REPUBLIQUE DU CAMEROUN
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FACULTE DE MEDECINE ET DES SCIENCES BIOMEDICALES

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THE UNIVERSITY OF YAOUNDE I
****
FACULTY OF MEDICINE AND BIOMEDICAL SCIENCES

DEPARTMENT OF PUBLIC HEALTH

Assessing Patient Waiting Time at the Outpatient Units of the Yaounde Gynaeco-Obstetric and Paediatric Hospital

Thesis written and defended publicly in partial fulfilment of the requirements for the Award of *Medicinae Doctor* (MD) degree by:

FAH NDE ATANGA

Mat n° 19M1859

Director

Pr Essi Marie-José
Medical Anthropolgy
Professor

Co-directors

Pr MAH Evelyn
Paediatrics
Professor

Dr MBOUCHE Landry

Mis en forme : Français (France)
Mis en forme : Haut: (Fin-épais-fin très espacés, Rouge foncé, 2,25 pt Épaisseur du trait), Bas: (Fin-épais-fin très espacés, Rouge foncé, 2,25 pt Épaisseur du trait), Gauche: (Fin-épais-fin très espacés, Rouge foncé, 2,25 pt Épaisseur du trait), Droite: (Fin-épais-fin très espacés, Rouge foncé, 2,25 pt Épaisseur du trait)
Mis en forme : Français (France)
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Mis en forme : Police :10 pt
Mis en forme : Police :10 pt
Mis en forme : Français (France)
Mis en forme : Police :10 pt
Mis en forme : Français (France)
Mis en forme : Police :10 pt, Anglais (Royaume-Uni)
Mis en forme : Police :10 pt
Mis en forme : Anglais (Royaume-Uni)
Mis en forme : Français (France)
Mis en forme : Police :12 pt, Anglais (Royaume-Uni)
Mis en forme : Police :12 pt
Mis en forme : Centré
Mis en forme : Français (France)
Mis en forme : Français (France)
Mis en forme : Français (France)

Urology
~~*Senior lecturer*~~
Dr TOMPEEN Isidore
Obstetrics-Gynaecology
~~*Senior Lecturer*~~

Academic year: 2025-2026

Mis en forme : Français (France)
Mis en forme : Police :12 pt
Mis en forme : Français (France)
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DEPARTMENT OF PUBLIC HEALTH

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FAH NDE ATANGA

Mat n° 19M1859

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President

Pr ZEH Odile

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Co-directors

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~~Paediatrics~~
~~*Professor*~~

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~~Urology~~
~~*Senior lecturer*~~

Dr ~~Dr~~ TOMPEEN Isidore

Mis en forme

~~Medical Anthropolgy~~ ~~Obstetrics Gynaecology~~

~~**Academic year: 2025-**~~ **Academic year: 2025-2026**~~**2026**~~

Mis en forme : Français (France)

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Mis en forme : Français (France)

Mis en forme : Français (France)

Mis en forme : Police :12 pt

Mis en forme : Police :Cooper Black, 14 pt, Non Gras

Mis en forme : Titre 2

Mis en forme : Police :Cooper Black, 14 pt, Non Gras, Anglais (Royaume-Uni)

Mis en forme : Français (France)

Preliminary

Table of Content

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Mis en forme : Police :Cooper Black, Anglais (Royaume-Uni)

Mis en forme : Police :12 pt, Non Gras, Français

Mis en forme : Français (France)

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Mis en forme : Français (France)

Mis en forme : Police :12 pt

Mis en forme : Français (France)

Dedication

To my parents,

Mr. FAH TANGYI Simon and
Mrs. FAH Adeline Akwi

Preliminary

Acknowledgements

I wish to express my heartfelt gratitude to everyone who has supported me throughout this work. Special thanks to:

- My director, Pr. Essi Marie- José. It was an honour and a privilege for me to share your time and enriching experience. You were always available, despite your numerous commitments. Thank you for your encouragement, guidance, and support.
- My co-directors, Pr. Mah Evelyn, for having accepted to co-supervise this work. Your availability and contributions were invaluable to the completion of this work. I can't thank you enough for your lessons and encouragement. Dr. Tompeen Isidore and Dr. Mbouche Landry, for accepting our work and contributing to its realisation.
- The Dean, Pr. NGO UM Esther Juliette épouse MEKA, and the entire administrative and teaching staff of the Faculty of Medicine and Biomedical Sciences, UY1, thank you for your guidance.
- The honourable jury members, for accepting to read through our work and for evaluating it. Thank you for your comments and corrections, aimed at improving this work.
- The Director and the entire medical and nursing staff of the Yaoundé Gynaeco-Obstetric and Paediatric Hospital for authorising our work to be conducted in your institution, for your warm welcome and encouragement throughout the data collection period.
- All the participants in this study to whom I express my sincere gratitude for their confidence.
- My siblings, Mr. Fah Emmanuel Tangyi and Dr. Liza Nana Fah, brother-in-law, Dr. Nfor Donald, and sister-in-law, Mrs. Fah Joyce. You all have been of great help. Thank you for your endless show of love, moral, spiritual, and financial support.
- My daughter, Anwi Chloe Lizbeth Fah. The image of you, proud to be a doctor's daughter, has been a huge motivation ever since you were born. Special thanks to my godmother, Mrs. Foju Catherine, for moral and spiritual support.
- My entire extended family, for your love and support.
- My classmates: Lamuela Bonfen, Boah-Ju Bill, Elaba Diane Edwige, Bah Felix Juweh, Nchang Mercy, Nale Christine, Ndongwa Dada, Munakwa Wendy, Mbei Yves, Tamesseh Noelly, Aroga Elliot, NKEMBE Cheryl, etc., and to CAMESA, for making medical school less stressful and allowing me to build my leadership skills.
- My seniors and mentors, Dr. Lyonga Kharim Charles, Dr. Akelekeh Ndah, Dr. Nsoh Ndeh Fofang, for your reviews and words of encouragement.

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Mis en forme : Police :Cooper Black, 14 pt, Non Gras, Anglais (Royaume-Uni)
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11.	NGO YAMBEN Marie Ange	AP	Orthopaedic Surgery
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20.	MEKEME MEKEME Junior Barthelemy	SL	Urology
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22.	MVE MVONDO Charles	SL	Cardiac Surgery
23.	NWAHA MAKON Axel Stéphane	SL	Urology
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26.	SAVOM Eric Patrick	SL	General Surgery
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28.	ARROYE BETOU Fabrice Stéphane	L	Thoracic and Cardiovascular Surgery
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36.	NGO YON Laurence Carole	L	Cardiac Surgery
37.	ELA BELLA Amos Jean-Marie	AL	Thoracic Surgery

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No.	NAME	RANK	DISCIPLINE
38.	EYA MVONDO Eric Stéphane	AL	General Surgery
39.	FOLA KOPONG Olivier	AL	General Surgery
40.	KOUNA TSALA Irène Nadine	AL	Paediatric Surgery
	DEPARTMENT OF ANAESTHESIA AND INTENSIVE CARE		
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43.	BENGONO BENGONO Roddy Stéphan	AP	Anaesthesia and Intensive Care
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45.	AMENGLE Albert Ludovic	AP	Anaesthesia and Intensive Care
46.	KONA NGONDO François Stéphane	SL	Anaesthesia and Intensive Care
47.	IROUME Cristella Raïssa BIFOUNA épouse NTYO'O NKOUMOU	L	Anaesthesia and Intensive Care
48.	NDIKONTAR KWINJI Raymond	L	Anaesthesia and Intensive Care
49.	GOUAG	L	Anaesthesia and Intensive Care
50.	NGOUATNA DJEUMAKOU Serge Rawlings	AL	Anaesthesia and Intensive Care
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52.	ANKOUANE ANDOULO Firmin	P	Internal Medicine/Hepato-Gastroenterology
53.	ASHUNTANTANG Gloria Enow	P	Internal Medicine/Nephrology
54.	BISSEK Anne Cécile	P	Internal Medicine/Dermatology
55.	HAMADOU BA	P	Internal Medicine/Cardiology
56.	KAZE FOLEFACK François	P	Internal Medicine/Nephrology
57.	KUATE TEGUEU Calixte	P	Internal Medicine/Neurology
58.	KOUOTOU Emmanuel Armand	P	Internal Medicine/Dermatology
59.	MENANGA Alain Patrick	P	Internal Medicine/Cardiology
60.	NJAMNSHI Alfred K.	P	Internal Medicine/Neurology
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62.	SOBNGWI Eugène	P	Internal Medicine/Endocrinology
63.	PEFURA YONE Eric Walter	P	Internal Medicine/Pneumology
64.	BOOMBHI Jérôme	AP	Internal Medicine/Cardiology
65.	ETOA NDZIE épouse ETOGA Martine Claude	AP	Internal Medicine/Endocrinology
66.	FOUDA MENYE Hermine Danielle	AP	Internal Medicine/Nephrology
67.	NGANOU Chris Nadège	AP	Internal Medicine/Cardiology
68.	KOWO Mathurin Pierre	AP	Internal Medicine/Hepato-Gastroenterology
69.	KUATE née MFEUKEU KWA Liliane Claudine	AP	Internal Medicine/Cardiology
70.	NDONGO AMOUGOU Sylvie	AP	Internal Medicine/Cardiology
71.	ATENGUENA OBALEMBA Etienne	SL	Internal Medicine/Medical Oncology
72.	ESSON MAPOKO Berthe Sabine épouse PAAMBOG	SL	Internal Medicine/Medical Oncology
73.	MAÏMOUNA MAHAMAT	SL	Internal Medicine/Nephrology

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No.	NAME	RANK	DISCIPLINE
74.	MASSONGO MASSONGO	SL	Internal Medicine/Pneumology
75.	MBONDA CHIMI Paul-Cédric	SL	Internal Medicine/Neurology
76.	MENDANE MEKOBE Francine épouse EKOBENA	SL	Internal Medicine/Endocrinology
77.	NDJITOYAP NDAM Antonin Wilson	SL	Internal Medicine/Gastroenterology
78.	NDOBO épouse KOE Juliette Valérie Danielle	SL	Internal Medicine/Cardiology
79.	NGAH KOMO Elisabeth	SL	Internal Medicine/Pneumology
80.	NGARKA Léonard	SL	Internal Medicine/Neurology
81.	NKORO OMBEDE Grâce Anita	SL	Internal Medicine/Dermatology
82.	NTSAMA ESSOMBA Marie Josiane épouse EBODE	SL	Internal Medicine/Geriatrics
83.	OWONO NGABEDE Amalia Ariane	SL	Internal Medicine/Interventional Cardiology
84.	DEHAYEM YEFOU Mesmin	L	Internal Medicine/Endocrinology
85.	EBENE MANON Guillaume	L	Internal Medicine/Cardiology
86.	ELIMBY NGANDE Lionel Patrick Joël	L	Internal Medicine/Nephrology
87.	FOJO TALONGONG Baudelaire	L	Internal Medicine/Rheumatology
88.	KAMGA OLEN Jean Pierre Olivier	L	Internal Medicine/Psychiatry
89.	KUABAN Alain	L	Internal Medicine/Pneumology
90.	MANDENG Nadia Jacqueline	L	Internal Medicine
91.	MINTOM MEDJO Pierre Didier	L	Internal Medicine/Cardiology
92.	NSOUNFON ABDOU WOUOLIYOU	L	Internal Medicine/Pneumology
93.	NTONE ENYIME Félicien	L	Internal Medicine/Psychiatry
94.	NTYO'O NKOUMOU Arnaud Laurel	L	Internal Medicine/Pneumology
95.	NZANA Victorine Bandolo épouse FORKWA M.	L	Internal Medicine/Nephrology
96.	TCHOUANKEU KOUNGA Fabiola	L	Internal Medicine/Psychiatry
97.	TSAGUE KENGNI Hermann Nestor	L	Internal Medicine/Cardiology
98.	ANABA MELINGUI Victor Yves	AL	Internal Medicine/Rheumatology
99.	BELINGA EDIMA Victor Fabrice	AL	Internal Medicine/Neurology
100.	BELINGA KYE ESSOMBI Olivia Constance	AL	Internal Medicine/Pneumology
101.	BIWOLE SIDA Ghislaine Rachel	AL	Internal Medicine/Endocrinology
102.	DOUN FOUDA Anne Stéphanie Elodie	AL	Internal Medicine/Rheumatology
103.	ESSAMA BIBI Suzanne Doris épouse NKECK	AL	Internal Medicine/Endocrinology
104.	KOLLO NZIMA Brice Kevin	AL	Internal Medicine/Rheumatology
105.	NKECK Jan René	AL	Internal Medicine/Rheumatology
106.	POKA MAYAP Virginie	AL	Internal Medicine/Pneumology
107.	TIMNOU BEKOUTI Jean	AL	Internal Medicine/Cardiology
108.	TCHOUMI LEUWAT Eric Pascal	AL	Internal Medicine/Hepato-Gastroenterology
109.	TONYE Lydienne Alida	AL	Internal Medicine/Cardiology
DEPARTMENT OF MEDICAL IMAGING AND RADIOLOGY			
110.	ZEH Odile Fernande (HoD)	P	Radiology/Medical Imaging

No.	NAME	RANK	DISCIPLINE
111.	GUEGANG GOUJOU. E.	P	Medical Imaging/Neuroradiology
112.	MOIFO Boniface	P	Radiology/Medical Imaging
113.	ONGOLO ZOGO Pierre	AP	Radiology/Medical Imaging
114.	SAMBA Odette NGANO	AP	Biophysics/Medical Physics
115.	MBEDE Maggy épouse ENDEGUE MANGA	SL	Radiology/Medical Imaging
116.	NWATSOCK Joseph Francis	SL	Radiology/Medical Imaging, Nuclear Medicine
117.	ABO'O MELOM Adèle Tatiana	L	Radiology and Medical Imaging
118.	MEKA'H MAPENYA Ruth-Rosine	L	Radiotherapy
119.	SEME ENGOUMOU Ambroise Merci	L	Radiology/Medical Imaging
120.	ZE NGBWA MIMI-Flore épouse PENDA MOMASSO	L	Radiology
121.	ALLA TAKAM Clémence épouse TAKOUDA	AL	Nuclear Medicine
122.	AWOUDOU II Christian Junior	AL	Nuclear Medicine
123.	MBONO EDOA Doriane Murielle	AL	Radiology/Medical Imaging
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124.	NGO UM Esther Juliette épouse MEKA **(HoD)**	P	Gynaecology and Obstetrics
125.	DOHBIT Julius SAMA	P	Gynaecology and Obstetrics
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127.	KASIA JEAN MARIE	P	Gynaecology and Obstetrics
128.	KEMFANG NGOWA Jean Dupont	P	Gynaecology and Obstetrics
129.	MBOUDOU Émile	P	Gynaecology and Obstetrics
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131.	NKWABONG Elie	P	Gynaecology and Obstetrics
132.	TEBEU Pierre Marie	P	Gynaecology and Obstetrics
133.	MVE KOH Valère Salomon	P	Gynaecology and Obstetrics
134.	NOA NDOUA Claude Cyrille	P	Gynaecology and Obstetrics
135.	FOUEDJIO Jeanne H.	AP	Gynaecology and Obstetrics
136.	BELINGA Etienne	AP	Gynaecology and Obstetrics
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141.	NSAHLAI Christiane JIVIR FOMU	SL	Gynaecology and Obstetrics
142.	NYADA Serge Robert	SL	Gynaecology and Obstetrics
143.	TOMPEEN Isidore	SL	Gynaecology and Obstetrics
144.	MPONO EMENGUELE Pascale épouse NDONGO	L	Gynaecology and Obstetrics
145.	NGAHA BONJA Junie épouse YANEU	L	Gynaecology and Obstetrics
146.	NGONO AKAM Marga Vanina	L	Gynaecology and Obstetrics
147.	KODOUME MOTOLOUZE	AL	Gynaecology and Obstetrics

No.	NAME	RANK	DISCIPLINE
148.	KUTNJEM IBRAHIM BELLO MONKAREE	AL	Gynaecology and Obstetrics
149.	MOL Henri Léonard Chatelein	AL	Gynaecology and Obstetrics
150.	NDJEUNGA Bertine Manuela	AL	Gynaecology and Obstetrics
151.	NGASSAM KETCHATCHAM Anny Nadège	AL	Gynaecology and Obstetrics
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178.	MAH Evelyn	P	Paediatrics
179.	NGUEFACK Séraphin	P	Paediatrics
180.	NGUEFACK épouse DONGMO Félicitée	P	Paediatrics
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182.	MBASSI AWA	P	Paediatrics
183.	KALLA Ginette Claude épse MBOPI KEOU	AP	Paediatrics

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No.	NAME	RANK	DISCIPLINE
184.	NOUBI N. épouse KAMGAING M.	AP	Paediatrics
185.	EPEE épouse NGOUE Jeannette	SL	Paediatrics
186.	KAGO TAGUE Daniel Armand	SL	Paediatrics
187.	MEGUIEZE Claude-Audrey	SL	Paediatrics
188.	MEKONE NKWELE Isabelle	SL	Paediatrics
189.	TONY NENGOM Jocelyn	SL	Paediatrics
190.	ELOUNDOU ODI Eugène Bertrand	AL	Paediatrics
191.	NYEMB MBOG Grâce Joëlle Thérèse	AL	Paediatric Oncology
DEPARTMENT OF MICROBIOLOGY, PARASITOLOGY, HAEMATOLOGY AND INFECTIOUS DISEASES			
192.	MBOPI KEOU François-Xavier **(HoD)**	P	Bacteriology/Virology
193.	ADIOGO Dieudonné	P	Microbiology/Virology
194.	GONSU née KAMGA Hortense	P	Bacteriology
195.	MBANYA Dora	P	Haematology
196.	TAYOU TAGNY Claude	P	Microbiology/Haematology
197.	LYONGA Emilia ENJEMA	AP	Medical Microbiology
198.	CHETCHA CHEMEGNI Bernard	AP	Microbiology/Haematology
199.	TOUKAM Michel	AP	Microbiology
200.	NGANDO Laure épouse MOUDOUTE	SL	Parasitology
201.	NDOUMBA NKENGUE Annick épouse MINTYA	AP	Haematology
202.	VOUNDI VOUNDI Esther	AP	Virology
203.	ANGANDJI TIPANE Prisca épouse ELLA	L	Clinical Biology/Haematology
204.	BOUM II YAP	L	Microbiology
205.	BEYALA Frédérique	L	Infectious Diseases
206.	ESSOMBA Réné Ghislain	L	Immunology and Infectious Diseases
207.	FOKAM Joseph	L	Microbiology
208.	MBOUYAP Pretty Rosereine	L	Pharmacology
209.	MEDI SIKE Christiane Ingrid	L	Clinical Biology
210.	NGOGANG Marie Paule	L	Clinical Biology
211.	NSA'AMANG Carolle-Snelle épouse EYEBE	L	Clinical Biology
212.	Georges MONDINDE IKOMEY	AL	Immunology
DEPARTMENT OF PUBLIC HEALTH			
213.	KAMGNO Joseph **(HoD)**	P	Public Health/Epidemiology
214.	ESSI Marie Josée	P	Public Health/Medical Anthropology
215.	BEDIANG Georges Wylfred	P	Medical Informatics/Public Health
216.	NGUEFACK TSAGUE	AP	Public Health/Biostatistics
217.	TAKOUGANG Innocent	AP	Public Health
218.	BILLONG Serges Clotaire	AP	Public Health
219.	NJOUMEMI ZAKARIAOU	AP	Public Health/Health Economics
220.	ESSO ENDALLE Lovet Linda Augustine Julia	L	Public Health

