ispe International Society for Pharmacoepidemiology

2nd Annual

African Regional Interest Group

VIRTUAL MEETING 2022

July 11 - 13, 2022

afrig22.org



#AFRIG22 | @IntPharmacoEpi

Welcome to AfRIG



Dr. Kwame Appenteng
Chair, ISPE Africa



Prof. Brian Godman
MURIA



Vincent Lo Re
President, ISPE

Thank you to the AfRIG 2022 Virtual Meeting Planning Committee for their commitment and dedication to developing an outstanding educational program.

On behalf of the International Society for Pharmacoepidemiology (ISPE), the Africa Regional Interest Group (AfRIG) and the Medicines Utilizations Research in Africa (MURIA) Group, we welcome you to ISPE AfRIG and MURIA's virtual conference on Pharmacoepidemiology and medicines utilization in Africa.

This year's conference theme: *"Optimizing Real World Data Use for Healthcare Research and Policy in Africa – Data Sourcing and Capabilities Development"* complements work from the preceding year and highlights progress and challenges faced by countries across the continent as they forge ahead with the development of healthcare databases that could potentially be utilized for patient-centered research purposes. The impact of COVID-19 on Pan-African healthcare, including counting of deaths, vaccine hesitancy and management of chronic diseases will be discussed extensively. The meeting would also highlight abstract presentations, educational workshops, as well as discussions of advancements in pharmacovigilance in Africa including initiatives such as the African Union's Smart Safety Surveillance (AU-3S) program.

This is therefore an exciting scientific meeting, which draws on the collective knowledge and experience of a multi-disciplinary panel of leading global experts, to share and gain insights into ongoing scientific research in Africa, explore pharmacoepidemiology opportunities for the African continent, and to find avenues for collaborative scientific research work for the benefit of patients in Africa. We hope you enjoy every session of the conference.

AFRIG 2022 Virtual Meeting Scientific Program Committee

Thank you to the AfRIG 2022 Virtual Meeting Planning Committee for their commitment and dedication to developing an outstanding educational program.



Kwame Appenteng (Chair)
Boehringer Ingelheim



Adebola Ajao
US Food and Drug Administration



Efe Eworuke
US Food and Drug Administration



Dami Onasanya
University of Maryland, College of Pharmacy, US



Irene Murimi-Worstell (Co-Chair)
Massachusetts College of Pharmacy and Health Sciences



Daniel Ankrah
Korle-Bu Teaching Hospital, Ghana



Brian Godman
SIPBS, Glasgow, UK; SMU, Pretoria, South Africa and Ajman University, UAE



Sylvia Opanga
University of Nairobi (School of Pharmacy), Kenya



Macarius Donneyong
Ohio State University



Babafunso Adenuga
School of Pharmacy, University of Namibia, Namibia



Christabel Khaemba
Pharmacy and Poisons Board, Kenya



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Karen Cohen
University of Cape Town, South Africa



Amanj Kurdi
University of Strathclyde, UK



Felicia Williams
University of Ilorin, Nigeria



Joseph Fadare
Ekiti University, Nigeria



Paul Coplan
Johnson & Johnson, US



Hannelie Meyer
Sefako Makgatho Health Sciences University, South Africa



Ismaeel Yunusa
University of South Carolina College of Pharmacy, US



Ilse Truter
Nelson Mandela University



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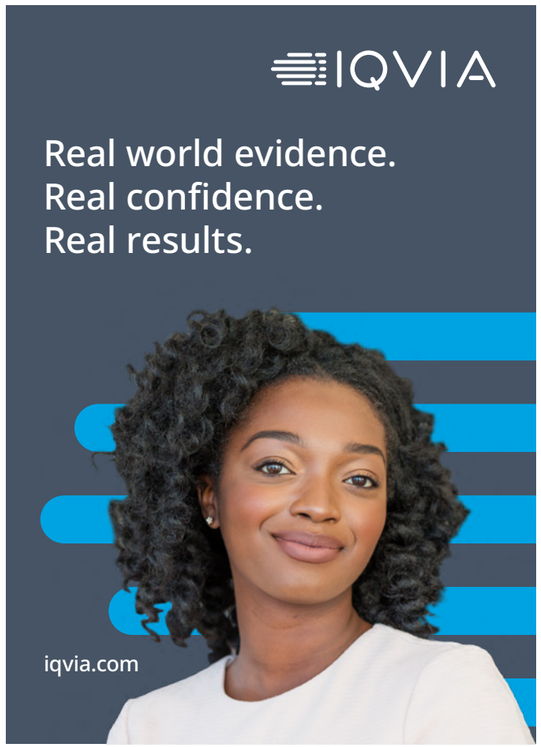

Special Thank You

We would like to thank the following organizations for committing their time and resources to making the inaugural AfRIG Virtual meeting a success!

