only once.

Study population

All medical doctors who received their training in Nigeria and were either practicing within the country or abroad were invited to participate. According to the Medical and Dental Council of Nigeria (MDCN) register, a total of 49,586 doctors were licensed to practice in Nigeria at the time of the study.¹⁹ In 2018, NOI Polls Limited, a Nigerian opinion polling and research firm, reported that 88% of doctors in Nigeria were seeking job opportunities abroad. From 2015 to 2021, an estimated 4,528 Nigerian-trained medical doctors migrated to the United Kingdom (UK), reflecting a sustained rise in emigration trends over the decades.²⁰ Nigeria is composed of 36 states and the Federal Capital Territory (FCT) in Abuja. The Nigerian Medical Association (NMA) is the central professional body for physicians across these regions, and its responsible for both championing health-related issues and safeguarding the welfare of members. Each state

and FCT branch chairman of the NMA maintains a database of registered medical and dental practitioners within their jurisdiction, and this was formally requested by the researcher. Following data protection clearance, eligible participants were recruited through email and social media invitations. A follow-up reminder was issued two weeks after the initial invitation.

Inclusion Criteria

1. All Nigeria-trained medical and dental practitioners who had a medical training in Nigeria whether they are practicing in Nigeria or the diaspora.

Exclusion Criteria

1. All doctors of other nationalities
2. Nigerian doctors without medical training in Nigeria.
3. Nigeria-trained medical and dental practitioners who do not give consent.

Statistical analysis

Numerical data were summarized as means with standard deviations or as medians with interquartile ranges, while categorical data were expressed as percentages. Two modelling approaches were applied to examine the relationship between each dependent variable and the 12 independent variables. Binomial logistic regression was employed for categorical dependent variables with two categories, whereas generalized linear models were used for numerical dependent variables. All analyses were conducted using IBM® SPSS® Statistics version 24 (IBM Corporation, Armonk, New York).

Measurement of Variables

The dataset comprised 24 variables. Nine were defined as dependent variables: knowledge of hyperbaric chamber locations; recognition of Undersea and Hyperbaric Medical Society (UHMS)-approved HBOT indications (scored correct or incorrect); understanding of pressure-related questions; referral practices for HBOT (including concerns affecting referral and willingness to refer in the future); and knowledge of HBOT's pharmacological benefits. The remaining 15 variables were treated as independent variables, including years of practice, age, gender, professional grade, training location, medical education location, prior hyperbaric unit (HBU) visits, scuba diving experience, attendance at lectures on hyperbaric medicine, and prior personal receipt of HBOT.

The questionnaire was designed to address the study objectives and included yes/no items, multiple-choice questions, single best answers, and explanatory responses. Each correct answer scored one point, with total scores ranging from 0 to 17. Knowledge levels were classified according to Bloom's cut-off points as high (80–100%; 14–17 points), moderate (60–79%; 11–13 points), or poor (<60%; <11 points).²¹

Ethical consideration

This study conforms to national and international ethics principles and legislation as enshrined in the Declaration of Helsinki and other documents. Following

independent review, ethical approval was obtained from the Health Research Ethics Committee, Lily Hospitals Limited, Warri, Nigeria.