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No.	NAME	RANK	DISCIPLINE
221.	EYEBE EYEBE Serge Bertrand	L	Public Health/Epidemiology
222.	KEMBE ASSAH Félix	L	Epidemiology
223.	KWEDI JIPPE Anne Sylvie	L	Epidemiology
224.	MAPA TASSOU Clarisse épouse ETEME ABOUDI	L	Health Promotion and Health Policy Analysis Expert
225.	MBA MAADJHOU Berjauline Camille	L	Public Health/Nutritional Epidemiology
226.	MOSSUS Tatiana née ETOUNOU AKONO	L	Health Promotion Expert
227.	NAAMBOW ANABA Edwige Christelle	L	Medical Anthropology
228.	NKENGFACK GERMAINE SYLVIE	L	Nutrition
229.	ONDOUA MBENGONO Laure Julienne	L	Psychology
230.	ABBA-KABIR HAAMIT-M	AL	Pharmacy- Health Economics
231.	AMANI ADIDJA	AL	Public Health
232.	EFA Salomon Francis	AL	Health and Environment
233.	MELINGUI Bernard Fortune	AL	Epidemiology
234.	NDIBI ABANDA Jean	AL	Epidemiology
235.	NGAKO PAMEN épouse BOUBA Haman Joëlle Nounouce	AL	Health Economics
	DEPARTMENT OF MORPHOLOGICAL SCIENCES AND PATHOLOGICAL ANATOMY		
236.	MENDIMI NKODO Joseph **(HoD)**	P	Pathological Anatomy
237.	SANDO Zacharie	P	Pathological Anatomy
238.	BISSOU MAHOP	AP	Sports Medicine
239.	KABEYENE OKONO Angèle	AP	Histology/Embryology
240.	AKABA Désiré	AP	Human Anatomy
241.	NSEME Eric	AP	Forensic Medicine
242.	NGONGANG Gilbert Frank Olivier	SL	Forensic Medicine
243.	ESSAME Eric Fabrice	L	Pathological Anatomy
244.	MENDOUGA MENYE Coralie Reine Bertine épse KOUOTOU	L	Pathological Anatomy
245.	NDOUMBA AFOUBA Alice Ghislaine épouse ABESSOLO	L	Pathological Anatomy
246.	NKEGOUM Blaise	L	Pathological Anatomy
	DEPARTMENT OF BIOCHEMISTRY		
247.	NDONGO EMBOLA épse TORIMIRO Judith **(HoD)**	P	Molecular Biology
248.	PIEME Constant Anatole	P	Biochemistry
249.	AMA MOOR Vicky Joceline	P	Clinical Biology/Biochemistry
250.	EUSTACE BONGHAN BERINYUY	L	Biochemistry
251.	GUEWO FOKENG Magellan	L	Biochemistry
252.	MBONO SAMBA ELOUMBA Esther Astrid	AL	Biochemistry
	DEPARTMENT OF PHYSIOLOGY		
253.	ETOUNDI NGOA Laurent Serges **(HoD)**	P	Physiology

No.	NAME	RANK	DISCIPLINE
254.	ASSOMO NDEMBA Peguy Brice	AP	Physiology
255.	David Emery TSALA	AP	Physiology
256.	DZUDIE TAMDJA Anastase Innocent	AP	Physiology
257.	AZABJI KENFACK Marcel	AP	Physiology
258.	EBELL'A DALLE Ernest Remy Hervé	L	Human Physiology
	DEPARTMENT OF PHARMACOLOGY AND TRADITIONAL MEDICINE		
259.	NGONO MBALLA Rose ABONDO **(HoD)**	AP	African Pharmacotherapeutics
260.	NDIKUM Valentine	L	Pharmacology
261.	ONDOUA NGUELE Marc Olivier	AL	Pharmacology
	DEPARTMENT OF ORAL SURGERY		
262.	ESSAMA ENO BELINGA Lawrence épouse BELL NGAN **(HD)**	AP	
263.	BENGONDO MESSANGA Charles	P	Stomatology
264.	EDOUMA BOHIMBO Jacques Gérard	SL	Stomatology and Surgery
265.	NOKAM TAGUEMNE M.E.	AP	Dental Medicine
266.	KWEDI Karl Guy Grégoire	L	Oral and Dental Surgery
267.	NKOLO TOLO Francis Daniel	AL	Oral and Dental Surgery
	DEPARTMENT OF IMPLANTOLOGY, PERIODONTOLOGY AND PROSTHETICS		
268.	NDJOH Jules Julien **(HoD)**	L	Dental Surgeon (Implantology-Periodontology)
269.	MBEDE NGA MVONDO Rose	L	Oral and Dental Medicine (Prosthetics)
270.	NIBEYE Yannick Carine Brice	L	Bacteriology
271.	AKENA NDENG Lydie Sandra	AL	Dental Surgeon
272.	GAMGNE GUIADEM Catherine M	AL	Dental Surgery
	273. **DEPARTMENT OF CONSERVATIVE DENTISTRY AND ENDODONTICS**		
274.	MENGONG épouse MONEBOULOU Perpétue Hortense **(HoD)**	L	Paediatric Dentistry
275.	LOWE NANTCHOUANG Jacqueline Michèle épouse ABISSEGUE	L	Paediatric Dentistry
	DEPARTMENT OF PHARMACOGNOSY AND PHARMACEUTICAL CHEMISTRY		
276.	NTSAMA ESSOMBA Claudine **(HoD)**	P	Pharmacognosy/Pharmaceutical Chemistry
277.	NGAMENI Bathélémy	P	Phytochemistry/Organic Chemistry
278.	NGOUPAYO Joseph	P	Phytochemistry/Pharmacognosy
279.	GUEDJE Nicole Marie	AP	Ethnopharmacology/Plant Biology
280.	BAYAGA Hervé Narcisse	AL	Pharmacy
281.	TALLA Clovis	AL	Pharmacy
	DEPARTMENT OF PHARMACOTOXICOLOGY AND PHARMACOKINETICS		
282.	ZINGUE Stéphane **(HoD)**	P	Physiology and Pharmacology
283.	FOKUNANG Charles	P	Molecular Biology
284.	TEMBE ACHICK Estella épse FOKUNANG	P	Clinical Pharmacology
285.	ANGO Yves Patrick	L	Chemistry of Natural Substances

No.	NAME	RANK	DISCIPLINE
286.	NENE AHIDJO épouse NJITUNG TEM	L	Neuropharmacology
DEPARTMENT OF GALENIC PHARMACY AND PHARMACEUTICAL LEGISLATION			
287.	NNANGA NGA Emmanuel **(HoD)**	P	Galenic Pharmacy
288.	NYANGONO NDONGO Martin	SL	Pharmacy
289.	MBOLE Jeanne Mauricette épse MVONDO M.	L	Quality Management, Quality Control of Health and Food Products
290.	FOUMANE MANIEPI NGOUOPIHO Jacqueline Saurelle	L	Pharmacology
291.	MINYEM NGOMBI Aude Périne épouse AFUH	L	Pharmaceutical Regulation
292.	SOPPO LOBE Charlotte Vanessa	L	Medication Quality Control
293.	ABA'A Marthe Dereine	AL	Quality Management, Quality Control of Health and Food Products
294.	EMANDA EKOUDI Martin Gogonet	AL	Pharmacy
295.	FOE ESSOMBA Joseph Rodrigue	AL	Biotechnology
296.	NDAM NDJITOYAP MOLUH Yvon Daniel Arouna	AL	Pharmaceutical Regulation and Inspectorate
297.	NKO'O NTYAM David Lionel	AL	Pharmacy

RANK KEY:

P = Professor (P)
AP = Associate Professor (MCA)
SL = Senior Lecturer (MA = Maître Assistant)
L = Lecturer (CC = Chargé de Cours)
AL = Assistant Lecturer (AS = Assistant)
HoD = Head of Department (CD = Chef de Département)

Physician's Oath

The declaration of Geneva, adopted by the Geneva Assembly of the World Medical Association in Geneva, Switzerland, September 1948 and amended by the 22nd World Medical Assembly, Sydney, Australia, August 1968.

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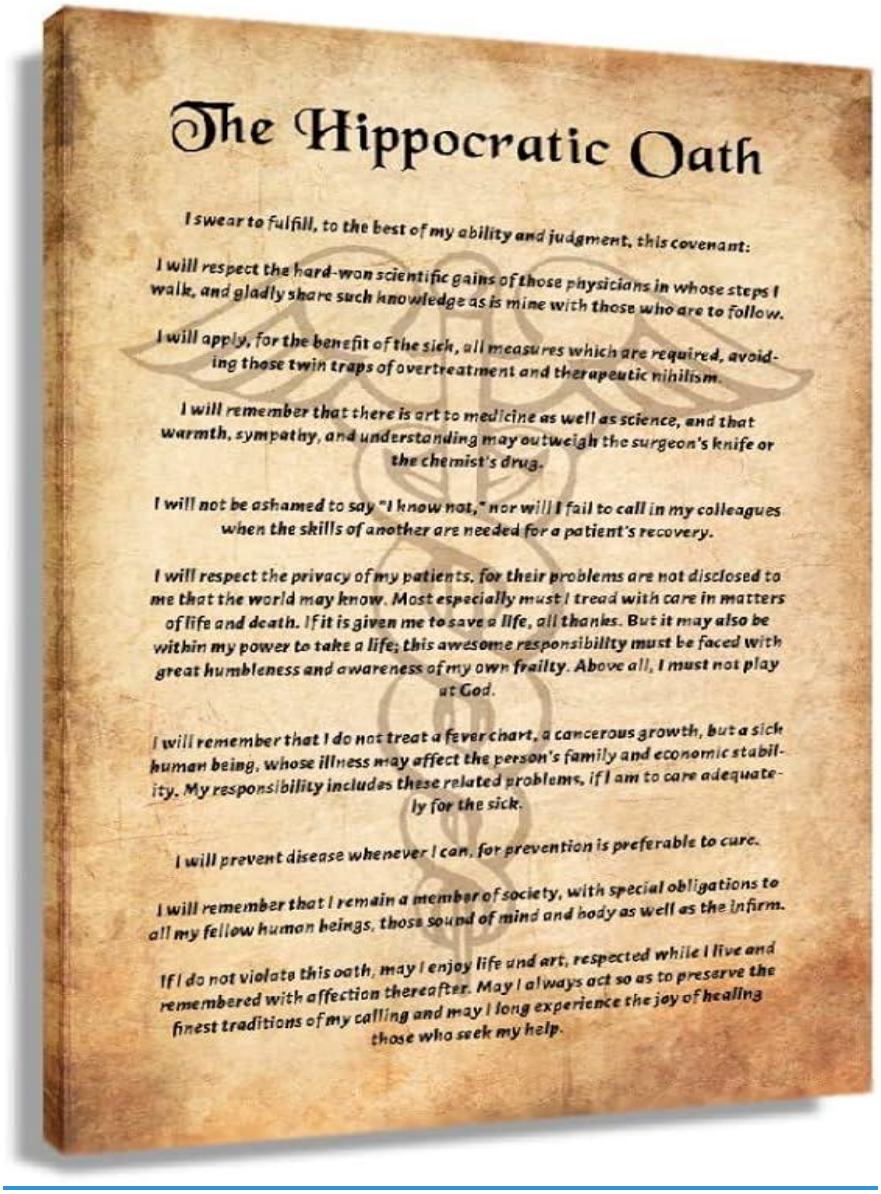

The Hippocratic Oath

I swear to fulfill, to the best of my ability and judgment, this covenant:

I will respect the hard-won scientific gains of those physicians in whose steps I walk, and gladly share such knowledge as is mine with those who are to follow.

I will apply, for the benefit of the sick, all measures which are required, avoiding those twin traps of overtreatment and therapeutic nihilism.

I will remember that there is art to medicine as well as science, and that warmth, sympathy, and understanding may outweigh the surgeon's knife or the chemist's drug.

I will not be ashamed to say "I know not," nor will I fail to call in my colleagues when the skills of another are needed for a patient's recovery.

I will respect the privacy of my patients, for their problems are not disclosed to me that the world may know. Most especially must I tread with care in matters of life and death. If it is given me to save a life, all thanks. But it may also be within my power to take a life; this awesome responsibility must be faced with great humbleness and awareness of my own frailty. Above all, I must not play at God.

I will remember that I do not treat a fever chart, a cancerous growth, but a sick human being, whose illness may affect the person's family and economic stability. My responsibility includes these related problems, if I am to care adequately for the sick.

I will prevent disease whenever I can, for prevention is preferable to cure.

I will remember that I remain a member of society, with special obligations to all my fellow human beings, those sound of mind and body as well as the infirm.

If I do not violate this oath, may I enjoy life and art, respected while I live and remembered with affection thereafter. May I always act so as to preserve the finest traditions of my calling and may I long experience the joy of healing those who seek my help.

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~~LIST OF ABBREVIATIONS~~Abstract

~~LIST OF ABBREVIATIONS~~

Introduction: The outpatient department (OPD) is often the first point of contact between patients and the healthcare system. Patient waiting time is a major determinant of patient satisfaction and an important indicator of healthcare quality and efficiency. It refers to the interval between a patient's arrival at the facility and consultation with a physician. Current recommendations suggest that at least 90% of patients should be attended to within 30 minutes of their scheduled appointment time. However, prolonged waiting times remain common, with substantial variation across healthcare services and settings.

Objective: This study aimed to evaluate patient waiting times and their determinants in a typical Cameroonian hospital setting across four outpatient specialties at the Yaounde Gynaeco-Obstetric and Paediatric Hospital (YGOPH).

Methodology: A descriptive cross-sectional study was conducted in the outpatient units of YGOPH, namely Paediatrics, Obstetrics and Gynaecology, Surgery, and Internal Medicine, over two months from January to February 2026. Following ethical clearance, data were collected on patient satisfaction with waiting time in relation to patient-related and facility-related factors. A four-section questionnaire covering sociodemographic characteristics, waiting time assessment, facility-related factors, and patient-related factors was administered after informed consent and required approximately 10–15 minutes to complete. Data were analysed using SPSS version 26 and interpreted according to the 2018 WHO guidelines. The Chi-square was used as statistical test, with statistical significance set at $p < 0.05$.

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Results: A total of 400 participants were recruited, with a male-to-female ratio of 0.76 and a mean age of 23.5 years. Most participants resided in Yaounde V, where the hospital is located. The overall mean waiting time across outpatient units was 96.59 ± 60.14 minutes, distributed as follows: Obstetrics and Gynaecology (128.12 minutes), Internal Medicine (97.32 minutes), Surgery (82.34 minutes), and Paediatrics (78.58 minutes). Factors significantly associated with patient waiting time were: age ($\chi^2 = 15.72$; $p = 0.02$), gender ($\chi^2 = 17.81$; $p < 0.001$), ease of payment ($\chi^2 = 12.98$; $p = 0.01$), presence of the consultant on arrival ($\chi^2 = 19.16$; $p < 0.001$), and time of arrival ($\chi^2 = 10.31$; $p = 0.01$). Despite prolonged waiting times, overall patient satisfaction was rated as good in 74.3% of cases. Nevertheless, an inverse relationship was observed between waiting time and patient satisfaction, such that satisfaction decreased as waiting time increased.

Conclusion: Patient waiting times in the outpatient units of YGOPH were considerably long, although the principal associated factor identified was modifiable. These findings suggest the need for earlier commencement of consultations and improved patient flow management strategies.

Keywords: Patient waiting time; outpatient department; specialty services; Yaounde, Cameroon

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Résumé

Introduction : Le service de consultation externe constitue souvent le premier point de contact entre le patient et la structure hospitalière. Le temps d'attente en est un déterminant majeur de la satisfaction des patients, ainsi qu'un indicateur important de qualité et d'efficacité des soins. Ce temps correspond à l'intervalle entre l'arrivée dans la structure et la consultation par le médecin. Il est recommandé qu'au moins 90 % des patients soient reçus dans les 30 minutes suivant leur heure de rendez-vous. Cependant, les temps d'attente prolongés demeurent fréquents, avec d'importantes variations selon les types de services de soins.

Objectif : Cette étude visait à évaluer les temps d'attente et leurs déterminants dans un contexte hospitalier camerounais typique, au sein de quatre (4) types d'unités de l'Hôpital Gynéco-Obstétrique et Pédiatrique de Yaoundé (HGOPY).

Méthodologie : Une étude transversale descriptive a été menée dans les unités de consultation externe de l'HGOPY, notamment les services de Pédiatrie, Gynécologie-Obstétrique, Chirurgie et Médecine Interne, sur une période de deux mois (janvier à février 2026). Après obtention de la clairance éthique, les données collectées portaient sur la satisfaction des patients face au temps d'attente, en fonction des facteurs personnels et d'organisation hospitalière. Le questionnaire de 4 items (données socio-démographiques, évaluation du temps d'attente, facteurs liés à l'hôpital et au malade) était administré après consentement, d'une durée moyenne de 10 à 15 minutes. Les données ont été analysées à l'aide des logiciels SPSS 26, puis interprétées à l'aide des directives de l'OMS (2018).Le test de Chi carré a été utilisé comme test statistique, avec un seuil de significativité fixé à $p < 0,05$.