VINCENT LO RE
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OLAF KLUNGEL
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PROGRAM SCHEDULE

All times are in GMT

Monday, 11 July

12:00 – 12:10 PM

Welcome and Opening Remarks

Dr. Kwame Appenteng
Boehringer Ingelheim

Prof. Vincent Lo Re, President, ISPE
University of Pennsylvania School of Medicine

12:10 – 1:30 PM

Keynote Session

MODERATOR: Paul Coplan, Johnson & Johnson

Building a National Medicines Intelligence Capability in Scotland to Inform Policy and Drive Improvements in Patient Care – Lessons for Africa.

Prof. Marion Bennie
NHS Scotland, Strathclyde University, Scotland

Use of the Ghana National Health Insurance System Data: Successes and Lessons Learned

Mr. Magnus Owusu-Agyemang
National Health Insurance Authority, Accra, Ghana

Mr. Stephen Bewong
National Health Insurance Authority, Accra, Ghana

IHME's Covid-19 and Global Burden of Illness Estimation in Africa: How to Collect Surveillance Data

Prof. Christopher Murray
Institute for Health Metrics Evaluation, University of Washington

1:30 - 1:45 PM

Break

1:45 - 2:45 PM

Educational Training Course Session 1

Pharmacoepidemiology Study Designs

MODERATOR: Prof. Marcarius Donneyong, *Ohio State University*

Prof. Arnold Chan
National Taiwan University

Biostatistical Methods in Pharmacoepidemiology

MODERATOR:
Prof. Ismaeel Yunusa
University of South Carolina College of Pharmacy, US

Dr. Efe Eworuke
U.S. Food and Drug Administration

Bias and Confounding Including Methods like Propensity Scores

MODERATOR: Dr. Adebola Ajao, *U.S. Food and Drug Administration*

Prof. Olaf Klungel
Utrecht University

2:45 – 2:50 PM

Break

2:50 – 3:55 PM

Oral Sessions 1

MODERATORS:
Prof. Karen Cohen
University of Cape Town, South Africa
Dr. Julius Asubonteng
Regeneron Pharmaceuticals, US

Development and Validation of a Virtual Reporting Tool for Diabetic Patients' Conventional and Herbal Medicine Use and Treatment Outcomes at Kenyatta National Hospital

Dr. Sylvia Opanga
University of Nairobi (School of Pharmacy), Kenya

Effect of Mobile Applications on the Spontaneous Reporting of Adverse Drug Reactions: A Systematic Review and Meta-Analysis

Yohanna Avong
Discipline of Pharmacy, Graduate School of Health, University of Technology, Australia

PROGRAM SCHEDULE

All times are in GMT

Real-World Effectiveness of Biological Therapy in Patients with Rheumatoid Arthritis: A Systematic Review and Meta-Analysis
Caroline Tianeze de Castro
Institute of Collective Health, Federal University of Bahia, Brazil

The Effect of Pharmacist-Provided Discharge Counselling on Medication Knowledge and Adherence Among Patients with Cardiovascular Diseases at Windhoek Central Hospital (WCH), Windhoek
Liisa Anguuo
University of Namibia, Windhoek, Namibia

Medicine Use Among Breast Cancer Patients at a Teaching Hospital in North-Central Nigeria
Dr. Felicia Williams
Department of Clinical Pharmacy and Pharmacy Practice, University of Ilorin, Nigeria

3:55 - 4:00 PM

Closing Remarks

Dr. Kwame Appenteng
Boehringer Ingelheim

Tuesday, 12 July

12:00 - 1:30 PM

Impact of COVID-19 on Health and Healthcare in Africa

MODERATOR:
Prof. Brian Godman
SIPBS, Glasgow, UK; SMU, Pretoria, South Africa and Ajman University, UAE

Counting Deaths in Patients with COVID-19
Prof. Glenda Gray
South African Medical Research Council, South Africa

HIV and COVID-19
Prof. Mary-Ann Davies
Centre for Infectious Disease Epidemiology and Research, School of Public Health and Family Medicine

COVID-19 Vaccines – Their Effectiveness and Brief Comments from Dr. Olayinka Ogunleye on Current Update/Hesitancy Rates Across Africa
Dr. Ombeva Malanda
Sefako Makgatho Health Sciences University, South Africa
Dr. Olayinka Ogunleye
Lagos State University College of Medicine, Nigeria

The Power of Social Media Driving HCQ and Ivermectin Use in South Africa
Prof. Natalie Schellack
Department of Pharmacology, Faculty of Health Sciences, University of Pretoria, South Africa

