Original Research Article

Accuracy of Documented History Among Doctors Referring Patients to a Paediatric Neurology Clinic in Rivers State, Nigeria.

Abstract

Background: History taking is a means of communication between patients and doctors. Documentation of such history is an effective means of communication between all concerned in patient management.

Objectives - To assess the accuracy of documentation of history obtained by doctors referring patients to a Paediatric neurology clinic in Rivers State.

Methodology: A retrospective study of 145 patients referred to a Paediatric neurology clinic by doctors over a 4 year period - July 2017 to July 2021. The case notes were assessed for accuracy of documented clinical history obtained. Data was extracted, coded and analysed using the Statistical Package for Social sciences (SPSS) IBM version 25.0 (Armonk, NY).

Result

A total of 145 children aged 2 months to 16 years were referred by doctors to the Paediatric neurology Clinic. Most of them were clerked by registrars 121(83.4%) and senior registrars (7.6%). Seventy-eight (53.8%) had all aspects of their history documented accurately. Presenting complaint 141(97.2%) was the most accurately documented history and immunization history 104(71.7%) the least. There was an increase in the completeness of history obtained from children from 2.6% in 2017 to 44.9% in 2020. Registrars 66(84.4%) had more documented complete history compared to senior registrars (7.7%) and consultants (7.7%), $P > 0.05$. The least detailed history was obtained from children aged > 10 years (7.7%) compared to those under the age of five years (59%), $P = 0.05$.

Conclusion

There is a need for all doctors to go back to the basics of proper history taking and documentation for all children irrespective of age, being referred to the Paediatric Neurology Clinic.

Keywords: Accuracy, Doctors, History, Neurology Clinic, Paediatrics

Introduction

History taking is the first encounter with the patient. Good history taking is to do the right thing at the right time and to do it right to get the clinician to the right diagnostic track [1]. Gathering important information from the patient or caregivers is needed for effective clinical decision making. The patient history remains, among all diagnostic methods and resources employed by physicians to this day "the most powerful and sensitive and most versatile instrument available to the physician" [2]. Such history should be documented for present and future use**.** Every medical professional hears the mantra "If you didn't document it, it didn't happen [3]!" This shows how expedient documentation of history is in the medical profession. Documentation is a proof of interaction between the doctor and the patient. Absent, incomplete or inaccurate documentation can adversely affect the quality of patients' care, leading to medication and treatment errors, increased morbidity, and mortality. Quality documentation is therefore an essential component of optimal healthcare and facilitates an individual's continuity of care. History taking skill is a critical aspect of good medical practice which is learnt and can be improved upon. Importance of proper documentation of history cannot be over-emphasized and includes proper communication between healthcare providers, making a diagnosis, reduction of medico-legal risks, ensuring appropriate reimbursement, medical follow up, helping healthcare providers evaluate and plan the patient's treatment and maintain the continuum of care. Hampton and colleagues suggested that the history determined 83% of the diagnoses in medical outpatients [4]. The knowledgeable evaluator can predict the accurate diagnosis in 80% to 85% of medical cases by skillfully combining an analysis of the presenting patient concern and properly sequencing all relevant prior aspects of the patient history [5]. In a study by Peterson et al, in 61 patients (76%), the history led to the final diagnosis [5].

Miscommunication, poor communication or no communication can create incredible problems according to Zig Zigglar (1926-2012), an author, salesman and motivational speaker. It is

important to write down what you said, what you did, what you were told, and what you observed [6]. Spending 15 minutes writing an accurate and detailed note can save a huge amount of thinking time 15 years later [6].

Effective documentation enhances professional capacity care, right judgement, and critical assessment as related to the provision of patient care and serves as fundamental part of clinical practice as it demonstrates the clinicians' accountability and records their professional practice [7]. Clinical documentation is a vital legal and professional requirement for all health practitioners [7].Documentation of clinical notes is of vital importance to patient care as, in the current medical environment, many different healthcare professionals are involved in the treatment of a single patient. Good clinical records facilitate decision making for a single patient, thus freeing up time that can be spent with patients most in need. Poor documentation increases medico-legal risks and may misinform healthcare professionals leading to increased morbidity and mortality. When documentation is accurate and complete, it works wonders at telling a patient's story and can even improve patient care. "*Verba volant, scripta manent" (spoken words fly away, written words remain)* according to Caius Titus.

Some studies have found omission of clinically relevant information. In the study by Saul Weiner et al in a review of 105 documented notes [8]--- nearly half of all errors were found in just 2 sections of the notes, the history of present illness (HPI) and family history/social history (FH/SH) while the most accurate section of the note was the chief complaint [8].