RESULTS**Table 1. Socio-demography of study participants**

Variable	Frequency	Percentage
Gender		
Female	57	37.5
Male	94	61.8
Prefer not to say	1	0.7
Age range		
25-29	6	3.9
30- 34	14	9.2
35-39	37	24.3
40-44	45	29.6
45-49	28	18.4
50-54	7	4.6
55-59	7	4.6
Above 60	8	5.3
Marital Status		
Divorced	2	1.3
Married	126	82.9
Separated	4	2.6
Single	17	11.2
Widowed	3	2.0
Year graduated from medical school		
1970 - 1979	2	1.3
1980 - 1989	6	3.9
1990 -1999	12	7.9
2000 - 2009	74	48.7
2010 - 2019	54	35.5
2019 - 2022	4	2.6
Currently Practicing in Nigeria or not		
No	40	26.3
Yes	112	73.7
Country of current practice if not Nigeria		
No response	112	73.7
Canada	3	2.0
Saudi Arabia	3	2.0
United Kingdom	17	11.2
United States of America	6	3.9
Others	11	7.1
Current Grade		
Consultant	61	40.1
Foundation Doctor	5	3.3
Medical Officer	23	15.1
No response	3	2.0
Others	19	12.5
Resident Doctor	41	27.0
Specialty		
Laboratory	2	1.3
Medical	124	81.6
No response	7	4.6
Public health	1	0.7
Surgical	18	11.8

Table 1 shows that 152 respondents completed the questionnaire, with males (61.8%) nearly twice as many as females (37.5%). The largest proportion fell within the 40–44-year age group (29.6%). Most

respondents were married (82.9%) and practicing in Nigeria (73.7%). Nearly half were Consultants (40.1%), and more than three-quarters specialized in medicine (81.6%).

Table 2: Awareness and Exposure to Hyperbaric Oxygen Therapy (HBOT)

Variable	Frequency	Percentage
Ever visited a hyperbaric unit or a hyperbaric chamber		
No	130	86
No response	1	0%
Yes	21	14%
Ever carried out scuba diving		
No	148	97%
Yes	4	3%
Ever carried out a dry dive in a hyperbaric chamber		
No	145	95%
Yes	7	5%
Ever attended a lecture on hyperbaric medicine		
No	115	76%
Yes	37	24%
Ever received HBOT		
No	145	95%
Yes	7	5%
Indications for HBOT relevant to your specialty		
No	60	40%
No response	2	1%
Yes	90	59%
Awareness of a functioning HBOT facility in Nigeria		
No	135	89%
No response	1	0%
Yes	16	11%

Table 2 shows that most respondents had limited awareness and exposure to HBOT. The majority had never visited a hyperbaric unit (86%) or participated in a dry dive within a chamber (95%), and 97% had no SCUBA diving experience. Approximately three-quarters (76%) had never attended a lecture or

seminar on hyperbaric medicine, while 24% reported some theoretical exposure. Just over half (59%) were aware of HBOT indications relevant to their specialty, whereas 89% were unaware of any functioning hyperbaric units in Nigeria.

Table 3: Knowledge and Practice of Hyperbaric Oxygen Therapy (HBOT)

Variable	Frequency	Percentage
HBOT INDICATOR		
Anaerobic or mixed anaero-aerobic bacterial infections	55	15%
Autism	7	2%
Carbon monoxide poisoning	99	26%
Chronic refractory osteomyelitis	23	6%
Delayed wound healing	58	15%
Diabetes mellitus	20	5%
Gas embolism	55	15%
Multiple Sclerosis	11	3%
Not sure	30	8%
Others	15	4%
Parkinson's disease	5	1%
Ever referred for HBOT		
No	142	94%
No response	2	1%
Yes	8	5%
Aware of HBOT's beneficial pharmacological effects		
No	10	7%
No response	4	2%
Yes	138	91%
Pressure of HBOT delivery		
Atmospheric pressure	2	1%
Higher than atmospheric pressure	106	70%
Lower than atmospheric pressure	4	3%
Not sure	40	26%

Table 3 shows that most respondents identified carbon monoxide poisoning as an indication for HBOT (26%) and were aware of its beneficial pharmacological effects (91%). However, nearly one in ten (8%) reported being uncertain about any HBOT indication.

Table 4: Barriers and Future Considerations for HBOT

Variable	Frequency	Percentage
Factors that prevent referral for HBOT		
Efficacy of HBOT	2	1%
Logistics	61	41%
No concerns	40	26%
No response	2	1%
Others	28	18%
Safety of HBOT	19	13%
Consideration for future HBOT referral		
No	11	7%
No response	2	1%
Yes	139	92%

Table 4 shows that most respondents (94%) had never referred a patient for HBOT, with logistical challenges cited as the most significant barrier (40%). Notably, however, 92% expressed willingness to consider HBOT referral in the future.