1:30 - 1:45 PM

Break

1:45 - 3:15 PM

Status of Pharmacovigilance in Africa

MODERATOR:
Dr. Sylvia Opanga, *University of Nairobi, School of Pharmacy, Kenya*

Africa Union's Smart Safety Surveillance Program AU S3
Hudu Mogtari
University of Nairobi, Kenya

Digital Health, Data, and Data Science: Essential Tools and Assets for Effective modern age Pharmacoepidemiology: A focus on Kenya
Dr. Christabel Khaemba — *Pharmacy and Poisons Board, Kenya*
Stephen Wanyee — *IntelliSOFT, Kenya*

Risk Management in Pharmacovigilance – A Perspective as a Health Authority vs Market Authorization Holder
Jayesh Pandit
Bayer HealthCare, Kenya

Pharmacovigilance in a setting of High HIV and TB Prevalence
Prof. Karen Cohen
University of Cape Town, South Africa

3:15 - 3:20 PM

Break

3:20 - 4:20 PM

CONCURRENT SESSIONS

Educational Training Course Session 2

Measurement of Treatment Effects Using Real-World Data
Prof. Jesper Hallas
Southern Denmark University, Denmark

MODERATOR: Dr. Amanj Kurdi, *University of Strathclyde, UK*

Application of Pharmacoepidemiology in Clinical Practice (Using Most Prevalent Diseases in Africa as Examples)
Prof. Joseph Fadare
Ekiti University, Nigeria

MODERATOR: Daniel Ankrah, *Korle-Bu Teaching Hospital, Ghana*

Pharmacovigilance: Concepts and Methods on Causality and Signal Detection
Dr. Maribel Salas
Daiichi Sankyo, US

MODERATOR: Felicia Williams, *University of Ilorin, Nigeria*

Pharmacovigilance in Public Health Programmes
Dr. Chioma Ejekam
Lagos University Teaching Hospital, Nigeria

MODERATOR: Francis Kalemeera, *University of Namibia, Namibia*

Oral Sessions 2

MODERATORS:
Dr. Maribel Salas — *Daiichi Sankyo, US*
Prof. Joseph Fadare — *Ekiti University, Nigeria*

Social Determinants of Health Associated with COVID-19 Severity During Pregnancy: A Multinational Cohort Study
Rada Rusu, *Johnson & Johnson, Canada*

Prevalence of Bacterial Coinfection and Patterns of Antibiotics Prescribing in Patients with COVID-19: A Systematic Review and Meta-Analysis
Faisal Alshaikh, *University of Strathclyde, United Kingdom*

Impact of Antimicrobial Stewardship Interventions to Improve Antibiotic Prescribing for Hospital Inpatients in Africa: A Systematic Review and Meta-Analysis
Linda Siachalinga
College of Pharmacy, Yeungnam University, Republic of Korea

Current Challenges with Tackling Antimicrobial Resistance Across Sub-Saharan Africa and the Implications
Prof. Brian Godman
College of Pharmacy, Yeungnam University, Republic of Korea

4:20 - 4:30 PM

Closing Remarks

Dr. Kwame Appenteng
Boehringer Ingelheim



PROGRAM SCHEDULE

All times are in GMT

Wednesday, 13 July

12:00 - 1:30 PM

Impact of COVID-19 on Childhood Immunisations and Chronic Diseases in Africa

MODERATOR: Dr. Olayinka Ogunleye
Lagos State University College of Medicine, Nigeria

Public Health Impact of COVID-19 Prevention and Control Policies on Childhood Immunisations in Africa and Beyond
Dr. Kaja Abbas, *London School of Health and Tropical Medicine*

Impact of COVID-19 on Utilisation of Cancer Chemotherapy Services at a National Referral Hospital in Kenya
Dr. Sylvia Opanga, *University of Nairobi, Kenya*

Changes in Clinical Diabetes Services in Ghana in the COVID-19 Era and the Implications
Eunice Twumwaa Tagoe, *Strathclyde University, Glasgow, UK*

Impact of COVID-19 on the Management of Patients with Chronic Diseases in South Africa
Prof. Johanna Meyer, *SMU, Pretoria, South Africa*

1:30 - 1:45 PM Break

1:45 - 2:50 PM

CONCURRENT SESSIONS

Educational Training Course Session 3

Drug Utilization Metrics in Pharmacoepidemiology Research
Prof. Ilse Truter, *Nelson Mandela University, South Africa*
MODERATOR: Johanna Meyer Sefako, *Makgatho Health Sciences University, Pretoria, South Africa*

Methods for Measuring and Assessing Appropriate Medication Use
Prof. Lisa Pont, *University of Technology, Australia*
MODERATOR: Adenuga Babafunso, *School of Pharmacy, University of Namibia, Namibia*