The clinical history consists of the biodata, presenting complaints, history of presenting complaints, past medical history, pregnancy and delivery, neonatal, nutritional, immunization, developmental history, family and social history, obstetrics and gynaecology history and review of systems and these are all relevant aspects of the patients' risk for disease [9].

There is scanty data assessing the completeness of documented medical history in sub-Saharan Africa and Nigeria in particular. The study will serve as a template for subsequent studies. It will also help in agitating for electronic/ digital records.

Materials and methods

This was a retrospective study of the folders of patients referred to the paediatric neurology clinic from July 2017 to July 2021. Ethical approval for the research was taken from the Rivers State Hospitals Management Board. The folders were retrieved from the records department and assessed for accuracy of documented history by doctors. Patients with suspected neurological disorders are usually referred to the paediatric neurology clinic by resident doctors (registrars, senior registrars) or consultants. They are expected to do a detailed clerking before referral. Aspects of the clerking that were assessed for completeness were the presenting complaints, history of presenting complaints, past medical history, pregnancy and delivery, neonatal, nutritional, immunization, developmental history and family and social history. One mark was given for every aspect documented while no mark was awarded for aspects not documented. The total scores for each patient were given as a percentage of the expected total. Data were extracted, coded and analysed using the Statistical Package for Social sciences (SPSS) IBM version 25.0 (Armonk, NY).The results are presented as descriptive data. A *P*-value of less than or equal to 0.05 was significant.

Results

Demographic characteristics of the study population

A total of 145 children aged 2 months to 16 years, mean age of 4.6+4.3 years were referred to the paediatric neurology clinic. Children under the age of five years 90 (62.1%) and males predominated in the study with a male to female ratio of 1.58:1. Most of the children were clerked and referred by registrars 121(83.4%) followed by senior registrars (7.6%). About half (49.7%) of the children referred to neurology clinic were referred in the year 2020, Table 1.

Table 1: Demographic characteristics of the study population

Parameters	**Frequency (N=145)**	**Percentage**
Age groups		
<5	90	62.1
5-10	35	24.1
> 10	20	13.8

Gender		
F	56	38.6
M	89	61.4
Year of referral to neurology clinic		
2017	4	2.8
2018	8	5.5
2019	24	16.6
2020	72	49.7
2021	37	25.5
Cadre of referring doctor		
House officers	3	2.1
Registrars	121	83.4
Senior registrars	11	7.6
Consultants	10	6.9

The commonest reason for referral to the paediatric neurology clinic was for seizure disorder 52 (44.9%) and cerebral palsy 22 (15.2%), Table 2.

Table 2: Common diagnosis for referral to paediatric neurology clinic

Diagnosis	Frequency	Percentage

Seizure disorder/epilepsy	52	44.9
Cerebral palsy	43	29.6
Autistic spectrum disorder	6	4.1
Speech impairment	6	4.1
Cranial nerve palsy	5	3.5
Movement disorders	4	2.8
Down syndrome	3	2.0
Hearing impairment	2	1.4
Others	11	7.6

Accuracy of documented history

Seventy eight (53.8%) out of the 145 children had all aspects of their history documented in their folders. Presenting complaint 141(97.2%) was the most accurately documented history, followed by history of presenting complaint 138(95.2%) while the least documented was the immunization history 104(71.7%), Table 3. There was an increase in the completeness of history obtained from children from 2.6% in 2017 to 44.9% in 2020. Registrars had the most detailed history documented 66(84.4%) compared to senior registrars (7.7%), P value > 0.05. The least detailed history was obtained from older children aged > 10 years (7.7%) compared to younger children and the difference was statistically different ($P = 0.005$)

Table 3: Accuracy of different aspect of history obtained by referring doctors

History taken	**Complete N (%)**	**Incomplete N (%)**	**Total N (%)**
Presenting complaint	141 (97.2)	4 (2.8)	145 (100)
History of PC	138 (95.2)	7 (4.8)	145 (100)

Past medical history	126 (86.9)	19 (13.1)	145 (100)
Pregnancy/ delivery	126 (86.9)	19 (13.1)	145 (100)
Neonatal	121 (83.4)	24 (16.6)	145 (100)
Immunization	104 (71.7)	41 (28.3)	145 (100)
Developmental	119 (82.1)	26 (17.9)	145 (100)
Family & social	110 (75.9)	35 (24.1)	145 (100)

There was a progressive increase over the years in the proportion of children with documented accurate history referred to the clinic, from 2.6% in 2017 to 44.9% in 2020. Children under the age of five years had more documented accurate history compared to children in the other age groups, and the difference was statistically significant, (P = 0.005), Table 4.