Résultats : Au total, 400 participants ont été recrutés, avec un sex-ratio de 0,76 et un âge moyen de 23,5 ans. La majorité des participants résidaient dans l'arrondissement de Yaoundé V, site de l'HGOPY. Le temps d'attente moyen dans les unités de consultation externe était de 96,59 ± 60,14 minutes, ainsi réparti : Gynécologie-Obstétrique (128,12 minutes) ; Médecine Interne (97,32 minutes) ; Chirurgie (82,34 minutes) ; Pédiatrie (78,58 minutes). Les facteurs significativement associés au temps d'attente des patients étaient : l'âge ($\chi^2 = 15,72$; $p = 0,02$), le sexe ($\chi^2 = 17,81$; $p < 0,001$), la facilité de paiement ($\chi^2 = 12,98$; $p = 0,01$), la présence du consultant à l'arrivée ($\chi^2 = 19,16$; $p < 0,001$) et l'heure d'arrivée ($\chi^2 = 10,31$; $p = 0,01$). Malgré des temps d'attente prolongés, la satisfaction globale des patients était jugée bonne dans 74,3 % des cas. Toutefois, une relation inverse a été observée entre le temps d'attente et le niveau de satisfaction des patients ; plus le temps d'attente augmentait, plus la satisfaction des patients diminuait.

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Conclusion : Les temps d'attente en consultation externe de l'HGOPY sont élevés, mais le principal facteur est une donnée modifiable. Les résultats suggèrent un démarrage plus précoce des consultations.

Mots-clés : Temps d'attente des patients ; consultation externe ; Type de service ; Yaoundé, Cameroun.

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List of Abbreviations

EMT: Emergency Medical Technician

ICU: Intensive Care Unit

IOM: Institute of Medicine

OPD: Outpatient Department

PWT: Patient Waiting Time

WHO: World Health Organisation

YGOPH: Yaounde Gynaeco-Obstetric and Paediatric Hospital

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INTRODUCTION

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Introduction

~~The~~The Outpatient Department (OPD) is described as the face of the hospital, as it is one of the first areas of contact a patient has with a health facility. Hence, their impression about a facility can be set just from the outpatient department. It refers to every unit ~~which~~ that provides healthcare services to unadmitted patients. These include information desks, record/-registry departments,~~-~~ pharmacy, etc.~~-~~ Patient waiting time for healthcare refers to the duration between a patient's arrival at a health facility and the time of consultation by a physician, considering the opening time of the given health facility [1]. It is an essential determinant of patient satisfaction as well as ~~is~~ an important indicator of the quality and efficiency of healthcare [2]. Long waiting times have been observed in both developing and developed countries. Yet, this may vary within the same country and from one~~a~~ facility to ~~the other~~another, even in the same area. The Institute of Medicine recommends atleast 90% of patients to be seen within 30 minutes of their scheduled appointment time.

A few developed countries, like Saudi Arabia, have implemented this, having a wait time of 35 minutes, according to a study in 2001 [3]. More recent studies in sub-Saharan Africa~~,~~ have

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shown in Nigeria (2021) and Ethiopia (2022), a patient wait time of 2 hours and 2.4 hours, respectively [4,5]. In Cameroon, current data available on Patient Waiting Time (PWT) reveals a period of 2.5 hours. This was done in Douala, 20204, incriminating a few determinants, namely~~;~~, insufficient consulting staff, inadequate equipment to ease work, and poor patient compliance with~~to~~ scheduled rendezvous [2].

Long PWT has a great detrimental impact on both the physician's and the patient's health. Hence, the importance of ~~to~~ mastering the concept and its determinants ~~in order~~ to develop ~~establish~~ a management plan ~~plan deal with it~~. PWT is a major public health problem as its impact is felt ~~on~~ not just by the patient ~~,~~ but also by ~~the~~ healthcare workers and other sectors of the economy. It impacts patient satisfaction, patient and physician health, ~~as well as~~and financial burden.

This ~~s~~ study ~~shall had as aim~~aimed to evaluate the average patient waiting time at the outpatient department in our context. Specifically, it involved describing specialty-specific OPD patient waiting times, identifying facility-related determinants of PWT, and patient-related determinants of PWT at the OPD in our context.

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~~CHAPTER~~ Chapter I: PROBLEM STATEMENT

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Problem Statement

~~1.2.~~1.1. RATIONALE

Long patient waiting times (PWT) negatively impact patients, physicians, and the healthcare system, decreasing patient satisfaction and potentially harming health. While a global standard exists, PWT in Sub-Saharan Africa often triples or quadruples this duration. In Cameroon, many complaints are made on social media, radio, and television ~~on~~ about the health system in general and patient waiting time, ~~meaning it is~~thus posing a real public health problem. Yet, data on the subject is scarce. Existing documentation is limited to Douala (2020), where prolonged patient waiting times averaging 2.5 hours were reported. The main contributing factors identified included insufficient staffing, worn-out equipment, and poor adherence to appointment schedules. However, no comparable data currently exists in Yaounde. Given the overall scarcity of~~if~~ data on patient waiting time in Cameroon, this study aims to fill the gap by generating and reinforcing context-specific evidence. The findings will provide insights into waiting times and their determinants, thereby supporting decision makers in developing and implementing improved healthcare policies.

The Yaoundé Gynaeco-Obstetric and ~~Pediatric~~Paediatric Hospital was selected due to its high patient attendance and its wide range of specialis~~z~~ed services, including surgery, internal medicine, paediatrics, and obstetrics and gynaecology. The hospital is particularly suited for this study as its care is primarily oriented toward vulnerable populations, especially women, mothers, and children

~~1.3.~~1.2. RESEARCH QUESTION

~~1.3.1.~~1.2.1. Primary question

1. ~~What is the average waiting time for patients consulting at the outpatient units of the YGOPH~~What is the patient waiting time at the outpatient units at the YGOPH, and what facility-related and patient-related factors influence it?

~~1.3.2.~~1.2.2. Secondary questions

1. What is the average patient waiting time ~~of patients~~ at the outpatient consultations?
2. What are the facility-related factors influencing PWT at the OPD at the YGOPH?
3. What are the patient-related factors influencing PWT at the OPD at the YGOPH?

~~1.4.~~ 1.3. RESEARCH HYPOTHESIS

Patient Waiting Time at the YGOPH is longer than the recommended 30 minutes, and the factors influencing this waiting time are modifiable.

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Problem Statement

~~1.5.~~1.4. OBJECTIVES

~~1.5.1.~~1.4.1. Main objective

Assess patient waiting time and its influencing factors across specialties during outpatient consultations at the YGOPH.

~~1.5.2.~~1.4.2. Specific objectives

1. Determine the average waiting time of patients attending the ~~outpatient~~OPD;
2. Identify facility-related factors influencing PWT;
3. ~~Assess~~ Point out patient- related factors influencing PWT.

~~3.~~

~~1.6.~~1.5. VARIABLES

1. **Socio-demographic variables:** Participant age; Gender; Marital status; Profession; Religion; Residence; ~~Highest~~ Level of education.
2. **Waiting time evaluation:** Arrival at hospital; Arrival at OPD; ~~Called to see consultant;~~ Start of consultation; End of consultation; Patient satisfaction with respect to waiting time; Likelihood to return; Likelihood to recommend the facility.
3. **Facility-related determinants:** Difficulty locating the OPD; record availability; Ease of payment; reception; Presence of consultants at arrival; Number of consultants per day; Average number of consultants per day; daily patient-to-consultants.

   Patient-related determinants: New/returning patient; Appointment/walk-in; Scheduled appointment; day of the week.~~;~~

1.6.DEFINITION OF TERMS

1. Outpatient department (OPD): It refers to every unit that provides healthcare services to unadmitted patients. These include information desks, record/ registry departments, pharmacy, etc [1].
2. Patient waiting time (PWT): This refers to the period between a patient's arrival at the health facility and reception at a given point where health services are rendered. It is calculated from the establishment's official opening time [1].
3. Arrival-to-wait time: Interval between arrival of a patient at a facility and getting to the waiting area. During this period, patients pay, retrieve medical records, find the given unit.
4. Consultation waiting time: Interval between arrival at waiting area and consultation proper.

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Problem Statement

5. Triage time: This is the time during which registration is done, vital parameters are taken. It falls within the consultation waiting time.
6. *Total time:* This is the time spent from the patient's arrival (considering the official opening hour) till time of the patient's departure.
7. *Service time*: This is the period during which a patient receives a given health care service. The BMA recommends a service time of 15 minutes for OPD consultations [2].

~~1.7.~~ Patient waiting time (PWT) is a major public health problem that varies across countries and significantly affects patient satisfaction, healthcare quality, and attendance at health facilities. This study aims to determine PWT at various outpatient units at our health facility as well as identify factors influencing waiting time, providing data to guide policymakers in developing strategies to address this issue and improve healthcare quality both locally and beyond.~~TUDY~~

1.8.THEORITICAL FRAMEWORK

Our study ~~overrides~~ overlaps two medical specialties: General medicine spanning through Internal Medicine, Paediatrics, Surgery, Obstetrics and Gynaecology, and Public H~~h~~ealth, specifically Anthropology.

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~~CHAPTER~~ Chapter II: LITERATURE REVIE~~WW~~

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2.1. PATIENT WAITING TIME AT THE OUTPATIENT DEPARTMENT

2.1.1. Introduction

The Outpatient Department (OPD): This is described as the face of the hospital, as it is one of the first areas of contact a patient has with a health facility. Hence, their impression about a facility can be set just from the outpatient department [6]. It refers to every unit ~~which~~ that provides healthcare services to unadmitted patients. These include information desks, record/ registry departments, pharmacy, etc [1]. Here, a skilled triage is performed by trained nurses and Emergency Medical Technicians (EMTs) based on well-established clinical protocols. Timely functioning of this department is essential in avoiding delays, which may be critical to patient care. This department is the face of primary reception at hospitals, hence an important point in evaluating patient satisfaction [7]. The OPD has a general flow path as displayed ~~by figure~~in Figure 1.

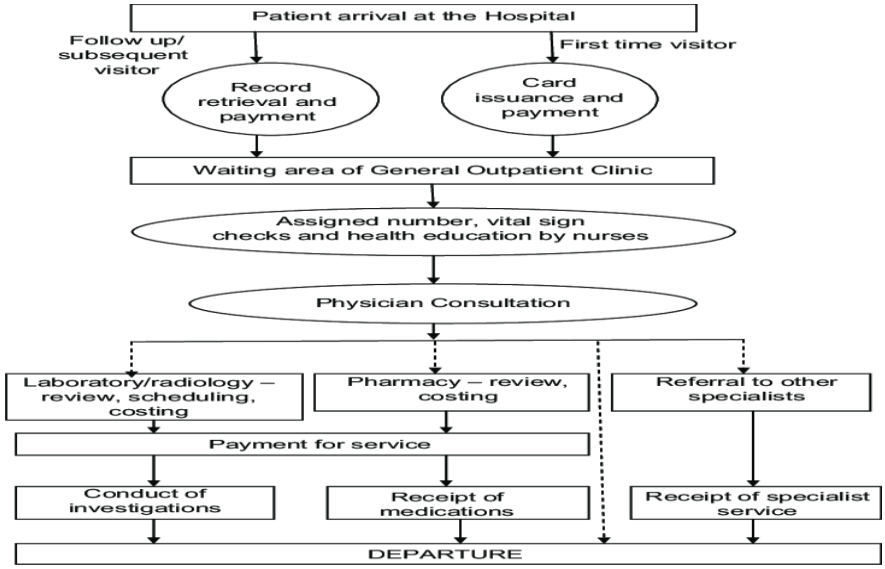

Figure ~~1~~1: Algorithm of the OPD at a Health Facility [8]

Patient Wait Time (PWT): This refers to the period between a patient's arrival at the health facility and reception at a given point where health services are rendered. It is calculated from the establishment's official opening time [1]. PWT can also be defined as the total time spent ~~-~~from arrival at the point of registration~~,~~ until time of departure from the health facility [5]. The World Health Organisation (WHO) identifies wait time as an essential indicator of quality and satisfactory healthcare services by health facilities [9].

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According to tThe Institute of Medicine (IOM), Atat least 90% of patients are to be seen within 30 minutes of their scheduled appointment time. However, in most developing countries, this is not the case, as studies like that in Nigeria, 2013, have shown a wait time of 2-4 hours at OPDs. Wait time and patient satisfaction have an inversely inverse proportional relation [10]. Moreover, the British Medical Association (BMA) recommends that the average service time for OPD consultation per patient in the OPD should approximate be approximately to 15 minutes [2].

According to the United States Institute of Medicine Committee on Quality of Health Care, high-quality healthcare should be: Safe, effective, patient-centred, efficient, equitable, and timely [11]. Hence, PWT is an important indicator for evaluating the quality and efficacy of healthcare.

2.1.2. Epidemiology of PWT

Patient waiting time (PWT) is a common challenge encountered in outpatient clinical settings and represents an important indicator of healthcare delivery efficiency. Studies conducted in hospital environments have reported considerable variations in waiting times across departments, often exceeding recommended standards. Prolonged waiting time has been associated with delayed clinical evaluation, reduced patient satisfaction, and increased likelihood of missed consultations. In addition, inefficiencies in patient flow, administrative procedures, and provider availability contribute significantly to extended waiting periods, ultimately impacting the quality of care delivered to patients.

The IOM recommends that at least 90% of patients be seen within 30 minutes of their scheduled appointed appointment time [5]. A study conducted in Dubai, in 2019, observed that the majority of the patients in the study waited less than 30 minutes before seeing a physician, attributed to the implementation of digital patient records, which eased work [12]. A sStudy in Asia, India to be specific, in 2021 observed PWT to be 15 minutes [13]. In contrast, it was reported in Canada in 2020 that PWT were up to 4 hours [14].

In sub-Saharan Africa, specifically Nigeria, in 2021, a 2021 study conducted in a paediatric OPD showed reported a PWT of about 2 hours, attributable to delayed registration and insufficient consulting staff [10]. In 2022, an Ethiopian study showed an average waiting time of averagely 2.4 hours, with determinants being arrival time and date of consultation [3]. A more recent study in Rwanda showed a PWT of 1.4 hours [11].

In Cameroon, few studies have assessed waiting times in the OPD. Available evidence from a study in Douala in 2024, highlights a mean waiting time of 2.5 hours, incriminating insufficient

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healthcare staff, outdated working equipment, and poor compliance ~~to~~ with appointments by patients [2].

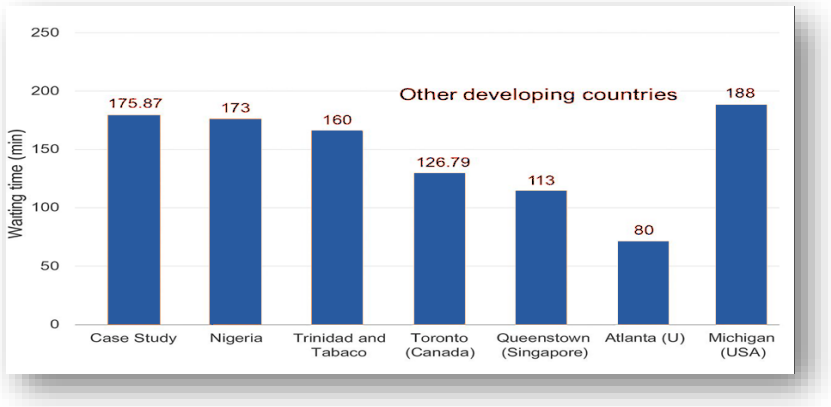

Figure ~~2~~22: Comparison of average wait time of OPD between countries [15]

It is shown that developing countries experience a longer waiting time as compared to developed countries [15]. Whereas~~,~~ developed countries have short wait times, almost similar to the recommended PWT as of 2018.

2.1.3. ~~DETERMINANTS OF PWT AT THE OPD~~Determinants of PWT at the OPD

PWT can be influenced by many factors, ranging from human resource-related, infrastructure, and even patient-related factors. It is thus~~,~~ vital to have a grasp of these determinants.

2.1.3.1. Facility-related factors

These factors are linked to the functioning of the health facility. Figure 3 displays a few factors that ~~have been~~ were ~~incriminated~~ identified ~~a~~in~~s~~ ~~per~~ a study conducted in South Africa~~,~~ in 2018 [16].

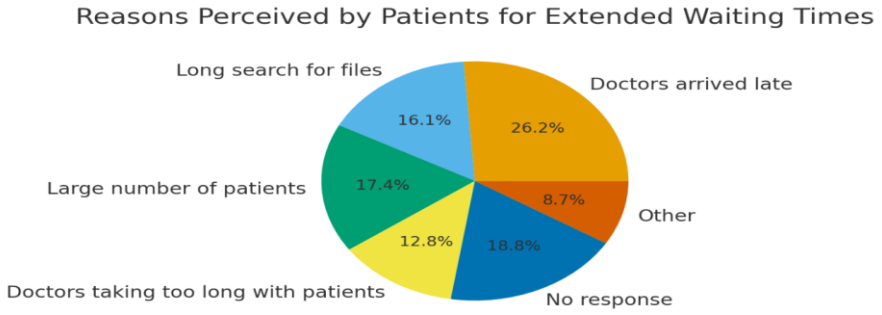

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Figure 3: Factors influencing patient waiting time [16]

a. Organisational practices

Guideline: Existence of a standard PWT which guides healthcare servicing *[1]*.

Appointment system: Too many appointments without enough consulting staff if the appointment system is deficient as to regulation of appointments per day.

Institutional practices: Execution of other functions like staff meetings, ~~trainings~~training, cleaning, and housekeeping services.

Triage: ~~Effective~~ An effective triage system for critically ill, pregnant, disabled, and pupils/students.

b. Work force

Patient-physician mismatch: The massive influx of patients ~~increase~~ increases PWT, especially if the consulting staff is insufficient *[1]*. In Cameroon, data ~~suggests~~ suggest a critically low ratio, at approximately 0.1-0.13 physicians per 1,000 persons (about 1 doctor per 7,000-10,000 people), and in some settings may be as low as 1 doctor per 50,000, far below WHO recommendations of 1:1000 [17].

EMT: Well-trained EMTs for effective triage and timely management.

Proper supervision: Supervising staff are a necessity as they ensure respect of measures put in place, such as waiting time guidelines, queues, triage, and registration.

Service time: Service time affects PWT, as a longer service time will ~~have as repercussion~~result in, longer hours waiting to be consulted.

c. Infrastructure

Signages: Absence of direction boards or roadmaps prompting patients to easily navigate the hospital ~~ground~~grounds.