DISCUSSION

Although hyperbaric oxygen treatment (HBOT) is a novel intervention with a poorly understood mechanism of action, it is becoming more used in various fields of medical practice. Clinicians may therefore ask for its use for their patients, but they frequently lack a thorough understanding of its workings. The physiological and biochemical effects of hyperoxia, as well as the gas laws, are the basis of HBO's effects.⁵ Unfortunately, despite HBOT's vital position in modern day medicine, many doctors hardly understand its applications and mechanisms of action. Consequently, action is needed to increase knowledge of the fundamental significance of HBOT in the modern medical field, particularly in low economic countries like Nigeria.

The results of this study unequivocally demonstrate that most Nigerian healthcare professionals lacked adequate awareness and understanding of hyperbaric oxygen therapy. This finding stood in stark contrast to that of Margri *et al.*, who showed that most healthcare professionals were well-versed in hyperbaric oxygen therapy.¹ However, the results of subsequent studies carried out in Africa and other regions of the world were in line with the findings of this one, which showed that most medical professionals knew very little about hyperbaric oxygen therapy.^{22,24-26}

The low level of knowledge has significant public health implications because it simply means that most patients who may require hyperbaric medication may not have access to it or receive this treatment because most healthcare professionals are unaware of it. As a result, more healthcare professionals must participate in training on the significance of hyperbaric therapy, which falls under the purview of the Medical Council of Nigeria to ensure that the knowledge is available to everyone. The geography of the nation, health care professionals' level of expertise, and location where the health care worker were trained could all be contributing factors to the discrepancy in the outcomes.

Furthermore, in this study, only less than one-third of the participants had good knowledge of indications for hyperbaric oxygen therapy. This was not surprising as similar studies from other parts of the world including Nigeria, Turkey, and Egypt also reported a poor knowledge of less than 33%.²⁴⁻²⁶

However, the finding is inconsistent with reports made by Basazine *et al* in a multi-centre studies conducted in 2022 where more than 50% of the participants had good knowledge of hyperbaric oxygen therapy.²⁷ This report is in agreement with another study by Kumarasinghe *et al.*, where more than 60% of the respondents had good knowledge of HBOT.²⁸ The difference in findings may not be unconnected with the types of study participants, level of health care development and methodology employed in the study. The significance of this conversation lies in the reality that the Nigerian government must do more to ensure that most healthcare professionals have access to HBOT education, which would raise standards of practice and enhance patient outcomes.

According to the study's findings, nearly all the participants had inadequate experience with hyperbaric oxygen therapy. In contrast, at least one-third of the patients in other research had good hyperbaric oxygen therapy practices. The variations in this research might be solely attributed to the individual's educational attainment, training, and healthcare environment. This is a serious public health issue, and as such, all stakeholders must act quickly to put policies in place that will increase healthcare workers' knowledge of hyperbaric oxygen therapy. This will eventually result in more patients receiving treatment with hyperbaric oxygen therapy, which will reduce morbidity and mortality.

CONCLUSION AND RECOMMENDATIONS

The study's conclusions highlight the low level of awareness, knowledge gap, and the sub-optimal practice of HBOT among Nigeria trained doctors. To close this knowledge and practice gap, the Ministry of Health and other relevant agencies must immediately establish training programs, awareness campaigns, and hyperbaric oxygen therapy institutes. Additional suggestions include the establishment of more HBOT centres in Nigeria that will act as hubs for exposure to and training in HBOT. Furthermore, HBOT instruction

should be included in the undergraduate and postgraduate curricula with the goal of improving Hyperbaric Oxygen Therapy knowledge and practice among Nigeria trained physicians.