Table 4: Accuracy of history obtained year of referral, age group of children and cadre of doctors

Parameters	**Accurate history**		**P value**
	No **N (%)**	**Yes** **N (%)**	
Year of referral			
2017	2 (3.0)	2 (2.6)	0.081*
2018	4 (6.0)	4 (5.1)	
2019	14 (20.9)	10 (12.8)	

2020	37 (55.2)	35 (44.9)	
2021	10 (14.9)	27 (34.6)	
Age group (years)			
< 5	44 (65.7)	46 (59.0)	0.005
5-10	9 (13.40	26 (33.3)	
> 10	14 (20.9)	6 (7.7)	
Cadre of doctors			
Junior doctors	58 (86.6)	66 (84.6)	0.463
Senior doctors	9 (13.4)	12 (15.4)	

* Fishers exact value

Discussion

This study observed that slightly more than half of the study population had all aspects of their medical history taken and documented by the doctors. Incomplete history taking and documentation have also been observed in studies in Nigeria [10] and Saudi Arabia [11]. While the Nigerian study was among Paediatricians, the other was done among final year students. The reasons for this incomplete documentation may be as a result of incompetence of the practitioner, time constraints or over bearing work load [12].

Just like in our study, Isezuo et al in their study in Sokoto, Nigeria [10] also noted that the most accurately documented history among doctors was the chief complaint that brought the patient to the hospital. While both studies did not evaluate why doctors paid attention in documenting the presenting complaint, the observation may be alluded to the fact that it is almost always the first question asked in the interview, when the doctor is still quite attentive and patient and therefore

more likely to ask and document this aspect of the history. The reverse will be the case when fatigue sets in towards the end of the interview.

The documentations made on past medical history, pregnancy, delivery and neonatal history in this study were sub-optimal. One would have expected doctors to be more detailed in asking and documenting information on the past medical, pregnancy, delivery and neonatal history in a child with neurologic abnormalities as negative events occurring during these critical periods of the child's brain development could result in neurological sequelae and poor outcome[13-15]. Besides, they are important for the neurologist in making a clinical diagnosis or knowing the cause of the child's neurological problems, so that identified preventive causes could be discussed with the parents in order to avoid such occurrences in subsequent pregnancies and deliveries [16].

The poor documentation noted in the immunization, family and social histories are not unexpected. For one, the questions to obtain this information are asked towards the end of the interview and are sometimes overlooked or ignored especially when the doctor is very busy and has other patients waiting to be attended to. In addition, some of the doctors may not be aware of the significance of these aspect of the history to patient care. For example, a child with cerebral palsy from meningitis may be as a result of incomplete vaccination of the child at infancy with heamophilus, pneumococcal, and meningococcal vaccines [17.18].

The increase in the accuracy of documented history among doctors over the years may be as a result of increased staffing in the department, giving the medical personnel more time to interact with the patients and record the details in the case folder. It could also be as a result of departmental and personal training occurring in groups as a department or individually among residents as they prepared for fellowship examinations [19].

This study also showed that the history obtained from under-five children were more accurate than those from older children. This is not so surprising, as many physicians may be quick to relate all aspects of the history with neurological disease among under-fives that the older children. This should be discouraged as all aspects of the history are relevant in making a diagnosis, and need to be documented irrespective of the age of the patient [20].

Conclusion

The proportion of patients who had all aspects of their history documented in this study was sub-optimal and needs to be improved. More importantly there is a need to remind the doctors in the department referring patients to the paediatric neurology clinic, the importance of documenting accurately, all aspects of the history as it aids in diagnosis and management of the patients.

Conflicts of interests

The authors declare that there are no conflicts of interests.