Record system: Poor patient record storage and management systems, resulting in long hours spent searching archives for records, sometimes far from the registration desk *[1]*. Most health facilities in our context use a paper-based record system.

2.1.3.2. Patient-related factors

Appointment adherence: Disregard of appointment times and dates, causing patients to show up on days scheduled for others and hence, bringing about overcrowding [1].

Facility preference: Preference ~~of~~ for certain facilities due to the availability of sophisticated equipment and specialists. Hence, a high influx of patients irrespective of health condition [1].

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~~Week day~~Weekday: The day of the week affects patient waiting time. Studies have shown a longer waiting time on Mondays compared to other days, as a high patient influx is experienced on this day, and hence, patients ~~this day~~ experience~~d~~ longer waiting times [5].

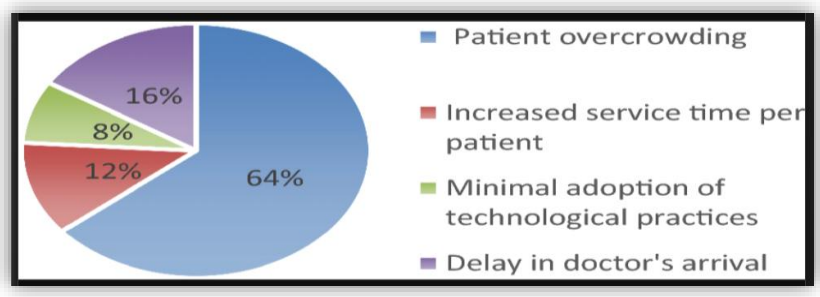

Figure 4: Factors affecting patient wait time [18]

~~It is displayed that patient represents as shown in India 2021 that patient overcrowding contributes most to long wait times at the OPD~~In this image, it is displayed that in India in 2021, patient overcrowding was a major cause of long waiting times at the OPD. Nevertheless, other factors ~~incriminated~~ identified were~~are~~ increased service times, poor adherence to technological advancements, and delay in consultant arrival [18].

2.1.4. Assessment o~~O~~f Patient Waiting Time

Understanding how to assess PWT is an important part of studying it. There are a couple of concepts to be familiar with as a prerequisite.

~~2.1.4.1.~~ 2.1.4.1. ***Quantitative approach***

In order to calculate waiting time, two important measures are taken into account: Service time and total time.

Total time: This is the time spent from the patient's arrival (considering the official opening hour) till time of the patient's departure. This period, according to Primary Health Care facilities in Pretoria, is 3 hours [19].

Service time: This is the period during which a patient receives a given health care service. This, however, may not be standardised due to the discrepancies and uniqueness of health conditions presented by patients at OPDs. It is nonetheless~~,~~ important to include as many variables as it may contribute to the factors influencing waiting time ~~since,~~; the time queuing

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may be influenced by the time taken by the physician to consult a patient before the next [1]. The BMA recommends a service time of 15 minutes for OPD consultations [2].

This period varies greatly, as evidence shows some ranging from 19 minutes in Nigeria [8], to 34 minutes in Dubai [12].

Patient Waiting Time: PWT can be measured either by direct observation (recording arrival and consultation times) or by reviewing hospital records. Statistical measures like the mean and median are then used to calculate the PWT precisely [1].

2.1.4.2. *Qualitative approach*

Beyond mere numbers, this approach assesses patient satisfaction and perceptions qualitatively by employing tools like patient focus groups, structured interviews conducted by healthcare workers, as well as direct observation of patient behaviours during waiting periods [20].

2.1.5. Consequences of Extended Waiting Times

Extended waiting times have significant negative consequences for patients, healthcare providers, and the healthcare system.

2.1.5.1. *On patients*

PWT is inversely proportional to patient satisfaction with the particular healthcare service they seek [2]. In addition, prolonged waiting times can equally result in loss to follow-up and poor compliance with subsequent scheduled appointments, ultimately leading to ineffective patient care, as some even tend to ~~gear~~ gravitate towards traditional medicine as a coping mechanism due to this aspect, further deteriorating their health in a more serious manner [21].

2.1.5.2. *On healthcare providers*

The pressure of dealing with many waiting patients can result in burnout of physicians and other health personnel. In order to meet this increasing demand and satisfy the majority of patients, most physicians tend to attend to more patients than they reasonably can and sometimes work outside their scope of practice [22].

This equally disrupts the smooth running of clinical activities as healthcare providers sometimes have to repeatedly reschedule ~~older~~ returning patients due to the massive influx, making it challenging to fit in new appointments. [22].

2.1.5.3. *On the healthcare system*

Patient dissatisfaction, which is a direct consequence of long waiting times, encourages patients to seek care elsewhere or desert the hospital entirely. This movement results in a significant loss of revenue for the health facility in question [7].

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~~2.1.6.~~ 2.1.6. Management o~~O~~f Patient Waiting Time i~~I~~n t~~T~~he ~~Opd~~ OPD

Effective management of patient waiting time involves a multiphase approach, tackling both health facility administrative processes and patient-related factors ~~hence~~, improving the quality of healthcare.

~~2.1.6.1.~~ 2.1.6.~~HEALTH~~1. *Health* *facility-related*

Revising certain routine processes ~~are~~ is vital in reducing PWT and improving patient satisfaction. These include:

a. *Setting a target waiting time:* Having a target PWT for each outpatient station allows the facility to actively manage workflow and improve care.

b. *Ensuring adequate staffing:* Improving patient management always requires ~~–~~making ~~a~~ enough healthcare personnel available within the facility.

c. *Improving patient orientation and navigation:* Setting up clear directional signb~~ill~~boards or wayfinding signs, and ~~help~~information desks to assist~~s~~ in guiding patients quickly ~~to~~ towards the appropriate service area [19].

~~d.~~ *Improving transport logistics:* Implementing a functional and efficient referral system, including reliable transport media, eases rapid patient transfer when necessary.

Modernis~~z~~ing patient record management: P~~p~~roper and efficient management of patient records ~~is~~ is equally important to prevent data loss and delays in retrieval. This can be done by;

i. One-patient-one-file: Having one file per patient regardless of the specialty being consulted.

ii. Digitalisation: Implementing electronic record systems to ease registration and workflow. A study in Tanzania in 2024 showed that the implementation of a digital system reduced waiting time by 45% compared to a previously paper-based patient recording system in the same health facility [23]. A similar study done in Dubai, 2019, showed that using electronic records had an average waiting time of less than 30 minutes across the country [12].

f. *Anticipation*: Retrieving files for patients with scheduled appointments at least 24 hours ~~prior to~~before their consultation time.

Regulating staff training: To prevent unnecessary service disruptions, staff meetings should be scheduled during periods of low patient influx and their duration limited to less than 15 minutes.

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h. *Regulating staff members:* ~~There~~ There should be assigned staff members monitoring queues, ensuring urgent cases are attended to as a priority compared to others. A member of s~~S~~taff, ~~-~~regulating consulting physicians are ~~as well~~also a necessity, as ~~it has been reported that~~ consulting staff coming late to work has been reported as a determinant for long PWTs, as reported ~~in a study done~~ in India, 2014 [24].

~~2.1.6.2.~~ ~~2.1.6.PATIENT~~2. *Patient*~~-~~ *related*

Reducing unnecessary or repetitive hospital visits can significantly decrease overall patient load and reduce waiting time in OPDs. This can be achieved by:

a. *Promoting health education:* P~~p~~roviding comprehensive health education empowers patients to understand their conditions and make informed decisions, thereby reducing the frequency of unnecessary hospital consultations [19].

b. *Spacing appointments for stable patients:* Patients with stable, chronic conditions should receive appropriate medication refills and have spaced appointments. This will significantly decrease the influx of ~~patient~~ patients who do not require frequent check-ups [19].

c. *Enhancing appointment compliance:* For patients requiring regular follow-up, the decision regarding the date and time should be made by both the patient and physician. This mutual agreement helps ensure better compliance and ~~reduce~~ reduces the likelihood of poorly timed visits [19].

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2.2. REVIEW OF STUDIES ON PWT AT THE OPD

As per recommendations from the Institute of Medicine (IOM), at least 90% of patients are to be seen within 30 minutes ~~from~~ of their scheduled ~~appointed~~ appointment time. Despite these recommendations, PWT tends to vary across the world, especially in sub-Saharan Africa.

Various studies on patient waiting time have been done in ~~the world and~~ Africa and around the world. In this section, we shall review some of these studies to provide a better understanding ~~on~~ of the subject matter.

The assessment of patient waiting time (PWT) is a key measure of operational efficiency in outpatient clinical settings. It enables the quantification of delays across care processes and helps evaluate their impact on timely service delivery.

~~Pertaining to~~On Patient Waiting Time

In 2019, a descriptive cross-sectional study was conducted in Dubai, whereby~~,~~ digital medical records were audited by the research team in order to bring out the waiting times for a month and identify factors influencing the waiting times. This study revealed that about 45.2% of the patients were registered within less than 7 minutes of their visit, and the mean waiting time was 11.7 minutes ~~of~~ from entrance. ~~While more~~More than ~~two third~~two-thirds of them (75.3%) waited less than 30 minutes, and the average consultation waiting time was 34.2 minutes [12]. Another study in Thailand, 2014, aimed at evaluating waiting times at the outpatient department over ~~a 3-month period~~3 months. To carry out this study, observers were placed at various checkpoints to record the waiting times. From the study, it was noticed that ~~a total~~ 81 out of 358 observed patients (22.63%) waited between 5 and 10 minutes. 9 patients (2.51%) waited longer than 10 minutes. The average waiting time at medical examination was 29.20 minutes with a standard deviation of 24.27 [15]. In 2014, ~~a~~ another study ~~conducted in India,~~on evaluating patient waiting time and satisfaction at the OPD was conducted in India. They conducted a cross-sectional study interviewing 320 patients who consulted the general outpatient department. Each patient required 75.5 minutes of waiting time to ~~avail~~ access the outpatient services [24].

In Africa, a study in Ethiopia~~,~~ in 2020 ~~assessing~~ assessed patient waiting time at the outpatient department. This study was cross-sectional and ran for 3 months, including a total of 422 participants by random sampling. Data ~~collected was~~was collected by observation and ~~interview of~~interviews with participants. Descriptive statistics, bi-variable, and multivariate logistic regressions were used. The whole waiting time patients spent in the hospitals before getting service was a minimum of 41 and a maximum of 185 min. ~~Average~~ The average consultation

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waiting time was 21 minutes [5]. In Nigeria, in 2018, a cross-sectional study in the general outpatient department (GOPD) of randomly selected hospitals was conducted. The average total clinic waiting time (TCWT) from entry to seeing a medical doctor was 137.02 ± 53.64 minutes. Only 6 (2.7%) met the Institute of Medicine (IOM) recommendation of having at least 90% of patients seen within 30 minutes of their scheduled appointment, in contrast to 193 (86.5%) of respondents desiring to wait not more than 30 minutes for whatever reason before being attended to by the doctor [9]. Another study conducted in Nigeria in 2019 aimed at assessing patient waiting time in a paediatric unit. This was a cross-sectional study whereby patients were observed from arrival to exit as they went through the various stations. A sample of 384 patients was included over 1 year. Of the 384 patients observed, the mean (SD) total time spent in the hospital was 142.58 (23.17) minutes, while waiting time and consultation time were 113.15(18.01) and 24.43 (10.38) minutes, respectively. The mean time spent at the nurse's bay was 23.79 (6.47) minutes, while that spent at the queue was 22.94 (8.98) minutes. The time spent at the records unit was the highest, with a mean time of 47.2 (17.42) minutes [4]. A more recent study in Tanzania, 2024, aimed at evaluating the outcomes of technical strategy implementation vis-à-vis patient waiting time at the outpatient department. This study was an analytical cross-sectional study, enrolling 412 patients over one month following the implementation of technical strategies, which included electronic medical records. Quantitative data analysis included descriptive statistics, bivariate, and multivariate. All statistical tests were conducted at 5% significance level. Thematic analysis was used to analyse qualitative data. The findings suggested that post-intervention of technical strategies, the overall median outpatient waiting time significantly decreased to 3 h 30 min IQR (2.51–4.08), marking a 45% reduction from the previous six-hour wait. Substantial improvements were observed in the waiting time for registration (9 min), payment (10 min), and triage (14 min for insured patients). Among the implemented strategies, electronic medical records emerged as a significant predictor of reduced waiting time (AOR = 2.08, 95% CI, 1.10–3.94, p-value = 0.025) [23].

In Cameroon, a study conducted in 2020 aimed at assessing patient waiting time at the outpatient department and identifying some determinants, as well as evaluating satisfaction. This study was cross-sectional, spanning over 3 months in randomly selected clinics in Douala. A total of 389 patients were observed and interviewed. At the end of this study, it was shown that for registration, the mean waiting time was 47.61±52.05 minutes. The

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mean waiting time to meet healthcare workers was 84.68±79.68 min. The mean time spent at the outpatient department from registration to consultation was 150±50.02 min (2.5±0.62 h). There was a statistically significant relationship between the quality of healthcare received and the likelihood of patients recommending the hospital to others (p=0.00) [2].

~~Pertaining to~~On Facility-related Determinants

In Dubai, a study ~~by~~ aimed ~~on~~ at assessing PWT at the OPD in 2019 over ~~a one month period~~one month revealed ~~as facility related~~facility-related determinants~~,~~: h~~H~~igh workload with insufficient physicians, insufficient ~~employees supervisor~~employee-supervisor interaction, and facility unavailability [12]. In Thailand, in the year 2014, ~~following~~ a study at a teaching hospital~~,~~ incriminated poor staff allocation and poor appointment systems as facility-related determinants for long waiting times [15]. In the same year, a study in India on identifying determinants of PWT at the OPD~~. Various~~ revealed various factors contributing to long waiting time, ~~were~~ such as registration clerks not attending duty on time, ~~taking~~ more time taken to register ~~the~~ patients, difficulties in locating rooms, ~~rush,~~ doctors coming late on duty, ~~doctors,~~ VIP patients jumping the queue due to poor supervision, and staff allocation [24].

In Africa, a descriptive cross-sectional study in Nigeria, 2018, on PWT at the OPD, which ran for a period of one month~~. From the study, it was,~~ observed that factors such as few health personnel and having an insurance cover contributed significantly to the waiting time [9]. In the same light, another ~~study~~ study was conducted in Nigeria in ~~the year~~ 2019 on PWT in a paediatric OPD. ~~The~~ In this study, the long waiting time was attributed to delays from the record/registration unit [4]. Furthermore, i~~I~~n Tanzania~~,~~ in 2024, another study on evaluating the PWT after the implementation of electronic medical records was carried out.~~,~~ The main p~~P~~roblem~~s~~ identified that still needed addressing ~~included~~ was the ineffective implementation of block appointment [23]. In South Africa~~,~~ in 2022, ~~in~~ a cross-sectional study on determinants of PWT ~~incriminated~~ reported ~~were~~ record~~s~~ and patient administration system deficiencies, as well as poor time management [25].

In Cameroon, a study was carried out in 2020 in Douala aimed at assessing PWT at various OPDs across randomly selected clinics. From this study, a few facility-related determinants were ~~incriminated~~implicated. Long patient waiting times were attributed to a ~~a~~ lack of health workers (44, or 84.6%), lack and poor condition of equipment (36, or 69.23%) [2].

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~~Pertaining to~~On Patient-related Determinants

In South Africa, 2022, a study on PWT had as factors incriminated, patients' lack of adherence to the booking system at the CHC resulted in long waiting times and patient overload. As causes for poor adherence, they reported access to the facility through public transport as it prompts patients to either postpone their appointment or show up earlier than programmed, bringing about overcrowding. Patient fluctuation as per the days of the week was reported as some days are prone to have more patients, hence, overcrowding [25]. Another study in Ethiopia, 2022, ~~reported in a study~~ on PWT at the OPD, reported patient fluctuation per day of the week as patients who visited on Monday were 2.64 times (AOR = 2.64; 95% CI, 1.45, 4.79) more likely to spend longer waiting time than those who visited the hospital on Friday [5].

In Cameroon, 2020, their study on patient waiting time at the outpatient department across various randomly selected hospitals in Douala revealed ~~as factors~~that~~,~~ poor adherence by patients to scheduled appointments [2].

Patient waiting time (PWT) remains a significant challenge in outpatient healthcare delivery and is widely recogni~~s~~ed as a key indicator of service efficiency and quality of care. The reviewed literature demonstrates that prolonged waiting times are consistently reported across various clinical settings, particularly in resource-limited environments, often exceeding recommended standards. These delays are not merely administrative inconveniences but have direct implications for patient care, including delayed clinical evaluation, reduced patient satisfaction, and increased likelihood of missed or abandoned consultations.

Evidence highlights that PWT is influenced by facility and ~~patient-related~~patient-related factors. Inefficient appointment scheduling systems, patient flow organisation, and healthcare worker availability are among the most frequently cited contributors. The most immediate and tangible effects are observed at the point of care, where it directly impacts the patient experience and effectiveness of clinical service delivery.

In conclusion, reducing patient waiting time is essential not only for improving patient satisfaction but also for strengthening the overall quality and efficiency of healthcare delivery. This underscores the need for context-specific strategies and continuous evaluation of service organi~~s~~ation within a healthcare ~~-~~facility~~.ies~~

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~~CHAPTER~~ Chapter III: METHODO~~LOGY~~LOGY

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Methodology

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Methodology

~~3.3.~~3.1. ~~TYPE OF STUDY~~

This was a ~~descriptive~~ descriptive cross-sectional study.

~~3.4.~~3.2. ~~SITE OF STUDY~~

Our study sites were the Paediatric, ~~surgical~~Surgical, Obstetric, and Gynaecological OPD of the Yaounde Gynaeco-Obstetric and Paediatric Hospital. Built on a surface area of 9,000 m2, in the Yaounde V municipality. The table below illustrates the distance and travel time from the other Yaounde municipalities.