REFERENCES

1. Bennett, M., Best, T., Babul-Wellar, S., Taunton, J. (2005a) Hyperbaric oxygen therapy for delayed onset muscle soreness and closed soft tissue injury. *Cochrane Database Syst Rev* 19: 1–39. Last accessed 03/09/2022 at 13:45Hrs
2. Thom SR. Hyperbaric oxygen therapy. *J. Intensive Care Med.* 1989; 4:58–74. Last accessed 30/07/2022 at 09:50Hrs
3. Mader JT, Brown GL. Guckian JC, Wells CH, Reinartz JAA mechanism for the amelioration by hyperbaric oxygen of experimental Staphylococcal osteomyelitis in rabbits. *J Infect Dis.* 1980;142:915–922. Last accessed 03/09/2022 at 14:47Hrs
4. Marx RE, Johnson RP. Problem wounds in oral and maxillofacial surgery; the role of hyperbaric oxygen in Davis JC, Hunt TK, eds. *Problem wounds-the role of oxygen.* New York; Elsevier. 1988:65–123. Last accessed 03/09/2022 at 14:50Hrs
5. University of Iowa. Indication for HBOT. Available at:<https://uihc.org/educational-resources/indications-hyperbaric-oxygen-therapy>. Last accessed 30/08/2022 at 13:05Hrs
6. Hampson NB, ed. *Hyperbaric Oxygen Therapy: 1999 Committee report.* Kensington MD, Undersea and Hyperbaric Medical Society, 1999. Last accessed 29/08/2022 at 08:37Hrs
7. Palmquist B-M, Philipson B, Barr P-O. Nuclear cataract, and myopia during hyperbaric oxygen therapy. *Br J Ophthalmol* 1984; 68:113–17. Last accessed 29/08/2022 at 08:58Hrs
8. Bert P. La pression barométrique, recherches e physiologie expérimentale. Paris, Masson, 1878. Last accessed 29/08/2022 at 09:03Hrs
9. Hampson N, Atik D. Central nervous system oxygen toxicity during routine hyperbaric oxygen therapy. *Undersea Hyperb Med* 2003; 30:147–53. Last accessed 29/08/2022 at 09:30Hrs
10. Aloushan AF, Almoaiqel FA, Alghamdi RN, Alnahari FI, Aldosari AF, Masud N, et al. *Assessment of knowledge, attitude and practice regarding oxygen therapy at emergency departments in Riyadh in 2017: A cross-sectional study.* *World J Emerg Med.* 2019;10:88-93.
11. Vrabec JT, Clements KS, Mader JT. Short-term tympanostomy in conjunction with hyperbaric oxygen therapy. *Laryngoscope* 1998; 108:1124–8. Last accessed 29/08/2022 at 09:30Hrs
12. Brown M, Jones J, Krohmer J. Pseudoephidrine for the prevention of barotitis media. A controlled clinical trial in underwater divers. *Ann Emerg Med* 1992; 21:849–52. Last accessed 29/08/2022 at 09:38Hrs