ATC/DDD Methodology
Prof. Hege Salvesen Blix
WHO Collaboration Centre for Drug Statistics Methodology
Senior Adviser Irene Litleskare
WHO Collaboration Centre for Drug Statistics Methodology
MODERATOR: Johanita Burger, *North-West University, South Africa*

Medical Device Epidemiology
Dr. Paul Coplan, *Johnson & Johnson*
MODERATOR: Dami Onasanya, *University of Maryland, College of Pharmacy, US*

Oral Sessions 3

MODERATORS:
Irene Murimi-Worstell
Massachusetts College of Pharmacy and Health Sciences, US
Dr. Amanj Kurdi, *University of Strathclyde, UK*

A Mixed Method Study of the Barriers and Facilitators of Adherence to Antiretroviral Treatment at a Public Health Facility in Ghana
Israel Abebrese Sefa
School of Pharmacy, University of Health and Allied Sciences, Ghana

Immune Recovery of People Living with HIV After Antiretroviral Therapy Initiation in Brazil: A Challenge for HIV Treatment
Cassia C.P. Mendicino, *Federal University of Minas Gerais, Brazil*

Antiretroviral Treatment Regimen Adjustments in HIV-Positive Patients at a Clinic in Gauteng Province
Elmien Bronkhorst
Sefako Makgatho Health Sciences University, South Africa

Down to the Last Resort Antibiotics for Management of Carbapenem Resistant Enterobacterales Infections at a Tertiary Hospital in South Africa
Siesta Rashopole
National Health Laboratory Services, Sefako Makgatho Health Sciences University, South Africa

Selective Prescribing of Atypical Antipsychotics to Medicare Beneficiaries
Chijioke Modestus Okeke
National Agency for Food and Drug Administration and Control, Nigeria

2:50 - 3:00 PM Break

3:00 - 4:00 PM

ISPE AfRIG and MURIA Joint Meeting & Awards

4:00 - 4:15 PM

Closing Remarks

Dr. Kwame Appenteng, *Boehringer Ingelheim*



From the day you're born, we never stop taking care of you.

We never stop working to make your life healthier. That's why we're working to fight the COVID-19 pandemic and developing robotics to find and treat cancer. Why we're restoring heart rhythms, relieving depression, controlling HIV and combating multidrug-resistant tuberculosis.

At Johnson & Johnson, we're not just a baby company. We're creating life-saving medicines, vaccines and medical technologies. And partnering with both public and private sectors to make sure everyone has access to care.

Keeping you healthy your whole life is our life's work.

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ORAL ABSTRACTS

Presenting author underlined.

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The Effect of Pharmacist-Provided Discharge Counselling on Medication Knowledge and Adherence Among Patients with Cardiovascular Diseases at Windhoek Central Hospital (Wch), Windhoek

Liisa Ndapewa Anguuo

University of Namibia, Windhoek, Namibia

BACKGROUND

Pharmacists' provision of tailored educational counselling on medications may improve patients' adherence and level of confidence, self-efficacy and understanding of how to take their medications.

OBJECTIVES

To measure and compare patients' level of medication knowledge and adherence before and after pilot implementation of the service.

METHODS

A 7-months prospective quasi-experimental study with control and intervention groups, was undertaken among adult patients with cardiovascular diseases admitted to WCH- 4 west, on at least one chronic medicine prior to admission and at discharge. Patients in the intervention group received interventional discharge counselling by trained pharmacists trained while patients in the control group received usual care. Patients' level of medication adherence and medication knowledge were assessed through interviews within a day of admission and on days 7 and 14 post-discharge. Repeated measures analysis of covariance was used for comparison between the study groups. A $p < 0.05$ was considered statistically significant.

RESULTS

A total of 84 patients comprising 42 patients in each group were evaluated. Female patients accounted for 59.5% (25/42) and 69.0% (29/42) in the control and intervention group, respectively. After controlling for both the level of adherence and medication knowledge at admission, there was a statistically significant difference on days 7 and 14 post discharge, ($F(1, 81) = 110.626$, $p < 0.001$, $\eta p2 = 0.577$) and ($F(1, 81) = 41.49$, $p < 0.001$, $\eta p2 = 0.339$) respectively. Conclusion: Implementation of a pharmacist-provided discharge counselling service resulted in improvements in the level of medication knowledge and adherence among patients.