Table I: Distances from Yaounde V to other municipalities~~Table I: Distances from Yaounde V to other municipalities~~ [26]

Municipality	Administrative reference area	~~Approximative~~ Approximate distance (km)	~~Approximative~~ Approximate travel time (min)
Yaounde I	Central town	6-8	15-25
Yaounde II	Tsinga/ Messa	7-9	15-25
Yaounde III	Efoulan/Mvolye	5-7	10-20
Yaounde IV	Kondengui/ Ekounou	3-5	10-15
Yaounde V	Nkolmesseng	0	0
Yaounde VI	Biyem-Assi	9-12	20-35
Yaounde VII	Nkolbisson	11-14	25-40

It has an initial capacity of 240 beds~~,~~ for admitted patients in Gynaecology, Obstetrics, Paediatrics, Surgery, the Intensive Care Unit (ICU), and internal medicine, with a staff of 525 health personnel comprising ~~of~~ 42 medical doctors only, as well as nurses, laboratory scientists, administrative and auxiliary staff members as of 2021 [27]. YGOPH recorded a total of 85,758 consultations across all specialties despite the number of medical doctors present. YGOPH is a first category hospital, endowed with the following missions: P~~p~~roviding quality care; contributing to the professional training and upgrading of the technical staff; providing new perspectives for medical and promoting cooperation and research in the fields of Gynaecology and Obstetrics, Paediatrics, Surgery [28]. ~~Bearing in mind that these units expect per day, 15, 18, 12, and 10 patients respectively as per the World Health Organisation recommendations [29].~~ Despite being in a developing country predisposes it to challenges such as limited infrastructure to accommodate patient influx, medical ~~supply~~supplies, and even shortages. ~~Keeping in mind~~ The YGOPH ~~that~~ offers services in Gynaecology and Obstetrics, Paediatrics, ~~surgery~~Surgery, and Internal ~~medicine~~Medicine. So, ~~,~~ our study shall investigate PWT in these specialties, bearing in mind that these units expect per day, 15, 18, 12, and 10 patients respectively as per the World Health Organisation recommendations [29]. ~~-~~ Due to its patient affluence and diversity in medical and surgical specialties, especially pertaining to mother and child care, it is an ideal site for our study.

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~~3.5.~~3.3. ~~-~~PLANNED PERIOD OF STUDY

Our study ran ~~through~~ for seven months, ranging from November 2025 to June 2026.

~~3.6.~~3.4. STUDY POPULATION

~~3.6.1.~~3.4.1. Source population

All patients ~~consulting~~ consulting at the YGOPH.

~~3.6.2.~~3.4.2. Target Population

Our study population consisted of all persons ~~presenting~~ consulting at the OPDs of Paediatrics, Internal Medicine, Surgery, Obstetrics, and Gynaecology at the YGOPH. These persons will be further screened based on the following:

~~3.6.3.~~3.4.3. Inclusion criteria

Consenting patients aged 18 years and above.

Consenting caregivers for paediatric patients.

~~3.6.4.~~3.4.4. Exclusion criteria

Emergency cases.

~~3.7.~~3.5. ~~-~~SAMPLING

~~3.7.1.~~3.5.1. Sampling method

~~Participants were recruited randomly, selecting every 3rd patient until sample size was reached~~Patients were recruited exhaustively.

~~3.7.2.~~3.5.2. Sample size estimation

For our study, we used ~~the~~ Crochan's formula to estimate the sample size. We used a prevalence(p) of 50% (p=0.5) for a proper representation of the variability.

$$n = \frac{z^2pq}{e^2}$$

Where;

~~n=~~n = Minimum sample size

~~z=~~z = 1.96 for a confidence interval of 95% (alpha=0.5)

~~p=~~p = Estimated proportion (0.6)

q= 1-p

~~e=~~e = Error margin at 5%

$n = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2}$ = **385 participants, which we shall round up to 400**

We sought to recruit at least 400 participants in our study~~.~~ ; hence, 100 per specialty, i.e., Internal ~~medicine~~Medicine, Surgery, Paediatrics, Obstetrics and Gynaecology.

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~~3.8.~~3.6. ~~-~~DATA COLLECTION

Data collection was done using a questionnaire administered by direct interview to the patients consulting at the OPDs of Paediatrics, Internal Medicine, Surgery, Obstetrics, and Gynaecology at the YGOPH. This questionnaire shall be pre-tested in a hospital milieu, and corrections shall be made to improve comprehension for patients. It shall comprise ~~of~~ questions on Socio-demographics, waiting time evaluation, facility-~~-~~related factors, patient-related factors, and ~~-~~patient satisfaction ~~and recommendations~~.

~~3.9.~~3.7. PROCEDURE

~~3.9.1.~~3.7.1. Ethical and Administrative ~~considerations~~Considerations

This study was carried out in accordance ~~to~~ with the Helsinki ~~declaration~~ Declaration of 1964, revised in October 2013. Firstly, we requested ethical clearance from the Institutional Review Board (IRB) of the Faculty of Medicine and Biomedical Sciences (FMBS) of the University of Yaounde I. Then, we requested authorisation from the Yaounde University Teaching Hospital. ~~Prior to~~Before inclusion, an informed consent form clearly and ~~detailly~~ in detail stating the ~~study~~ study's importance and process~~,~~ was filled out and signed by each participant. They were free to withdraw from the study without any consequence. Every data collected was used solely for the purpose of the study and the study alone.

~~3.9.2.~~3.7.2. Recruitment and data collection

After obtaining authorisations, we presented to the head physicians and nurses, then the investigation proper began by questioning consenting patients at the OPD of Paediatrics, Surgery, Obstetrics and Gynaecology, and Internal Medicine at the YGOPH. Daily recruitment took place from Monday through Friday during working hours, one unit at a time. An explanation, carefully briefing the study's objectives, including the expected outcomes and their potential impact on both patients and the healthcare system in Cameroon, was made. Participants were informed about how the results would be used to improve healthcare delivery in Cameroon and were asked to freely sign a consent form to participate in the study ~~prior to~~before individual interrogation. Each participant ~~that~~ who met the inclusion criteria had a pre-established and pre-tested questionnaire, which was filled out accordingly after giving consent.

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~~3.10.~~3.8. DATA ANALYSIS

Data were~~was~~ collected on socio-demographics, waiting time evaluation, facility- and patient-related determinants, patient satisfaction, and recommendations. C~~Data c~~ollected data were~~was~~ analysed using~~with~~ SPSS (Statistical Package for Social Science) version 26.0. Descriptive statistics such as mean, median, and standard deviation were used to summarise data, while ANOVA was used to compare ~~the~~ means across specialties. Qualitative variables were presented as absolute numbers, frequencies, and percentages, while quantitative variables were presented as ~~mean~~ means and standard ~~deviation~~deviations. The Chi-square test was used as the statistical test, ~~.~~with a significance level set at less than 5% ~~The Chi-square test was used to determine the existence of relationships between qualitative variables, with a significance level of <5%~~ and a 95% confidence interval.~~al of 95%.~~

~~3.12. BUDGET~~

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~~CHAPTER~~ Chapter IV:
RESULTS

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Results

Chapter 4 shall elucidate ~~of~~ the results of our study from sociodemographic characteristics, patient waiting time evaluation and associations, facility and patient-related determinants, and finally, answer our research question.

4.1. STUDY POPULATION

Data collection was done at the outpatient units of Paediatrics, Surgery, Internal Medicine, Obstetrics and Gynaecology at the Yaounde Gynaeco-Obstetric and Paediatric Hospital. Participants constituted persons consulting the outpatient unit above 18 years and guardians for paediatric cases, according to the procedure below (Figure 3).

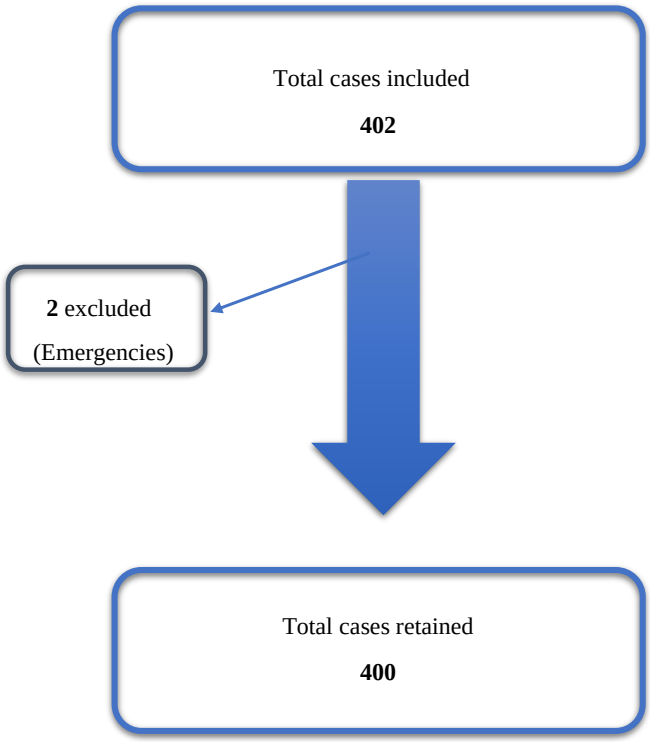

Figure ~~33~~3: Participation flow diagram

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Results

Our recruitment rate was 100%. Yet, we excluded participants as they turned out to be emergencies. We had a participant sex ratio of 0.76, mean and median ages were~~was~~ in the range of 20-30 years. The following table describes the sociodemographic profiles of our study population.

~~Our population was predominantly of the working class, having reached the tertiary level of education. Most participants lived in the Yaounde V municipality.~~

~~The table above illustrates an overall ease in localising the OPD as well as payment. However, being caught up in a long queue was the most recorded reason for difficult payment.~~

~~*CI: Confidence Interval; OR: Odds Ratio*~~

~~*CI: Confidence Interval; OR: Odds Ratio*~~

Table II: Socio-demographic profile (n=400)

Variable	Answers	Frequency	Percentage
Age	<10	162	40.5
	10-19	30	7.5
	20-39	134	33.5
	46-60	57	14.2
	>60	17	4.3
Gender	Female	227	56.8
	Male	173	43.25
Religion	Animist	3	0.8
	Christian	373	93.2
	Muslim	24	6.0
Level of Education	None	6	1.5
	Primary	18	4.5
	Secondary	50	12.5
	Highschool	47	11.8
	Tertiary	279	69.7
Occupation	Unemployed	32	8.0
	Student	89	22.3
	Worker	262	65.5
	Retired	17	4.2

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Results

Residence (km)	Yde V (0)	203	50.8
	Yde IV (3-5)	39	9.8
	Yde III (3-5)	9	2.3
	Yde I (6-8)	96	24.3
	Yde II (7-9)	10	2.5
	Yde VI (9-12)	25	6.3
	Yde VII (11-14)	18	4.5

Our population was predominantly of the working class, having reached the tertiary level of education. Most participants lived in the Yaounde V municipality.

4.2. WAITING TIME EVALUATION

The following tables illustrate PWT and its variations at the outpatient units of YGOPH as well as patient satisfaction. The four OPDs were assessed separately in order to have an average PWT. Table V below shall illustrate the various wait times at various points of the Outpatient Department of the Yaounde Gynaeco-Obstetric and Paediatric Hospital.

Table III: Waiting times

	IM	**Paediatrics**	**Surgery**	**OBGYN**	**Mean**
Arrival-waiting (min)	9.64	20.29	17.84	10.49	14.56
Consultation WT (min)	87.95	58.19	64.40	117.63	82.04
Triage WT (min)	5.41	3.57	4.73	6.43	5.09
Service Time (min)	29.70	20.55	17.22	30.14	24.40
Patient Waiting Time (min)	97.32	78.58	82.34	128.12	96.59
Total WT (min)	127.02	99.12	99.59	158.07	120.95

IM: Internal Medicine; WT: Waiting Time; OBGYN: Obstetrics and Gynaecology

On a general note, patients waiting longest between the waiting area and the consultation proper. The average PWT was 96.59 min± 60.14 min. Triage constituted the shortest wait. Obstetrics and Gynaecology recorded the longest PWT, while Paediatrics experienced the shortest. According to the Institution of Medicine, atleast 90% of persons are to consult within

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Results

30 minutes of scheduled time. The chart below gives us the proportion of participants which fell within this recommended timeline

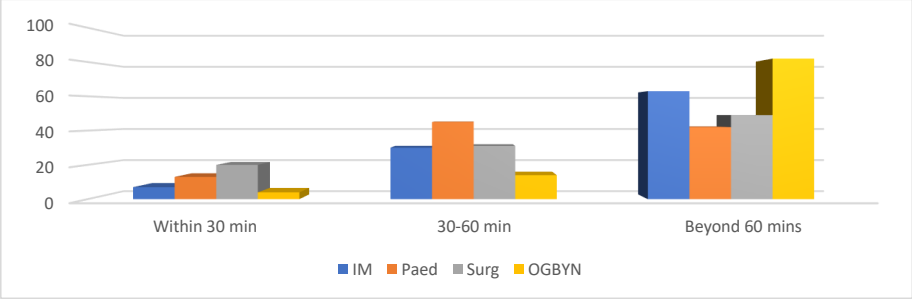

Figure 44: Patient waiting time distribution

Only <20% of persons consulting was seen within the recommended 30 minutes. This goes against recommendations of atleast 90% of patients to be seen within 30 minutes. PWT varies according to days as well. We observed a surge in PWT on Tuesday in Obstetrics and Internal Medicine. Figure below illustrates the distribution of average PWT by unit per day.

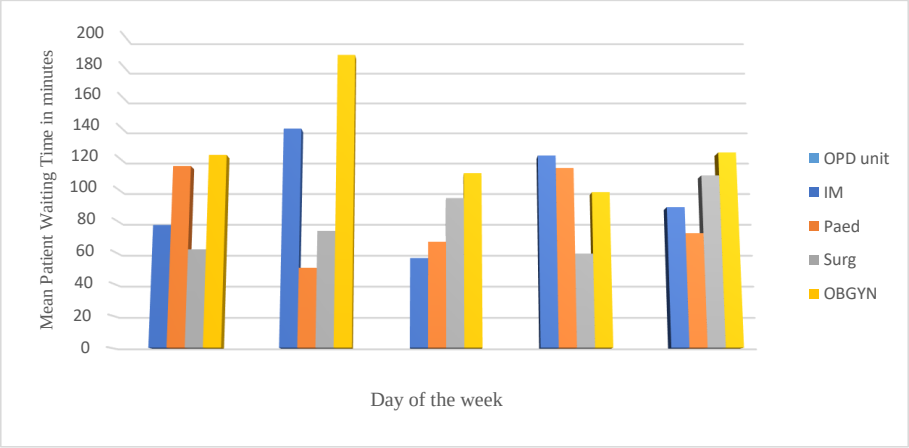

Figure 55: Patient waiting time per unit

Mean patient waiting times varied across units and days of the week, with clear patterns observed. The OBGYN unit consistently recorded the longest waiting times, peaking on Tuesday at approximately 185 minutes, making it the highest value overall. Internal Medicine

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Results

also showed relatively high waiting times, especially on Tuesday and Thursday. In contrast, the Surgery unit generally had the shortest waiting times, with its lowest value observed on Thursday (around 60 minutes)..

Across the week, Tuesday appeared to be the busiest day, with most units experiencing their highest waiting times, while Wednesday showed relatively lower waiting times across several units. The Paediatrics unit demonstrated moderate variability, with a notable drop on Tuesday. By Friday, waiting times increased again in some units, particularly Surgery and OBGYN.

Having described the patient waiting time, the facility-related factors influencing waiting time were subsequently assessed.

4.3. FACILITY-RELATED FACTORS

Less than 5% of our population reported difficulties in locating the outpatient unit. Table VII elucidates the factors linked to the facility explored.

Table IV: Facility-related factors

Variable	Answer	n (%)
Received by Receptionist	Yes	98 (24.5)
	No	302 (75.5)
Ease of payment (n= 194)	Yes	173 (89.2)
	No	21 (10.8)
Medical records at arrival (n= 303)	Yes	4 (1.3)
	No	299 (98.6)
Present consultant	Yes	328 (82.0)
	No	72 (18.0)

The table above illustrates an overall ease in localising the OPD as well as payment. However, being caught up in a long queue was the most recorded reason for difficult payment.

Patient-doctor mismatch is a huge determinant of PWT.

Figure 6 below displays a comparison between expected and consulted patients at the OPD.

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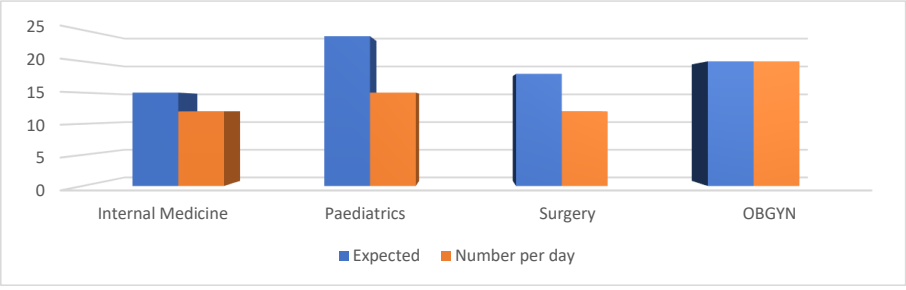

Figure 66: Expected vs actual patient volume per unit

The OPD at the YGOPH received less patients than expected, most of which are returning patients.

In line with the study objectives, we directed attention towards assessing patient related factors.

4.4. PATIENT-RELATED FACTORS

There was an overall good adherence to appointments, yet, due to financial issues mostly, a few cases of non-adherence were recorded. Table VIII below illustrates patient-related determinants.

Table V: Patient-related factors

Variable	Categories	n (%)
Patient status	New	97 (24.3)
	Returning	303 (75.8)
Mode of consultation	Appointment	258 (64.5)
	Walk-in	123 (30.8)
	Referral	19 (4.8)
Scheduled appointment (n= 258)	Yes	217 (84.11)
	No	41 (15.89)
Difficulty locating	Yes	6 (1.5)
	No	394 (98.5)
Method of scheduling (n=258)	In-person	254 (98.45)
	Phone	4 (1.55)
Time of Arrival	Before 10am	242 (60.5)
	After 10am	158 (39.5)

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Results

Appointments were scheduled in person in more than 90% of cases. Forgetfulness was reported as reason for poor adherence in some cases. Patients tend to consult more in the first half of the week compared to the other half.

The figure below displays number distribution of patients consulting per day by unit.