13. Sheffield PJ, Desautels DA. Hyperbaric and hypobaric chamber fires: a 73 year analysis. *Undersea Hyperb Med* 1997; 24:153–64. Last accessed 29/08/2022 at 10:03Hrs
14. Feldmeier JJ, Heimbach RD, Davolt DA, Brakora MJ, Sheffield PJ, Porter AT. Does hyperbaric oxygen have a cancer causing or promoting effect? A review of the pertinent literature. *Undersea Hyperb Med* 1994; 21:467–75. Last accessed 29/08/2022 at 09:54Hrs
15. Feldmeier J, Carl U, Hartmann K, Sminia P. Hyperbaric oxygen: does it promote growth or recurrence of malignancy? *Undersea Hyperb Med* 2003; 30:1–18. Last accessed 29/08/2022 at 09:58Hrs
16. Van Hoesen KB, Camporesi EM, Moon RE, Hage ML, Piantadosi CA. Should hyperbaric oxygen be used to treat the pregnant patient for acute carbon monoxide poisoning? A case report and literature review. *JAMA* 1989; 261:1039–43. Last accessed 29/08/2022 at 10:01Hrs
17. Mayhob MM. Nurses' knowledge, practices and barriers affecting a safe administration of oxygen therapy. *J Nurs Health Sci*. 2018;7:42-51.
18. Piryani R, Piryani S, Khatri P, Dhakal PR, Khan MA, Shahi A, et al. Survey to assess the knowledge of postgraduate residents about acute oxygen therapy. *EC Emerg Med Crit care*. 2019;3:93-102.
19. Emigration of Medical Doctors Still a Major Issue in Nigeria July 3, 2018 / Polls, Social - Available at [https://NOI Polls \(noi-polls.com\)](https://NOI Polls (noi-polls.com))
20. Nweke Emeka W. Chimere I. Medical Brain Drain in Nigeria and its impact on Sustainable Development Goal 3. Available on <https://southernvoice.org/medical-brain-drain-in-nigeria>, September 20, 2022.
21. Azfar M, Omarulharis S, Azfar H, Maryam A, Hafizah S, Adibah BA, et al. *Knowledge, attitude and practice of dengue prevention among sub urban community in Sepang, Selangor*. *Int J Public Health Clin Sci*. 2017;4:73-83.
22. Hassan AN, Othman AM, Saad AM. Nurses' awareness regarding hyperbaric oxygen therapy among patients with diabetic foot ulcer. *Helwan Int J Nurs Res Pract*. 2024;3(7):438. Available from: <https://hijnrp.journals.ekb.eg/>
23. Magri K, Bigeni S, Azzopardi CP, Camilleri L, Matity L, Muscat S, Meintjes WAJ. Hyperbaric oxygen therapy awareness within a doctor population. *Undersea Hyperb Med*. 2020;47(1):39-50. Doi:10.22462/01.03.2020.5. PMID: 32176945.
24. Adeniyi BO, Akinwalere OO, Ekwughe FC, Ogunmodede AF, Kareem AO, Olakanye OD. Assessment of knowledge and practice of oxygen therapy among doctors and nurses: a survey from Ondo State, Southwest Nigeria. *J Pan Afr Thorac Soc*. 2021;2(3):161-6.
25. Demirel H, Kazan EE. Knowledge levels of nurses about oxygen therapy in Turkey. *Int J Health Serv Res Policy*. 2021;5(1):1-14.
26. Zeleke S, Kefale D. Nurses' supplemental oxygen therapy knowledge and practice in Debre Tabor General Hospital: a cross-sectional study. *Open Access Emerg Med*. 2021;13:51-8.
27. Basazinew CD, Agegnehu M, Agazhe A, Banchiayehu AH. Knowledge, attitude, and practice of health professionals for oxygen therapy working in South Gondar zone hospitals, 2021: multicenter cross-sectional study. *BMC Health Serv Res*. 2022;22:600.
28. Kumarasinghe SA, Hettiarachchi P, Wasalathanthri S. Nurses' knowledge on diabetic foot ulcer disease and their attitudes towards patients affected: a cross-sectional institution-based study. *J Clin Nurs*. 2018;27(1-2):e203-e212.