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Social Determinants of Health Associated with COVID-19 Severity During Pregnancy: A Multinational Cohort Study

Jasmine A. Mack[1] | Rada Rusu[2] | Erica A. Voss[1]
Meg Celine Hernandez[1] | Sonia Hernandez-Diaz[3]
Diego F. Wyszynski[4] | Shirley Sylvester[5]
Rachael L. DiSantostefano[1]

[1]*Janssen Research & Development, LLC, Titusville, USA*
[2]*Johnson & Johnson, Clinical Operations, Office of the Chief Medical Officer, Toronto, Canada*
[3]*Harvard T. H. Chan School of Public Health, Boston, USA*
[4]*Pregistry, Los Angles, USA*
[5]*Johnson & Johnson, Women's Health, Office of the Chief Medical Officer, New Brunswick, USA*

BACKGROUND

The Coronavirus Disease 2019 (COVID-19) pandemic has demonstrated stark health inequities globally.
Objectives: To assess social and demographic characteristics associated with COVID-19 severity among symptomatic participants during pregnancy.
Methods: Data from International Registry of Coronavirus Exposure in Pregnancy (IRCEP), a multinational, observational cohort study of adult participants who were tested for SARS-CoV-2 or had clinical confirmation of COVID-19 during pregnancy (NCT04366986) were used; participants with symptomatic COVID-19 during pregnancy were included in our analysis (enrollment: June 24, 2020 to March 18, 2021; n=3168). To characterize the association of each social and demographic characteristic with COVID-19 severity (Mild, moderate, severe) univariate mixed-effects ordinal logistic regression modeling was used. Each model accounted for country of residence as a random effect to estimate odds ratios (OR) and 95% confidence intervals (CI). Model diagnostics were performed.

RESULTS

The odds of more severe COVID-19 were greater for participants with lower self-reported socioeconomic status (Middle Class OR=1.62 [95% CI 1.29, 2.04], Lower-Middle Class OR =2.07 [1.62, 2.65], Poor OR=2.72 [2.01, 3.69] vs. Wealthy), less education (High School OR=1.68 [1.39, 2.03], <High School OR=1.77 [1.25, 2.51] vs. Graduate Education), and lower World Bank country-level income classification (Upper-Middle vs. High). Employment in food services (vs. unemployment) increased odds of more severe COVID-19, whereas employment in healthcare and within the home (vs. unemployment) and being primiparous (vs. multiparous) decreased the odds.

CONCLUSION

In this multinational cohort, social determinants of health were risk factors for more severe COVID-19 in symptomatic participants during pregnancy.

Project funded by Johnson & Johnson.

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Immune Recovery of People Living with HIV after Antiretroviral Therapy Initiation in Brazil: A Challenge for HIV Treatment

Cássia Mendicino[1] | Cristiane Menezes de Pádua[1]
Erica Moodie[2] | Mark Guimaraes[1] | Gabriela Silva[1]
Letícia Braga[3]

[1]*Federal University of Minas Gerais, Belo Horizonte, Brazil*
[2]*McGill University, Montreal, Canad.*
[3]*National School of Public Health-Fiocruz, Rio de Janeiro, Brazil*

BACKGROUND

The impact of antiretroviral therapy (ART) on morbidity/mortality of people living with HIV (PLHIV) depends on the CD4-count distribution in treated individuals. Increased CD4 indicating immune-recovery (IR) is a reflection of the health of treated PLHIV. Our goal was to estimate the time and associated factors to IR.

Presenting author underlined.

METHODS

Retrospective analysis was performed among PLWH (>18 years) living in Minas Gerais-Brazil, using data obtained from national health-care databases. Eligible patients initiated ART between 2009-2018 and had CD4 measurements recorded before/after ART-initiation. Descriptive analyses, cumulative and person-time incidence of IR (>500 cells/µl) were calculated. The general median-time to IR and stratified by CD4-baseline and time-varying variables (ART-adherence:<45 days between consecutive ART dispensing) were estimated via Kaplan-Meier and the associated by Cox-regression, adjusted for age, gender and ART-initiation year.

RESULTS

Most participants (n=8,014) were male (67%), with mean age=38.65 years (SD:11.47) and baseline CD4=228 cells/µl(SD:137). Follow-up time was 15,872 person-years. Cumulative-incidence of IR was 58% (n=4,678), corresponding to an incidence-rate of 29.47/100 person-years. General median-time to IR was 22.8 months (CI95%:21.9-24.0). Baseline CD4>200 cells/µl was associated with IR that the median-time was 5.6 times lower and hazard-risk (HR)=4.2(CI95%:3.9-4.5), compared to patients with lower CD4. Presence of ART-adherence decreases 7.5 times the median-time to IR and HR=3.1(CI95%:2.87–3.4).

CONCLUSIONS

The IR time remains long and depends on early treatment and ART adherence. Overcoming these factors represents the principal challenges to success on IR.

ORAL ABSTRACTS

Presenting author underlined.