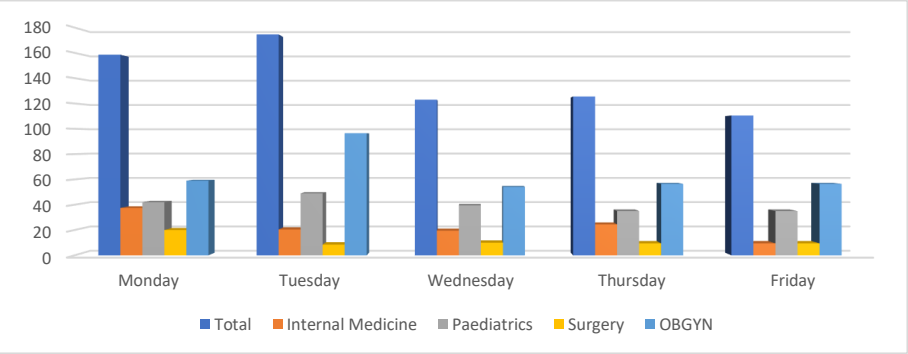

Figure 7~~7~~: Daily patient volume per unit

The figure presents the distribution of total patient load and its contribution by different units across the days of the week. Overall, the total number of patients was highest on Tuesday (approximately 175), followed by Monday (around 160), while the lowest attendance was recorded on Friday (about 110).

Across the individual units, the OBGYN unit consistently recorded the highest patient numbers among all departments, with a notable peak on Tuesday (approximately 95 patients). Paediatrics showed moderate but relatively stable attendance throughout the week, while Internal Medicine recorded comparatively lower patient numbers, with slight increases on Thursday. The Surgery unit had the lowest patient volume across all days, with minimal fluctuations.

In terms of daily patterns, most units experienced increased attendance on Tuesday, contributing to the overall peak observed on that day. A decline was noted on Wednesday across several units, followed by a slight rise again on Thursday, particularly in Internal Medicine. By Friday, patient numbers reduced in most units, although OBGYN and Paediatrics maintained moderate attendance levels

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Results

In order to establish certain associations between these findings and PWT, we went further to cross Socio-demographic variables, facility and patient-related factors. This was in a bid to answer our secondary questions.

4.5. FACTORS ASSOCIATED WITH PATIENT WAITING TIME

Statistical significance was evaluated by way of Chi-square test. Table IX below displays association between PWT and sociodemographic characteristics.

Table VI: Waiting time by Socio-demographicprofile

Variable		Patient Wait Time (min)			X^2	p-value
	Categories	<30	30-60	>60		
Age	<20	25	70	97	15.72	0.02
	20-39	9	29	96		
	40-60	8	15	57		
	>60	2	6	9		
Gender	Female	17	56	154	17.81	0.00
	Male	27	64	82		
Level of Education	<Primary	2	7	12	4.48	0.35
	Secondary	10	38	52		
	Tertiary	32	75	172		
Occupation	Unoccupied	5	20	26	2.37	0.31
	Occupied	39	100	210		
Residence (km)	Yde V (0)	28	58	117		

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Yde IV (3-5)	3	12	24		
Yde III (5-7)	0	3	6	14.87	0.25
Yde I (6-8)	5	36	55		
Yde II (7-9)	1	4	5		
Yde VI (9-12)	4	2	19		
Yde VII (11-14)	3	5	10		

χ^2 = Chi-square test.

The association between sociodemographic characteristics and patient waiting time was assessed using the Chi-square test. Age and gender showed statistically significant associations with patient waiting time.

Arrival time showed significance with respect to PWT. Table X below illustrates associations between factors related and PWT at the OPD.

Table VII~~VII~~: Waiting time by influencing factors

Variable		**Patient Waiting time (min)**			**X^2**	**p-value**
	Categories	<30	30-60	>60		
Difficulty locating	Yes	0	3	3	1.57	0.46
	No	44	117	236		
Receptionist	Yes	13	23	62	2.85	0.24
	No	31	97	174		
Easy payment (n= 194)	Yes	12	47	114	12.98	0.01
	No	1	4	16		
Present records (n=303)	Yes	0	0	4	4.38	0.36
	No	34	95	170		
Present consultant	Yes	40	111	177	19.16	0.00
	No	4	9	59		
Consultant called away	Yes	1	3	0	5.83	0.05
	No	43	117	236		
Scheduled Appointment (n=256)	Yes	24	64	129	0.31	0.86
	No	4	10	25		

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Results

Time of arrival	≤10 am	17	73	152	10.31	0.01
	>10am	27	47	84		

χ^2: Chi-square test; PWT: Patient waiting time; OPD: Outpatient Department

The association between facility- and patient-related factors and patient waiting time was assessed using the Chi-square test. Ease of payment and the presence of the consultant showed statistically significant associations with patient waiting time. Additionally, consultants being called away showed a borderline significant association with waiting time. How time of arrival varied with PWT is illustrated in the figure 8 below.

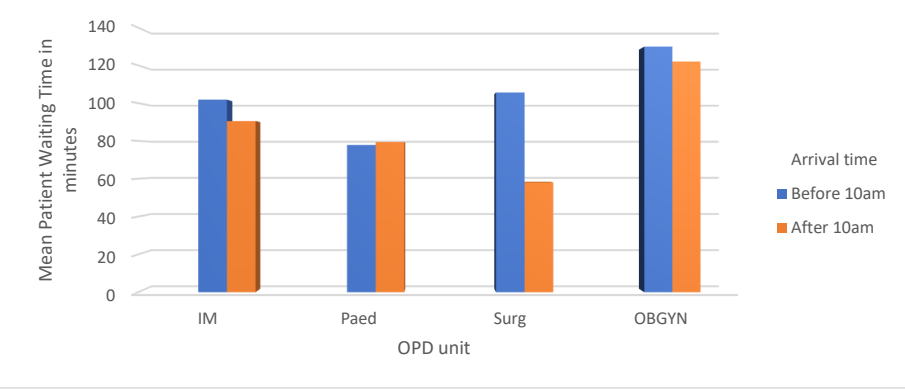

Figure ~~88~~: Waiting time by arrival per unit

The above figure clearly depicts that patients that consulted before 10 am experienced a longer waiting time irrespective of the unit.

Overall, this study assessed patient waiting time at the outpatient units of the Yaounde Gynaeco-Obstetric and Paediatric Hospital. The findings revealed that the majority of patients experienced waiting times exceeding 60 minutes, while only a smaller proportion experienced waiting times within 30 minutes. This indicates that waiting time at the OPD is relatively prolonged.

The mean patient waiting time was **96.59± 60.14 minutes**, demonstrating considerable variability in the duration of care. However, waiting time differs across specialties, with the Obstetrics and Gynaecology department recording the longest waiting times, while Paediatrics had the shortest.

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Results

Patient waiting time is widely recognised as a key indicator of patient satisfaction. In this regard, satisfaction was assessed in relation to time across different specialties. The findings demonstrated an inverse relationship between waiting time and patient satisfaction, whereby longer waiting times were associated with lower levels of satisfaction.

Figure 9 illustrates this relationship between patient waiting time and satisfaction across the OPDs.

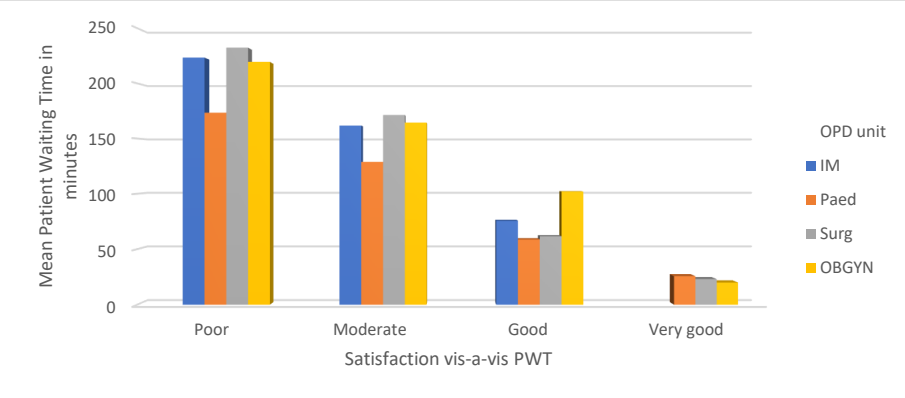

Figure 99: Waiting time by satisfaction per unit

Despite experiencing the longest waiting times, patients in the Obstetrics and Gynaecology (OBGYN) unit appeared more tolerant, as reflected by a relatively higher threshold for satisfaction. This may be attributed to the nature of services provided in this unit, where patients may anticipate longer consultations or perceive their care as more specialized.

Furthermore, several factors were found to influence patient waiting time. Among the sociodemographic variables, both age and gender showed statistically significant associations with waiting time. In addition, certain facility-related factors, including the ease of payment procedures and the presence of the consultant, were significantly associated with waiting time, while instances of consultants being called away demonstrated a borderline significant association. In contrast, other variables such as patient status, receptionist availability, level of education, occupation, residence, and mode of consultation did not show statistically significant associations with waiting time.

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Results

These findings suggest that both patient characteristics and health system operational factors play a role in shaping waiting time, although facility-level processes appear to have a more direct impact. This underscores the importance of addressing organizational inefficiencies within the outpatient department of YGOPH to reduce waiting time and improve overall service delivery.~~*CI: Confidence Interval; aOR: Adjusted Odds Ratio; cOR: Crude OR PWT: Patient Waiting Time*~~

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~~CHAPTER~~ Chapter V: DISCUSSION

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Discussion

Patient waiting time is an important indicator of quality of care. It has a grave impact on patient health and physician effectiveness. Despite global recommendations, low and middle-income countries experience longer waiting times. In our setting, research from 2020 reveals PWT as long as 1.5 hours [2]. It is essential for us to study this phenomenon as well identify bottlenecks. Reason for our study which aimed at evaluating PWT at the YGOPH, identify factors influencing this time. Our results are in line and some differ from previous studies, which we shall discuss in this chapter.

5.1. LIMITATIONS OF STUDY

Despite the strengths of this study, several limitations should be considered when interpreting the findings.

First, the study relied on self-reporting data, which is subject to response bias, particularly courtesy bias. Participants may have provided socially desirable responses, especially regarding satisfaction with healthcare services, in order to appear polite or avoid offending healthcare providers. This could have led to an overestimation of patient satisfaction levels, despite the presence of prolonged waiting times.

Secondly, the use of cross-sectional study design limits the ability to establish causal relationships between variables. While associations between waiting time and factors such as patient flow, staffing, system organisation were identified, causality cannot be definitely determined.

Thirdly, the study was conducted in a single health facility, which may limit the generalisation of the findings to other hospitals or regions in Cameroon. Variations in staffing, infrastructure and patient volume across different facilities may result in different waiting time patterns

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Discussion

5.2. STUDY POPULATION

We had 400 participants, with a predominantly female distribution. Females constituted 56.8% of participants, giving a sex ratio of 0.76. This is similar to the study in Douala, Cameroon, where the sex ratio was 0.72 [2] and in India, 2014, where it was 0.70 [24]. However, a study in Ethiopia, 2020, reported a sex ratio of 1.2 [5]. The population had a predominantly young age distribution. Children under 10 years of age represented the largest population (40.5%), followed by young adults aged 20-39 years (33.5%). Based on our distribution, our mean age was 23.5 years. These results differ from the study in Cameroon whose largest age group was 20-40 years and mean age 33.19± 19.7 years [2]. This also differs from a study in Nigeria by which had mean age was 33 years [30].This could be explained by the fact that our study was conducted in a tertiary hospital whose care is centred around children, hence, regardless of the unit, there are children present at the various OPDs.

Educational level was relatively high among participants, with 69.7% having attained tertiary education, while only a small proportion had no formal education (1.5%). This suggests that the study population was largely educated. In contrast, a study in Ethiopia reported a Greater part of their population being illiterate and only 15.2% having had university education [5]. This could be explained by the fact that our study was conducted in the capital of Cameroon where many inhabitants have access to educational facilities, yet, the study in Ethiopia was conducted in a rural setting, hence, a vast majority are the villager mostly constituted of farmers.

Concerning occupation, most participants were workers (65.5%), followed by students (22.3%) meanwhile, very few were unemployed (0.8%), indicating that majority were economically active. This is slightly the Cameroonian study who had 45.79% being workers and 15.94%, unemployed [2]. With respect to residence, over half of the participants (50.8%) resided in Yaounde V, which is the immediate catchment area of the hospital. A substantial proportion also came from Yaounde I (24.3%) while fewer participants were drawn from other municipalities. This highlights that the facility primary serves nearby populations, although it still attracts patients from more distant areas.

Overall, the study population was predominantly young, female, well-educated, economically active, with most participants residing within proximity to the health facility.

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Discussion

5.3. WAITING TIME EVALUATION

The findings of this study reveal substantial variations in waiting time across outpatient units, with an overall average waiting time of 96.59 min and standard deviation of 60.14 min. This is lower than the waiting time recorded in Douala of 132.29 min [2]. This can be explained by the difference in average registration time was 5 min in our study and 47 min in the latter. This is also the case with a study in Nigeria where average waiting time was 161 min, whereby, 78.2 minutes was attributed to patient registration [30]. At the YGOPH, registration and triage were done way quicker as the presence of interns in the various units helped serve as human resource to reduce overcrowding by serving more than one consulting patient at a time, thus, reducing waiting time. The average registration time fell within the recommended, according to the Business Process Reengineering program [31]. This therefore means increasing the workforce is an effective method to tackle delays at registration and triage. In contrast, a study in Dubai reported a patient waiting time of 45.9 minutes [12]. This could be explained by the fact that the hospital in which the study was conducted was run by a digital system, hence, medical records, registration, consultation and appointment booking were electronic, meanwhile, ours and other African studies were conducted in paper-based facilities and as such, patient flow management is not as effective.

Consultation waiting time emerged as the largest contributor to delays, with a mean of 82.04 minutes. This is similar to the figures in Douala and Nigeria which were 84.63 min and 83.7 min respectively [2,30]. We also found similarity in India, revealing an average consultation wait time of 75.5 minutes [24]. This can be explained by patient- consultant mismatch at the various units, insufficient consultation boxes and long service times resulting from insufficient consulting equipment. This was particularly high in the OBGYN unit (117.63 min). This may reflect high patient demand, limited consultation rooms or long service in in specialised care.

Arrival-to-waiting area time was marked by the following points: Reception, medical record retrieval for returning persons and payment of consultation fee. Internal Medicine and OBGYN recorded the shortest times here of 9.46 and 10.49 minutes respectively. This could be explained by the fact that in these units, there is staff in charge of medical record retrieval as soon as they arrive the waiting area and the presence of multiple payment points with possibility of electronic payment, hence, reduced queues and cash issues. The case in Paediatrics and Surgery differ as the patient must go retrieve records themselves at the respective archive units prior to triage, hence, increasing waiting time. Overall, we had an average of 14.56 minutes from arrival to the waiting area.

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Discussion

Service time constitutes the internal between beginning and end of a consultation. We had an average of 24.4 minutes. This can be explained by the fact that this facility is a teaching hospital, hence, every patient is a teaching opportunity for students on clinical rotation and thus, time spent is increased. This number is beyond the recommended 15 minutes. This average is similar to the findings in Nigeria, which revealed an average of 24.43 minutes [4]. However, it differs from a Cameroonian study which describes an average of 17.71 minutes and another Nigerian study that revealed an average of 7.1 minutes [2,30]. Among the units at the YGOPH, OBGYN recorded the longest service time (30.14%). This can be part of the reasons why the longest waiting time is experienced at this unit.

As per global recommendations, atleast 90% of patients are to be seen within 30 minutes of scheduled appointment time. Yet, we had only 11 % of patients consulted within this timeframe. Meanwhile, 60% of our participants waited for over 60 minutes, highlighting a significant delay in service delivery. Specifically, OGBYN recorded the highest number of patients who waiting for over 60 minutes, consistent with earlier results of longest mean waiting time. This indicates substantial bottleneck in this unit, such as infrastructural and staffing levels. Paediatrics however, had a balanced distribution of wait times though a considerable proportion of patients waiting beyond 60 minutes. Notably, surgery had the highest number of patients seen within 30 minutes (about 20%). This could be because they had the least number of patients consulting per day due to renovations and reopening of the unit during the period of the study. These numbers differ from results in Dubai, 2019, which revealed that 75.3% of their sample waited within 30 minutes prior to consultation. This was the case because, unlike our study site, this facility was run by an electronic system, hence, patient flow management is quicker.

Mean total time recorded was 120.95 minutes, indicating patients spend on average 2 hours within the facility from arrival to end of consultation. This digit differs from those in previous studies reporting 168.4 minutes and 150 minutes from Nigeria and Cameroon respectively [2,30]. This was because these previous studies recorded a long registration and triage wait time as compared to ours, hence, the contrast in the values.

The relationship between PWT and satisfaction across OPDs demonstrates a clear inverse trend, whereby longer waiting times are associated with poor satisfaction across departments. This phenomenon is similar to results found in India were patients who waited for less than 30 minutes reported good satisfaction and the reverse was true for those who waited beyond 30

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Discussion

minutes [24]. Most patients reported that they would return and recommend the hospital services. This is similar to results in Cameroon [2] and in Nigeria, where, despite long patient waiting times experienced by the majority, they still said they would recommend services [30]. This can be explained by the fact that despite the waiting time, they enjoyed the consultation proper, access to specialists who understood and had solutions to their issues, hence, they left the consultation rooms satisfied. Also, compared to the health facilities, the waiting time experienced at the YGOPH was relatively shorter.

Surgery and Internal Medicine particularly recorded poor satisfaction with wait times as high as 220 minutes. This can be explained by the few consulting staff at the surgical unit who must cater to emergencies and admitted patients before getting to the OPD, and thus, increasing waiting time. Moderate satisfaction was associated to relatively high waiting times ranging between 130 and 170 minutes. Although slightly lower than those reporting poor satisfaction, these values remain considerably high, indicating that even moderate delays can negatively impact patient experience and perception of care. In contrast, patients who reported good satisfaction had markedly lower waiting times with means dropping to approximately 60-100 minutes and very good satisfaction were generally below 30 minutes across departments. This reduction highlights the critical role of prompt delivery of service. OBGYN particularly maintained higher waiting times even among satisfied patients, reflecting your tolerance despite delays. This can be explained by the fact that the waiting room has a television and there are health talks which keep them busy while waiting so they tend to get distracted from the long wait. In a Nigerian study, patients recommended health talks , television during time spent waiting to make the wait less overwhelming [30]. Another study in Rwanda, 2024, reports the same as patients reported wanting to watch TV while wait or read books [20]. This supports our argument in this case.