APPENDIX 1**QUESTIONNAIRE****Tick as appropriate**

1. Age at last birthday: 25-29 [] 30- 34 [] 35-39 [] 40-44 [] 45-49 [] 50-54 []
55-59 [] Above 60 []
2. Marital status: a. Single [] b. Married [] c. Divorced [] d. Separated
e. Widowed []
3. Sex: Male [] Female []
4. What is your year of graduation?
1950 – 1959 [] 1960 – 1969 [] 1970 – 1979 [] 1980 – 1989 [] 1990 – 1999 []
2000 – 2009 [] 2010 – 2019 [] 2019 – 2022 []
5. Did you graduate from a medical school in Nigeria?
Yes [] No []
6. Where was your training based?
All in Nigeria [] Partly abroad [] Mainly abroad []
7. Are you currently practicing in Nigeria?
Yes [] No []
8. If no to question 7 above, where are you currently practising?
United Kingdom [] United States of America [] Canada [] Saudi Arabia []
Others, please specify.....
9. If no to question 7 above, what year did you relocate?
.....
10. What is your current grade?
Consultant [] Resident Doctor [] Medical Officer [] Foundation Doctor []
11. What specialty?
Anaesthesia and Intensive Care [] Community/Preventive Medicine [] Emergency
Medicine [] General Practice / Family Medicine [] Forensic Medicine [] General
Surgery [] Genetics [] Geriatrics [] Haematology [] Obstetrics and Gynaecology []
Occupational Medicine [] Oncology [] Ophthalmology [] Oral and Maxillo-Facial
Surgery [] Orthodontics [] Orthopaedic Surgery [] Otorhinolaryngology [] Paediatrics
Pathology [] Palliative Medicine [] Plastic Surgery [] Psychiatry [] Radiology []
Rehabilitation Medicine [] Sports and Exercise Medicine [] Urology [] Virology []
Others, please specify.....
Yes [] No []
12. Have you ever visited a hyperbaric unit or a hyperbaric chamber?
Yes [] No []
13. Have you ever carried out SCUBA diving?
Yes [] No []
14. Have you ever carried out a dry dive in a hyperbaric chamber?
Yes [] No []
15. Have you ever attended a lecture/seminar/talk regarding hyperbaric medicine?
Yes [] No []

16. Did you ever receive hyperbaric oxygen therapy?

Yes [] No []

17. Are you aware of the indications for Hyperbaric Oxygen Therapy (HBOT) relevant to your specialty?

Yes [] No []

18. Are you aware of any hospital(s) with a functioning hyperbaric unit in Nigeria?

Yes [] No []

19. Which of the following are indications for HBOT?

Carbon monoxide poisoning [] Diabetes mellitus [] Gas embolism [] Anaerobic or mixed anaero-aerobic bacterial infections [] Multiple Sclerosis [] Delayed wound healing [] Autism [] Chronic refractory osteomyelitis [] Parkinson's disease []

20. Have you ever referred a patient for HBOT?

Yes [] No []

21. Do you think hyperbaric oxygen therapy can have beneficial pharmacological effects?

Yes [] No []

22. Hyperbaric oxygen therapy (HBOT) is delivered at

Lower than atmospheric pressure [] Atmospheric pressure [] Higher than atmospheric pressure []

23. What is your main concern which may prevent you from referring a patient for HBOT?

Efficacy of HBOT [] Safety of HBOT [] Logistics [] No concerns []

Other: _____

24. Would you consider referring any of your patients for HBOT in the future?

Yes [] No [] Undecided []

APPENDIX 2

INFORMED CONSENT FORM

My name is Dr. Omobamidele Benson Betiku and am carrying out a study that aims at assessing the utilization of HBOT as a treatment option for the management of certain medical conditions among a cohort of medical doctors.

There is no risk or inconvenience attached to this study, and the questionnaire can be completed in less than 15 minutes.

All information volunteered will be strictly confidential and used for academic purpose only. Your participation is fully voluntary, and you are free to withdraw at any time of your choosing.

Dr. Omobamidele Benson Betiku

Name of Researcher

Date

Cite this Article: Betiku, O; Ferguson, E (2025). An Appraisal of Awareness and Practice of Hyperbaric Oxygen Therapy (HBOT) among Nigeria-trained Doctors. *Greener Journal of Biomedical and Health Sciences*, 8(1): 119-128, <https://doi.org/10.15580/gjbhs.2025.1.091625139>.