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Current Challenges with Tackling Antimicrobial Resistance Across Sub-Saharan Africa and the Implications

Brian Godman[1,2,3] | Abiodun Egwuenu[4]
Evelyn Wesangula[5] | Natalie Schellack[6]
Aubrey Kalungia[7] | Celda Tiroyakgosi[8]
Ibrahim Chikowe[9] | Amanj Kurdi[1,3,10] | Adrian Brink[11,12]

[1]Strathclyde Institute of Pharmacy and Biomedical Sciences, Glasgow, UK
[2]Centre of Medical and Bio-allied Health Sciences Research, Ajman, UAE
[3]Sefako Makgatho Health Sciences University, Pretoria, South Africa.
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[6]University of Pretoria, Pretoria, South Africa
[7]University of Zambia, Lusaka, Zambia
[8]Ministry of Health, Gaborone, Botswana
[9]Kamuzu University of Health Sciences, Blantyre, Malawi [10]Hawler Medical University, Erbil, Iraq
[11]University of Cape Town, Cape Town, South Africa
[12]National Health Laboratory Services, Cape Town, South Africa

BACKGROUND
Antimicrobial resistance (AMR) is a growing concern increasing morbidity, mortality and costs, with sub-Saharan Africa having the highest rates globally. Concerns with rising AMR has resulted in Pan-African and country activities including national action plans (NAPs); however, there is variable implementation with key challenges persisting.

OBJECTIVE
Document current NAP activities and challenges across sub-Saharan Africa to provide future guidance.

METHODOLOGY
Mixed methods approach including a comprehensive literature review combined with input from senior-level personnel from thirteen African countries with respect to five agreed specific questions regarding the current status of country NAPs as well as ongoing barriers and challenges.

RESULTS
All the surveyed 13 sub-Saharan African countries have developed their NAPs; however, there is variable implementation. Countries including Namibia and Botswana are yet to officially launch their NAPs with Eswatini only recently launching its NAP. Cameroon is further ahead with instigating its NAP than these countries; however, there are ongoing concerns with its implementation. Overall, South Africa appears to have made the greatest strides with implementing its NAP among the surveyed African countries, which incorporates regular monitoring of activities. These include the instigation of antimicrobial stewardship programmes. Key challenges still remain across Africa. These include the recruitment of necessary personnel, expertise, capacity and resources to undertake agreed NAP activities and a lack of focal points and personnel to drive NAPs. In addition, competing priorities and demands including among donors.

CONCLUSION
Challenges with implementing NAPs are starting to be addressed. Further co-ordinated efforts are needed to reduce AMR across Africa.

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A Mixed Method Study of the Barriers and Facilitators of Adherence to Antiretroviral Treatment at a Public Health Facility in Ghana

Israel Abebrese Sefah[1] | Frederick Mensah[2]
Amanj Kurdi[3,4] | Brian Godman[4,5,6]

[1]Pharmacy Practice Department, School of Pharmacy, University of Health and Allied Sciences, Ho, Ghana.
[2]Pharmacy Department, Atua Government Hospital, Eastern Region, Odumase-Krobo, Ghana.
[3]Department of Pharmacology, College of Pharmacy, Hawler Medical University, Erbil, Iraq.
[4]Strathclyde Institute of Pharmacy and Biomedical Sciences, University of Strathclyde, Glasgow, United Kingdom.
[5]School of Pharmacy, Sefako Makgatho Health Sciences University, Ga-Rankuwa, Pretoria, South Africa.
[6]Centre of Medical and Bio allied Health Sciences Research, Ajman University, Ajman, UAE

BACKGROUND
Poor adherence to antiretroviral therapy (ART) increases the risk of viral drug resistance and reduces treatment effectiveness leading to greater risk of death and increased risk of viral transmission.

OBJECTIVE
Assess current adherence levels to ART among patients in Ghana, exploring barriers and enablers of adherence to it, to provide future guidance to all key stakeholder groups.

METHOD
A mixed method approach comprising of a cross-sectional survey followed by a focused group discussion of the patients and an in-depth interview of four key health professionals working in the ART clinic of Atua Government Hospital, primary care health facility in the Eastern Region. A structured questionnaire was used to assess current adherence levels and their determinants among 231 randomly selected patients attending the clinic between July to September, 2019. Quantitative data analyzed using bivariate and multivariate methods, qualitative data analyzed using a thematic framework approach.

RESULTS
Adherence levels were 42.9% among our study population. Lower adherence to ART was associated with patients' belief in herbal medicine (aOR =0.34 CI: 0.19-0.61). Other barriers included low motivation arising from pill fatigue, forgetfulness, frequent stock out of medicines, long waiting times and worrying side-effects; while enablers included measures that ensure improved assessment of adherence and those that improve patient satisfaction with ART services.