Concerning variation of PWT and week days, an overall highest wait time was noticed Tuesday across departments, with particularly extreme values observed in the OBGYN department (approximately 185 minutes) and Internal Medicine (around 140 minutes). Similarly, Monday also exhibited relatively high waiting times, supporting early-week pressure on healthcare services. This can be due to accumulation of patients from weekend who then flood healthcare facilities for consultations. In contrast, Wednesday showed a noticeable reduction in waiting time across all departments, representing midweek stabilisation of patient flow. However, Thursday comes with a secondary rise to slightly decrease again by Friday, indicating a fall in patient attendance as the week draws to an. These figures differ from a study in Kenya which

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Discussion revealed highest waiting times on Monday and Wednesday [32]. This could be explained by the fact that this study was carried out in the emergency unit rather than the OPD so, these days are active days hence, prone to accidents.

5.4. FACILITY-RELATED FACTORS

The findings in this section highlight operational gaps that may contribute to prolonged patient waiting time observed in this study.

Among our participants, only 24.5% were received by a receptionist. An explanation to this is the fact that most participants were returning patients, and as such, did not need directions from the receptionists. This number is almost identical to the 24.3% of our participants who were new, hence, needing help from a receptionist in order to find their way. Less than 5% of our participants reported difficulty locating the OPD. This can be explained by most of our sample being educated and as such, were able to read the signboards and follow the arrows. The minority who could not locate complained of inability to read signboards despite verbal directions given by receptionists. This indicates proper organisation in the signage system.

Our participants reported easy with payment (89.2%). This can be explained by the decentralisation of payment points at the hospital and digitalisation of payment and as such, the problem of long queues and cash issues has drastically reduced. Among returning participants, an overwhelming 98.6% did not have their records readily available. This finding points to a significant inefficiency in record management systems, likely resulting in delays as staff must retrieve or recreate patient records before consultation. Poor record management is a well-documented cause of increase waiting time at the OPD especially in paper-based systems which was the case of our study site. OBGYN and Internal Medicine had a faster retrieval method has they had specific staff for patient file retrieval and not the patient having to retrieve from archives before registration and triage.

Provider availability was found to be statistically significant vis-à-vis PWT. 82.0% of our participants reported that the consultant was present at their arrival, while 18.0% indicated absence. This was more evident for persons who arrived before 9am. Being a teaching hospital, there are daily meetings in the various units before beginning of OPD consultations and the length of these meetings determine the beginning of consultations. This can serve as a reason for absence of consultant at arrival. This goes in line with patient arrival which is also statistically significant as it was recorded that persons who arrived after 10am waiting shorter than those who arrived before. The clustering of arrivals in the early hours likely contributes

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Discussion

to morning congestion, resulting in longer waiting times for early attendees. Patients tend to arrive early in anticipation of being seen sooner, paradoxically increasing waiting time due to overcrowding at peak hours. This is similar to findings in Ethiopia where patients who arrived in early morning waited for a long period to get the service in the hospital and on the contrary, patients who arrived in the afternoon waited for a shorter time [5]. A study in Ghana, 2025, also reports this similar pattern where arriving early is associated to longer waiting times [33].

Overall, findings show that all departments are operating at or below their expected capacity, although the gap between expected and actual patient numbers vary across units. OBGYN stands out as operating at full capacity (20 expected vs 20 actual patients per consultant per day), suggesting that the unit is functioning at its maximum capacity. This is particularly significant given that this unit was earlier identified as having the longest waiting times, indicating that full capacity utilization may be contributing directly to congestion and delays. In contrast, the paediatrics OPD showed largest discrepancy between expect and actual patient attendance (24 expected vs 15 actual). Despite operating below capacity as per WHO standards, the patients experienced long waiting times, suggesting that other factors other than patient volume may influence delays. This can be explained by the fact that it was earlier mentioned that patient retrieval was most tedious and delaying in this unit, hence, contributing to delays waiting times. Another reason could be that, patients received are not equally divided by the number of consultants, since some come as appointments and others come to see specific doctors by speciality or referral. This means some doctors are consulted by more patients than others. Surgery experiences same gap and as such operates below capacity, yet, experiences long waiting times. This could be due to the earlier mentioned reality in the surgical OPD where an unavailability of consultants prompts them prioritise admitted patients and emergencies, before attending to OPD patients and thus, increasing waiting times.

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5.5. PATIENT-RELATED FACTORS

The distribution of patient characteristics and appointment- related provides important insight into patient flow dynamics and their potential on waiting time.

Most participants were returning (75.8%) while new patients accounted for 24.3%. This suggests that most were already familiar with the hospital system, which will typically be expected to facilitate smoother navigation and reduce delays. Yet, prolonged waiting times were still observed in earlier finding, indicating that system inefficiencies rather then patient unfamiliarity are the primary contributors to delays.

Most participants were there on appointments (64.5%), while small proportions were walk-ins (30.8%) and very few were referrals (4.8%). This reflects a relatively structured consultation system, where scheduled visits predominate. Furthermore, among those with appointments (n=258), a high proportion (84.1%) reported having scheduled appointments, suggesting that patient adherence to appointments is good and the appointment system is widely utilized. However, despite the high use of appointments, waiting times remained considerable, implying the scheduling system may not be effective in regulating patient flow. This could be due to overbooking, poor/ lack of time allocation. This finding is consistent with an existing study in Nigeria, stating that an ineffective appointment booking brings about congestion, waiting time and therefore, decreases quality of care and patient satisfaction [34].

The method of scheduling was almost exclusively in-person (98.5%) with minimal use of phone-based scheduling (1.5%). This heavy reliance on physical on physical booking may continue may contribute to inefficiencies, including crowding at the facility and lack of flexibility in managing patient flow. The absence of diversified scheduling methods, such as digital or telephone systems, limits the hospital's ability to optimise appointment distribution and reduce congestion. This was the conclusion from a study conducted in Germany, 2024, which stated that the introduction of online appointment systems in medical practices provided patients with greater flexibility in their appointment scheduling and has led to a reduction in no-shows, better utilization of available appointments, and thus more efficient resource use as the proportion of online-booked appointments has increased [35].

Concerning patient attendance across week days, Tuesday recorded the highest total patient attendance followed by Monday, with a gradual decline towards Friday. This pattern mirrors the waiting time observed earlier, where Tuesday also exhibited the longest waiting times across most departments, particularly in OBGYN and Internal Medicine. This parallel strongly

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Discussion

suggests a direct relationship between patient volume and waiting time, where increased attendance leads to congestion and longer delays. Similarly, Monday shows relatively high patient attendance, which corresponds to the elevated waiting times recorded at the beginning of the week. This trend can be explained by the accumulation of patients over the weekend, resulting in a surge of consultations early in the week. A s patients numbers decrease slightly by Wednesday, a corresponding reduction in waiting time is observed, supporting the idea that patient load is a key determinant of service delays. This trend differs from a study in Kenya, that revealed that Mondays and Wednesdays had the longest waiting times [32].

However, an important observation is that waiting times remain relatively high even when patient numbers decline midweek and toward Friday. For instance, although total attendance drops after Tuesday, the reduction is not proportional to the decrease in waiting time. This indicates that factors beyond patient volume, such as workflow inefficiencies, consultation delays, and staff availability, also play a significant role in prolonging waiting time, as highlighted in previous sections.

Across departments, OBGYN consistently shows high patient attendance throughout the week, particularly on Tuesday, which corresponds with its persistently high waiting times. This reinforces the conclusion that sustained high demand in this unit contributes significantly to congestion and delays. In contrast, Surgery maintains relatively low patient numbers across all days, which aligns with its comparatively shorter waiting times.

In conclusion, improving patient waiting time in outpatient departments will require a multifaceted approach, including strengthening appointment systems, redistributing patient load across the week, enhancing staffing and consultation capacity, and improving administrative processes such as reception and medical record management. Addressing these factors is essential to optimize patient flow, reduce delays, and ultimately improve the quality of healthcare delivery and patient satisfaction.

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Patient waiting time is an important indicator of quality of care. It has a grave impact on patient health and physician effectiveness. Despite global recommendations, low and middle-income countries experience longer waiting times. In our setting, research from 2020 reveals PWT as long as 1.5 hours [2]. It is essential for us to study this phenomenon as well identify bottlenecks. Reason for our study which aimed at evaluating PWT at the YGOPH, identify factors influencing this time. Our results are in line and some differ from previous studies, which we shall discuss in this chapter.

5.1. LIMITATIONS OF STUDY

Despite the strengths of this study, several limitations should be considered when interpreting the findings.

First, the study relied on self-reporting data, which is subject to response bias, particularly courtesy bias. Participants may have provided socially desirable responses, especially regarding satisfaction with healthcare services, in order to appear polite or avoid offending healthcare providers. This could have led to an overestimation of patient satisfaction levels, despite the presence of prolonged waiting times.

Secondly, the use of cross-sectional study design limits the ability to establish causal relationships between variables. While associations between waiting time and factors such as patient flow, staffing, system organisation were identified, causality cannot be definitely determined.

Thirdly, the study was conducted in a single health facility, which may limit the generalisation of the findings to other hospitals or regions in Cameroon. Variations in staffing, infrastructure and patient volume across different facilities may result in different waiting time patterns

Some units (OBGYN and Surgery) had multiple waiting areas and spread consultation boxes (OBGYN) and as such, monitoring patients and timing them was tedious.

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Conclusion

Our hypothesis was confirmed, as we recorded at majority of participants waiting at the outpatient department, longer than the recommended 30 minutes and the factors identified were modifiable, both related to the health facility and the patient.

Average waiting time at the OPD was longer than recommended, up to an hour and half. Obstetrics and Gynaecology recorded the longest waiting time meanwhile. Patients who consulted on Tuesday experienced the longest waiting time followed by Monday, meanwhile, those on Wednesday experienced the least. Patient satisfaction was overall good despite long waiting times. There was an inverse relationship between satisfaction and waiting time. The days with the longest PWT received the highest number of patients. Patients who reported absence of consultants at arrival and those with payment difficulties experienced longer waiting times. Participants that arrived after 10 am experienced shorter waiting times. Majority of participants came for appointments which were scheduled for the set day, in person.

After analysis, we can therefore say that average waiting times at the outpatient units of the YGOPH are longer than recommended, reaching to one and half hour, with OBGYN experiencing the average longest waiting time and Paediatrics, the least. Significant facility-related factors explored were ease of payment and consultant presence. Meanwhile, patient-related factors were age, gender and patient arrival time.

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Main objective

Assess patient waiting time across specialties during outpatient consultations at the YGOPH.

Specific objectives

- Determine the average waiting time of patients attending outpatient:
- Identify facility related factors influencing PWT:
- Assess patient related factors influencing PWT.

At the end of this study which sought to assess patient waiting time at the outpatient units of the Yaounde Gynaeco Obstetric and Paediatric Hospital, by way of determining average waiting time, identifying facility and patient related factors.

Our hypothesis was completely confirmed, as we recorded at majority of participants waiting at the outpatient department longer than the recommended 30 minutes and the factors identified were modifiable, both related to the health facility and the patient.

RECOMMENDATIONS

Average waiting time at the OPD was longer than recommended, up to an hour and half. Obstetrics and Gynaecology recorded the longest waiting time meanwhile. Patients who consulted on Tuesday experienced the longest waiting time followed by Monday, meanwhile, those on Wednesday experienced the leastshortest waiting time.

Patient satisfaction was overall good despite long waiting times. There was an inverse relationship between satisfaction and waiting time.

Facotrs affecting patient waiting time wereThe days with the longest PWT received the highest number of patients. Patients who reported absence of consultants at arrival and those with payment difficulties experienced longer waiting times. Participants that arrived after 10 am experienced shorter waiting times (aOR = 2.76; 95% CI: 1.42–5.54; $p = 0.003$). Majority of participants came for appointments which were scheduled for the set day, in person.

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Conclusion

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Recommendations

~~2. To the Ministry of Public Health~~

- ~~Recruit and equitably distribute healthcare workers to reduce patient-to-provider ratio, especially in high-demand units like OBGYN.~~
- ~~Develop and enforce standard waiting time benchmarks across public facilities (e.g., maximum acceptable waiting time).~~
- ~~Promote electronic medical records and appointment systems to streamline patient flow and reduce administrative delays.~~
- ~~Invest in expanding consultation rooms, waiting areas and diagnostic units to match patient volume.~~
- ~~Develop and implement routine audits of waiting times and patient satisfaction indicators nationwide.~~

~~8.~~1. To the Yaounde Gynaeco-Obstetric and Paediatric Hospital

- Develop and enforce standard waiting time benchmarks across public facilities (e.g., maximum acceptable waiting time).
- Promote electronic medical records and appointment systems to streamline patient flow and reduce administrative delays.
- Develop and implement routine audits of waiting times and patient satisfaction indicators nationwide.
- Ensure adequate staffing during peak hours like ~~/ days like Monday and Tuesday,~~ early hours of the morning (before ~~10am~~10 a.m.)
  - ~~Develop a one-stop billing system to reduce multiple payments for s single consultation.~~
  - Provide clear information on expected waiting times to improve satisfaction thresholds.
- Institute health talks at waiting areas, which help distract patients from the long wait, as well as magazines, television screens, etc.
  -
- ~~Monitor punctuality, responsiveness and time spent per patient.~~
- ~~Delegate minor tasks to trained nurses or assistants to reduce workload.~~

~~11.~~2. To the Faculty of Medicine and Biomedical Sciences

- Encourage more research ~~on health service delivery to have a global image of its state in our context.~~on quality of healthcare services.
  -

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- ~~Emphasize on health system management in the curriculum (patient flow, time management, hospital efficiency).~~
- ~~Respect scheduled time slots for appointments.~~
- Use primary healthcare centres when appropriate, as this avoids overcrowding at tertiary hospitals for minor conditions.
- ~~Report long waiting time and challenges faced through the appropriate channels as this helps identify gaps and improve service.~~

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APPENDIX

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Appendix

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Appendix

~~7.~~1.APPENDIX 1: INFORMED CONSENT FORM

Assessing Patient waiting Time during Outpatient consultations at the Yaounde Gynaeco-Obstetric and Paediatric Hospital

I, Mr/Mrs _____, the undersigned, acknowledge that I have been informed and fully briefed by the final year medical student, **FAH NDE ATANGA**, on the study in view of his M.D. thesis under the supervision of Pr. ESSI Marie Jose, Pr. MAH Evelyn, Dr MBOUCHE Landry and Dr TOMPEEN Isidore. He precised that I am free to accept or deny participating in the research.

- I have received and understood information pertaining to the aim of this study, the procedure and possible constraints.
- I have been given adequate time to ask questions about the study.
- My participation can be interrupted at any time if the principal investigator deems it necessary or if I so wish.
- The research proposal has been reviewed and validated by the Ethics and Research Committee of the Faculty of Medicine and Biomedical sciences of the University of Yaounde I.
- At any time, I can ask for additional information from the investigator FAH NDE ATANGA using the number, +237 651 602 626.
- I hereby accept to participate in the study under the aforementioned conditions.

Date: ____/____/_____

Investigator's signature Participant's signature

Fiche de consentement éclairée

Evaluer Délais d'attente des patients lors des consultations externes a l'hôpital Gynéco-Obstétrique et Pédiatrique de Yaounde

M/Mme/Mlle _____

L'étudiant **FAH NDE ATANGA**, étudiant en 7ème année d'études médicales à la FMSB-UYI, m'a proposé de participer a une étude qu'ils mènent a l'Hopital Gynéco Obstétrique et Pédiatrique de Yaounde pour sa thèse de fin de formation.
Cette étude a pour but principal de déterminer le délai d'attente et ses déterminants au CHUY.

- Il m'a précisé que je suis libre d'accepter ou de refuser sa proposition. J'ai reçu des informations concernant : le but de l'étude, la procédure et les analyses réalises, les possible risques et les contraintes lies a l'étude et les avantages lies a l'étude.
- Toutes les informations personnelles seront confidentielles.
- Le protocole de recherche relative à cette étude a été revu et valide par le comité institutionnel d'éthique et de recherche de la faculté de médecine et des sciences biomédicales.
- À tout moment, je pourrais demander des informations supplémentaires a travers le contact : +237 651 602 626.
- J'accepte donc de participer a cette étude sous les termes susmentionnés

Date : ___/___/_____
Signature de l'investigateur Signature du participant

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Appendix

~~8.~~2.APPENDIX II : STUDY QUESTIONNAIRE

Assessing Inter-specialty patient waiting time during outpatient consultations at the Yaounde Gynaeco-Obstetric and Paediatric Hospital.
Questionnaire

Date : __/__/___ ***Unit***: IM=1; Paediatrics=2; Surgery=3; OG =4 ***Qaire N°***: _____

N	Variable	A
	1. SOCIODEMOGRAPHIC VARIABLES	
1.1.	Age : <10=1 ; 10-20=2 ; 20-40=3 ; 40-60=4 ; 60-80=5 ; >60=6	
1.2.	Gender : female =1 ; male =2	
1.3.	Religion: Atheist=1 Christian=2; Muslim=3; Others=4 _____	
1.4.	Level of education: None=1; Primary=2; Secondary=3; Highschool=4; Tertiary=5	
1.5.	Occupation: Unemployed=1; Student=2; Worker=3; Retired=4	
1.6.	Residence: Yaounde I=1; Yaounde II=2; Yaounde III=3; Yaounde IV=4; Yaounde V=5; Yaounde VI=6; Yaounde VII=7; Out of Yaounde=8	

	2. WAITING TIME EVALUATION	
2.1.	Time of arrival at hospital	
2.2.	Time of arrival at service/ waiting area	
2.3.	Time of Payment	
2.4.	Time seen by nurse/triage (if applicable)	
2.5.	Time consultation started	
2.6.	Time consultation ended	
2.7.	How satisfied are you with the services? Very poor=1; Poor=2; Moderate=3; Good=4; Very good=5	
2.7.a)	If =< Poor, why?	
2.8.	Would you recommend the hospital? Yes=1; No=2; Prefer not to answer=3	
2.8.a)	If No, Why? Long waiting time=1; Poor staff attitude=2; Few health personnel=3	
2.9.	Will you return? Yes=1; No=2	
2.9.a)	If No, Why? Long waiting time=1; Poor staff attitude=2; Few health personnel=3	

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Appendix

3. FACILITY-RELATED DETERMINANTS		
3.1.	Difficulty locating OPD: Yes=1; No=2	
3.2.	Were you received by a receptionist? Yes=1; No=2	
3.3.	Was it easy to pay? Yes=1; No=2	
3.3.a)	If No, why? Long queue=1; Cash issues=2; others=3_____	
3.4.	Patient file available at arrival? Yes=1; No=2; Not applicable=3	
3.5.	Consultant present at time of arrival? Yes=1; No=2; Uncertain=3	
3.6.	Consultant called away during consultation: Yes=1; No=2	
	~~Recommendations:~~ ~~Place direction signboards=1;~~ ~~Implement digital record system=2;~~ ~~Employ more staff to reduce absence at station=3;~~ ~~Implement digital payment systems=4;~~ ~~others=_____~~	

4. PATIENT-RELATED DETERMINANTS		
4.1.	New/ Return patient: New=1; Return=2	
4.2.	Mode of consultation: Appointment=1; self-preference/ walk-in=2; Referral=3	
4.2.a)	Scheduled date of appointment? Yes=1; No=2; N/A=3	
4.2.b)	Method of appointment scheduling (If Q4.2=1): In-person=1; Phone=2; Online=3; Referral=4; Other_____	
4.3.	Communication barrier: Yes=1; No=2	
4.4.	Day of the week: Monday=1; Tuesday=2; Wednesday=3; Thursday=4; Friday=5.	