References

1. SLH Chiu. History taking: the only tool to the right diagnostic track. Hong Kong J Emerg Med. 2003;10(2):67-9.
2. Faustinella F, Jacobs RJ. The decline of clinical skills: a challenge for medical schools. Int J Med Educ. 2018;9:195-197. DOI: 10.5116/ijme.5b3f,9fb3
3. Nicholas JC. ICD-10 Myths Part 1: The Burden of Documentation. ICD10 Monitor. https://www.icd10monitor.com/icd-10-the-burden-of-documentation. Accessed July 16, 2021.
4. Hampton JR, Harrison MJG, Mitchell JRA. Relative contributions of history taking, physical examination and laboratory investigations to diagnosis and management of medical outpatients. Br Med J. 1975;2:486. DOI: 10.1136/bmj.2.5969.486.
5. Peterson MC, Holbrook JH, Von Hales D, Smith NL, Staker LV. Contributions of the history, physical examination, and laboratory investigation in making medical diagnoses. West J Med. 1992 Feb; 156(2):163-5. PMID:1536065; PMCID; PMC1003190.
6. Abdelrahman W, Abdelmageed A. Medical record keeping: clarity, accuracy, and timeliness are essential. BMJ 2014;348:f7716. DOI: 10.1136/bmj.f7716

7. Ogbona MA , Ayodele KM , Ojo PO. Importance of Effective Clinical Documentation by Medical Doctors to Patient Care Management in Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria. Int. j. inno. sci. 2020;5(7):462-470. DOI: 10.38124/IJISRT20JUL264

8. Weiner SJ, Wang S, Kelly B, Sharma G, Schwartz A, How accurate is the medical record? A comparison of the physician's note with a concealed audio recording in unannounced standardized patient encounters. J Ame Med Inform Assoc. 2020;27(5):770–5. DOI:10.1093/jamia/ocaa027

9. Kilian A, Upton LA, Sheargreen JN. "Reorganizing the History of Present Illness to Improve Verbal Case Presenting and Clinical Diagnostic Reasoning Skills of Medical Students: The All-Inclusive History of Present Illness." J. med.educ.curric. 2020;7:1-4. DOI: 10.1177/2382120520928996

10. Isezuo KO, Adamu A, Jiya FB, Yusuf T, Sani UM, Jiya NM et al. Quality of Hospital admission documentation: A study in an emergency paediatric unit of a tertiary hospital in Nigeria. Afr J Med Health Sci. 2019; 18(4):25-30. DOI: 105897/AJMHS2018.0021

11. Alrasheedi AA. Deficits in history taking skills among final year medical students in a family medicine course: A study from KSA. J Taibah Univ Med Sc 2018;13(5):415-421. DOI: 10.1016/j.jtumed.2018.07.001

12. Mavis BE, Wagner DP, Henry RC, Carravallah L, Gold J, Maurer J, et al. Documenting clinical performance problems among medical students: feedback for learner remediation and curriculum enhancement. Med Educ Online. 2013;18:20598. DOI: 10.3402/meo.v18i0.20598.

13. Longo S, Bollani L, Decembrino L, Di Comite A, Angelini M, Stronati M. Short term and long term sequelae in intrauterine growth retardation. J maternal-fetal Neonat Med. 2013; 26(3): 222-25. DOI: 10.3109/14767058.2012.715006

14. Ream M.A., Lehwald, L. Neurologic Consequences of Preterm Birth. Curr Neurol Neurosci Rep 2018;18(8):48. DOI: 10.1007/s11910-018-0862-2

15. Chu SM, Hsu JF, Lee CW, Lien R, Huang HR, Chiang MC, et al. Neurological Complications after Neonatal Bacteremia: The Clinical Characteristics, Risk Factors, and Outcomes. PLoS ONE. 2014; 9(11): e105294. DOI: 10.1371/journal.pone.0105294

16. Kumar R, Bhave A, Bhargava R, Agarwal GG. Prevalence and risk factors for neurological disorders in children aged 6 months to 2 years in northern India. Dev Med Child Neurol 2013;55:348–356.

17. Namani S, Milenkovi´c Z, Koci B. A prospective study of risk factors for neurological complications in childhoodbacterial meningitis. J Pediatr (Rio J). 2013;89:256-62

18. Koelman DLH, Van Kassel MN, Bijlsma MW, Brouwer MC, van de Beek D, van der Ende A. Changing epidemiology of bacterial meningitis since introduction of conjugate vaccines: 3 decades of national meningitis surveillance in the Netherlands. Clinical Infect Dis. 2021; 73 (5):e1099–e1107. DOI: 10.1093/cid/ciaa1774

19. Oyedokun A, Adeloye D, Balogun O. Clinical history taking and physical examination in medical practice in Africa: still relevant? Croatia Med J. 2016;57:605-607. DOI: 10.3325/cmj.2016.57.605

20. Muhrer, Jill C. MSN, FNP-C The importance of the history and physical in diagnosis.The nurse Pract. 2014;39(4):30-35. DOI: 10.1097/01.NPR.0000444648.20444.e6