CONCLUSION
Adherence to ART among patients living with HIV was sub-optimal in our study population. Understanding of the barriers and enablers of adherence to ART is a key step to developing evidence-based adherence improvement strategies to enhance clinical outcomes.

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Prevalence of Bacterial Coinfection and Patterns of Antibiotics Prescribing in Patients with COVID-19: A Systematic Review and Meta-Analysis

Faisal Alshaikh[1] | Amanj Kurdi[1] | Brian Godman[2]

[1]University of Strathclyde, Glasgow, United Kingdom.
[2]Sefako Makgatho Health Sciences University, Pretoria North, South Africa

Presenting author underlined.

OBJECTIVE
To determine current prevalence of bacterial coinfection and antibiotic prescribing in COVID-19 patients.

DATA SOURCE
OVID-MEDLINE, OVID-EMBASE, Cochrane and MedRxiv between January 2020 and June 2021.

STUDY ELIGIBILITY
English-language studies of laboratory-confirmed COVID-19 patients which reported (a)prevalence of bacterial coinfection and/or (b)prevalence of antibiotic prescribing with no restrictions to study-designs or healthcare setting.

PARTICIPANTS
Adults (aged ≥18 years) with RT-PCR confirmed diagnosis of COVID-19, regardless of study setting.

METHODS
Systematic review and meta-analysis. Proportion (prevalence) data was pooled using random effects meta-analysis approach; and stratified based on region and study design.

RESULTS
A total of 1058 studies were screened, of which 22, hospital-based studies were eligible, compromising 76,176 of COVID-19 patients. Pooled estimates for the prevalence of bacterial co-infection and antibiotic use were 5.62% (95% CI 2.26–10.31) and 61.77% (CI 50.95–70.90), respectively. Sub-group analysis by region demonstrated that bacterial co-infection was more prevalent in North American studies (7.89%, 95% CI 3.30-14.18).

CONCLUSION
Prevalence of bacterial coinfection in COVID-19 is low, yet prevalence of antibiotic prescribing is high, indicating the need for targeted COVID-19 AMS initiatives to reduce the global threat of AMR.

ORAL ABSTRACTS

Presenting author underlined.

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Impact of Antimicrobial Stewardship Interventions to Improve Antibiotic Prescribing for Hospital Inpatients in Africa: A Systematic Review and Meta-analysis

Linda Siachalinga[1] | Webrod Mufwambi[2]
Iyn-Hyang Lee[3]
[1]*College of Pharmacy,Yeungnam University, Gyeongsan, 38541, Korea, Republic of*
[2]*Department of Pharmacy, School of Health Sciences, University of Zambia, Lusaka, 50110, Zambia.*
[3]*College of Pharmacy, Yeungnam University, Gyeongsan, 38541, Korea, Republic of*

BACKGROUND
Antimicrobial stewardship (AMS) interventions to improve antibiotic use are being implemented in the African region, however their impact is not fully known

OBJECTIVE
To estimate the effectiveness and safety of interventions to improve antibiotic prescribing in hospital inpatients.

METHODS
Systematically searched for studies from PubMed, Embase, African Journal online and Google scholar from January 2010 to July 2021. Studies were included if they reported the impact of AMS interventions on outcomes of interest in hospital inpatients in Africa. Findings were summarized in tables and meta-analyses were performed using random-effects models. Risk of bias was performed using the Cochrane Effective Practice and Organization of Care guidelines and the National Heart, Lung, and Blood Institute tool.

RESULTS
26 studies were included, 88% being uncontrolled before and after studies. Most interventions employed are multifaceted and have shown to be effective, evidenced by increased compliance, reduction in antibiotic utilization and cost, and safe as seen by slight reduction or no difference in mortality and length of hospital stay (LOS). The meta-analysis generated a relative risk, 0.82 (95% CI: 0.70~0.97) for mortality, and standard mean difference, -0.33 (95% CI: -0.43~-0.23) for LOS. Generally, there is a decrease in resistance to most microorganisms. Though there is an increase in the number of studies conducted, the studies lack in most quality design features for AMS.

CONCLUSION
Interventions are likely tobe effective and safe, however efforts still required to align the study design with the quality design features required for validity and to inform practice.

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Antiretroviral Treatment Regimen Adjustments in HIV-Positive Patients at a Clinic in Gauteng Province

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BACKGROUND & OBJECTIVES
The importance of guideline adherence in antiretroviral (ART) regimen adjustments is vital to ensure toxicity and resistance to ART are limited. This study aimed to assess regimen adjustment in HIV patients with compromised hepatic or renal functioning resulting from ART and weather adjustments were made according to Treatment Guidelines. Re-initiation of ART in patients with virological failure or who defaulted were investigated, according to guidelines.