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Appendix

3. APPENDIX III: Application for ethical clearance

FAH NDE ATANGA,

7th year general medicine,

Faculty of Medicine and Biomedical Sciences,

University of Yaounde I,

P.O. Box 1364 Yaounde.

Phone number: 651602626

Fah.atanga.fa@gmail.com

Date:

The President,

Centre Regional Ethical Committee for Human Health Research,

National Ethics Committee for Human Research.

Dear Professor,

Subject: **AN APPLICATION FOR ETHICAL CLEARANCE.**

It is with honour that we write this letter seeking ethical clearance to carry out a research study of ours.

We wish to perform a study entitled: Inter-specialty patient waiting time during outpatient consultations at the Yaounde Gynaeco-Obstetric and Paediatric Hospital, under the supervision of Pr. ESSI Marie Jose, Pr. MAH Evelyn, Dr MBOUCHE Landry and Dr TOMPEEN Isidore. Attached to this request is a copy of our research proposal. As we hope for positive response, wish to express our deep gratitude. We remain,

Yours sincerely,

FAH NDE ATANGA.

Attachment: copy of proposal.

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Appendix

FAH NDE ATANGA,

7th year general medicine,

Faculty of Medicine and Biomedical Sciences,

University of Yaounde I,

P.O. Box 1364 Yaounde.

Phone number: 651602626

Fah.atanga.fa@gmail.com

Date:

The President,

Institutional Ethical Review Board,

Faculty of Medicine and Biomedical Sciences,

University of Yaounde I.

Dear Professor,

Subject: **AN APPLICATION FOR ETHICAL CLEARANCE.**

I am a 7th year medical student and the above-mentioned institution. It is with honour that we write this letter seeking ethical clearance to carry out a research study of ours.

We wish to perform a study entitled: Inter-specialty patient waiting time during outpatient consultations at the Yaounde Gynaeco- Obstetric and Paediatric Hospital, under the supervision of Pr. ESSI Marie Jose, Pr. MAH Evelyn, Dr MBOUCHE Landry and Dr TOMPEEN Isidore.

Attached to this request is a copy of our research proposal. As we hope for positive response, wish to express our deep gratitude. We remain,

Yours sincerely,

FAH NDE ATANGA.

Attachment: copy of proposal.

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Appendix

4. APPENDIX IV: APPLICATION FOR AUTHORISATON

FAH NDE ATANGA,

7th year general medicine,

Faculty of Medicine and Biomedical Sciences,

University of Yaounde I,

P.O. Box 1364 Yaounde.

Phone number: 651602626

Fah.atanga.fa@gmail.com

Date:

The Director General,

~~University Teaching Hospi~~Gynaeco-Obstetric and Paediatric Hospital~~tal~~, Yaounde.

Dear Professor,

Subject: **AN APPLICATION FOR AUTHORIZATION TO CARRY OUT OUR RESEARCH STUDY IN YOUR PRESTIGIOUS INSTITUTION.**

I am a 7th year medical student and the above-mentioned institution. It is with honour that we write this letter seeking ethical clearance to carry out a research study of ours.

We wish to perform a study entitled: Inter-specialty patient waiting time during outpatient consultations at the Yaounde Gynaeco-Obstetric and Paediatric Hospital, under the supervision of Pr. ESSI Marie Jose, Pr. MAH Evelyn, Dr MBOUCHE Landry and Dr TOMPEEN Isidore.

Attached to this request is a copy of our research proposal. As we hope for positive response, wish to express our deep gratitude. We remain,

Yours sincerely,

FAH NDE ATANGA.

Attachment: copy of proposal.

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5. APPENDIX 5: ETHICAL CLEARANCE FROM YGOPH

REPUBLIQUE DU CAMEROUN
Paix-Travail-Patrie

MINISTERE DE LA SANTE PUBLIQUE

HOPITAL GYNECO-OBSTETRIQUE
ET PEDIATRIQUE DE YAOUNDE

HUMILITE – INTEGRITE – VERITE – SERVICE

REPUBLIC OF CAMEROON
Peace-Work-Fatherland

MINISTRY OF PUBLIC HEALTH

YAOUNDE GYNAECO-OBSTETRIC
AND PEDIATRIC HOSPITAL

HUMILITY – INTEGRITY – TRUTH – SERVICE

COMITE INSTITUTIONNEL D'ETHIQUE DE LA RECHERCHE
POUR LA SANTE HUMAINE (CIERSH)

Arrêté n° 0977 du MINSANTE du 18 avril 2012 portant création et organisation des Comités d'Ethiques de la Recherche pour la santé Humaines. (CERSH).

AUTORISATION N° 342 /CIERSH/DM/2026

CLAIRANCE ETHIQUE

Le Comité Institutionnel d'Ethique de la Recherche pour la Santé Humaine (CIERSH) a examiné le 15 janvier 2026, la demande d'autorisation et le Protocole de recherche intitulé « **assessing patients waiting time at the outpatient units of Yaounde Gynaeco-Obstetric and Pediatric Hospital** » soumis par l'étudiant FAH NDE ATANGA.

Le sujet est digne d'intérêt. Les objectifs sont bien définis. La procédure de recherche proposée ne comporte aucune méthode invasive préjudiciable aux participants. Le formulaire de consentement éclairé est présent et la confidentialité des données est préservée. Pour les raisons qui précèdent, le CIERSH de HGOPY donne son accord pour la mise en œuvre de la présente recherche.

FAH NDE ATANGA devra se conformer au règlement en vigueur à HGOPY et déposer obligatoirement une copie de ses travaux à la Direction Médicale de ladite formation sanitaire.

Yaoundé, le 27 JAN 2026

LE PRESIDENT

Pr Kingsley Che Soh

N°1827 ; Rue 1564 ; Ngousso ; Yaoundé 5ème
BP : 4362 Tél. : 242 05 92 94 / 222 21 24 33 / 222 21 24 31 Fax : 222 21 24 30
E-mail : hgopy@hotmail.com / hgopy@hgopy.cm

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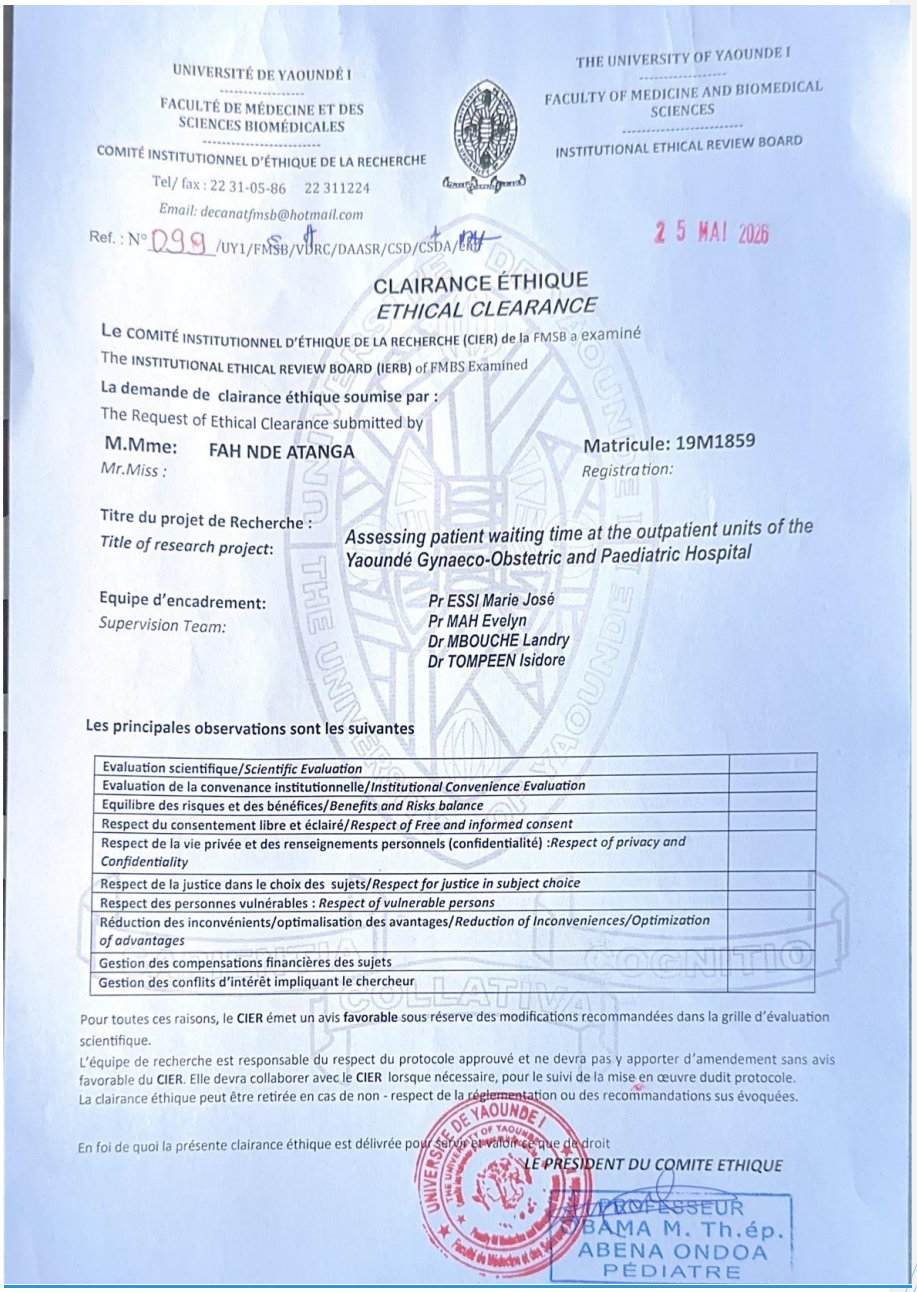
6. APPENDIX 6: ETHICAL CLEARANCE FROM FMBS-UYI



UNIVERSITÉ DE YAOUNDÉ I

FACULTÉ DE MÉDECINE ET DES SCIENCES BIOMÉDICALES

COMITÉ INSTITUTIONNEL D'ÉTHIQUE DE LA RECHERCHE

Tel/ fax : 22 31-05-86 22 311224

Email: decanatfmsb@hotmail.com

THE UNIVERSITY OF YAOUNDE I

FACULTY OF MEDICINE AND BIOMEDICAL SCIENCES

INSTITUTIONAL ETHICAL REVIEW BOARD

Ref. : N° 099 /UY1/FMSB/VDRC/DAASR/CSD/CSDA/CIER

25 MAI 2026

CLAIRANCE ÉTHIQUE

ETHICAL CLEARANCE

Le COMITÉ INSTITUTIONNEL D'ÉTHIQUE DE LA RECHERCHE (CIER) de la FMSB a examiné

The INSTITUTIONAL ETHICAL REVIEW BOARD (IERB) of FMBS Examined

La demande de clairance éthique soumise par :

The Request of Ethical Clearance submitted by

M.Mme: FAH NDE ATANGA — Matricule: 19M1859

Mr.Miss : — *Registration:*

Titre du projet de Recherche :

Title of research project: *Assessing patient waiting time at the outpatient units of the Yaoundé Gynaeco-Obstetric and Paediatric Hospital*

Equipe d'encadrement:

Supervision Team:

Pr ESSI Marie José
Pr MAH Evelyn
Dr MBOUCHE Landry
Dr TOMPEEN Isidore

Les principales observations sont les suivantes

Evaluation scientifique/*Scientific Evaluation*	
Evaluation de la convenance institutionnelle/*Institutional Convenience Evaluation*	
Equilibre des risques et des bénéfices/*Benefits and Risks balance*	
Respect du consentement libre et éclairé/*Respect of Free and informed consent*	
Respect de la vie privée et des renseignements personnels (confidentialité) :*Respect of privacy and Confidentiality*	
Respect de la justice dans le choix des sujets/*Respect for justice in subject choice*	
Respect des personnes vulnérables : *Respect of vulnerable persons*	
Réduction des inconvénients/optimalisation des avantages/*Reduction of Inconveniences/Optimization of advantages*	
Gestion des compensations financières des sujets	
Gestion des conflits d'intérêt impliquant le chercheur	

Pour toutes ces raisons, le CIER émet un avis favorable sous réserve des modifications recommandées dans la grille d'évaluation scientifique.

L'équipe de recherche est responsable du respect du protocole approuvé et ne devra pas y apporter d'amendement sans avis favorable du CIER. Elle devra collaborer avec le CIER lorsque nécessaire, pour le suivi de la mise en œuvre dudit protocole.

La clairance éthique peut être retirée en cas de non - respect de la réglementation ou des recommandations sus évoquées.

En foi de quoi la présente clairance éthique est délivrée pour servir et valoir ce que de droit

LE PRÉSIDENT DU COMITE ETHIQUE

PROFESSEUR
BAMA M. Th.ép.
ABENA ONDOA
PÉDIATRE

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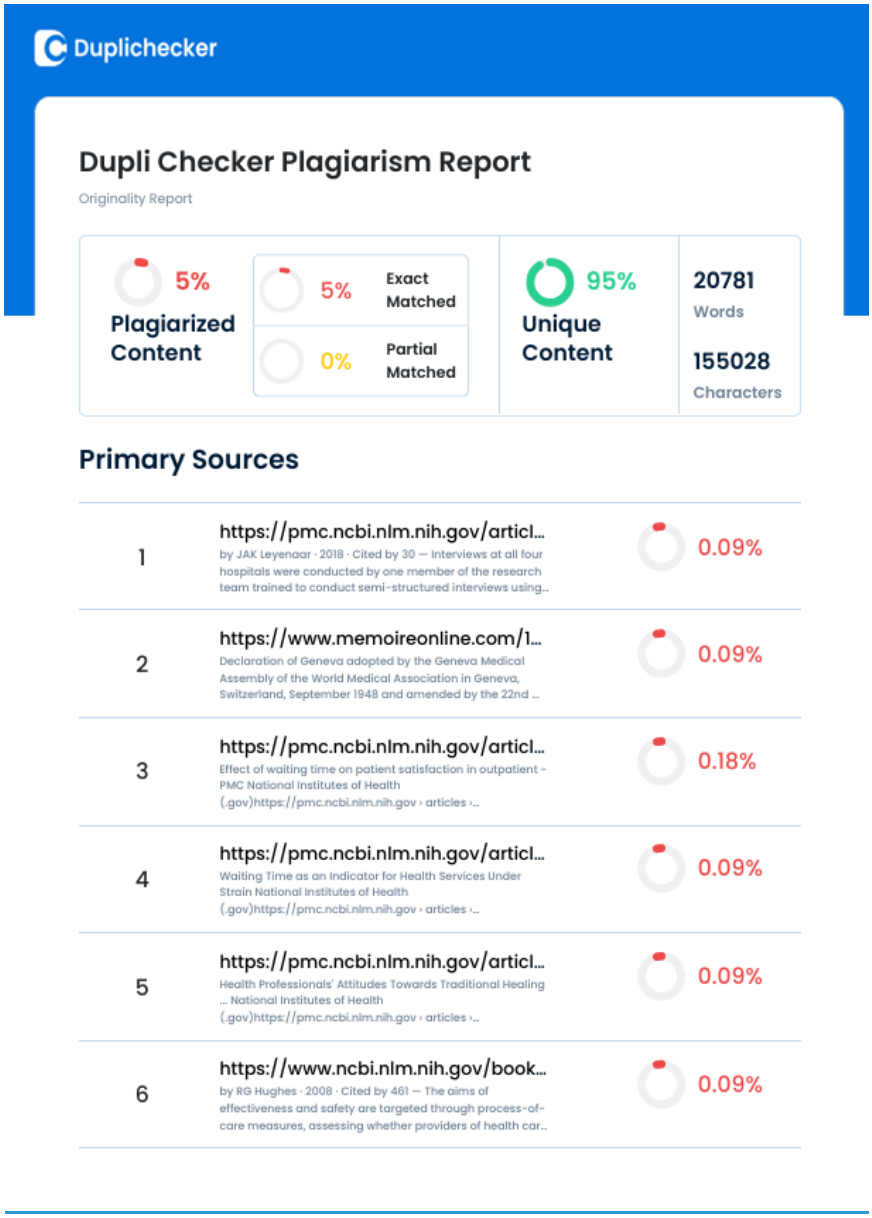
7. Appendix 7: ANTI-PLAGIARISM CHECK



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Dupli Checker Plagiarism Report

Originality Report

5% Plagiarized Content	5% Exact Matched 0% Partial Matched	95% Unique Content	20781 Words 155028 Characters

Primary Sources

1	https://pmc.ncbi.nlm.nih.gov/articl... by JAK Leyenaar · 2018 · Cited by 30 — Interviews at all four hospitals were conducted by one member of the research team trained to conduct semi-structured interviews using..	0.09%
2	https://www.memoireonline.com/1... Declaration of Geneva adopted by the Geneva Medical Assembly of the World Medical Association in Geneva, Switzerland, September 1948 and amended by the 22nd ...	0.09%
3	https://pmc.ncbi.nlm.nih.gov/articl... Effect of waiting time on patient satisfaction in outpatient - PMC National Institutes of Health (.gov)https://pmc.ncbi.nlm.nih.gov › articles ›...	0.18%
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6	https://www.ncbi.nlm.nih.gov/book... by RG Hughes · 2008 · Cited by 461 — The aims of effectiveness and safety are targeted through process-of-care measures, assessing whether providers of health car...	0.09%

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