METHODS
Retrospectively, records for HIV patients who were on ART for over 18 months were reviewed. Patients with hepatic, renal or virological failure were included. Data were collected from patient medical records. The sample population included patients from a clinic at an academic hospital, Gauteng Province, South Africa. Approval was obtained from the Sefako Makgatho Research and Ethics committee: SMUREC/P/42/2020.

RESULTS
Out of 181 patient records, 37 patient files met the inclusion criteria and were selected to participate.. The study found 25% hepatic failure patients and 41.4% patients with renal impairment, on treatment that complied with the National ART Guidelines. Lastly, 40% of patients with virological failure were re-initiated according to guidelines. Based on the results non-adherence to the ART guidelines was confirmed.

CONCLUSION
The study found that guidelines were not followed in all categories where regimen adjustment was required. From the sample, a non-compliance profile of more than 40% was identified.

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Development and Validation of a Virtual Reporting Tool for Diabetic Patients' Conventional and Herbal Medicine Use and Treatment Outcomes at Kenyatta National Hospital

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BACKGROUND
Globally concurrent use of conventional and herbal medicines for management of diabetes has been reported. Data on this is often missing due to lack of tools that can report simultaneous use.

OBJECTIVE
To develop, test and validate a virtual tool that collated diabetic patients' medical and medication history including the herbal medicine, to be used to improve patient outcomes.

METHOD
The app was developed and tested by pharmacists and medical practitioners for usability. Patients were randomly recruited and interviewed about the use of herbal medicine and their opinions on usability of the tool. Data was analysed descriptively. Ethical approval was sought from Kenyatta National Hospital/ University of Nairobi Ethics Review Committee.

RESULTS
Eighteen patients were recruited, most of whom were men (10, 56%) and above 50 years (10, 56%). Type 2 diabetes was the most prevalent, with 61% experiencing at least one comorbidity. Hypertension was the most common (9, 50%). 89% (n=16) patients used herbal medicine, with ginger, garlic and thorn melon combination being commonly used (22%). All patients reported ease in using the tool to communicate with medical personnel. Six medical personnel validated the tool; most were female (5,83%). All medical personnel reported ease in using the tool in all aspects of patient management and monitoring.

CONCLUSION
Integration and use of the developed virtual tool is important in not only monitoring the diabetic patients and their use of herbal and conventional medicines, but also in improving patient interaction with the medical personnel and their outcomes.

Presenting author underlined.

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Effect of Mobile Applications on the Spontaneous Reporting of Adverse Drug Reactions: A Systematic Review and Meta-Analysis

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BACKGROUND
While mobile applications (apps) suitable for use on a cell phone, tablet, or other mobile devices have been developed to facilitate adverse drug reactions (ADR) reporting, the effect of the apps on reporting is unknown.

OBJECTIVES
To explore the effect of mobile apps on the rate and quality of ADR reports.

METHODS
We conducted a systematic search of MEDLINE, CINAHL, EMBASE AND SCOPUS from databases' inception to February 2021. Included studies evaluated the effect of mobile apps on the rate or quality of ADR reporting. Studies using mobile apps for other health outcomes were excluded. To assess the pooled estimate, a one-stage random-effect method was applied, and analyses were by intention to treat. The measure of effect was the incidence rate ratio (IRR).

RESULTS
Our search identified 7,248 articles, and 5 studies met our inclusion criteria - each used a different mobile app. Most studies were conducted in Europe/ UK (n=3), while Africa (Senegal) and the United States had a study each. The use of mobile ADR apps significantly increased the rate of ADR reporting (IRR 18.9, 95% CI: 5.8; 61.0). Overall, the quality of the apps reports was consistently lower when compared with the conventional reports.

CONCLUSION
Mobile apps for ADR reporting increased the rate of ADR reporting but were associated with lower reporting quality. With growing interest on the use of mobile apps for ADR reporting across many resource-limited settings, large scale, robust implementation studies are needed to better understand their value for pharmacovigilance.

ORAL ABSTRACTS

Presenting author underlined.

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Down to the Last Resort Antibiotics for Management of Carbapenem Resistant Enterobacterales Infections at a Tertiary Hospital in South Africa

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BACKGROUND

Carbapenem resistance Enterobacterales (CREs) are an emerging global problem which accounts for most nosocomial infections worldwide.

It is important to find the correct regimen to treat CRE infections because of the associated high mortality. This study aimed to ascertain the prevalence and the susceptibility profiles of CREs at a tertiary hospital in Pretoria, South Africa.

METHODS

A diagnostic laboratory data review was conducted for confirmed CRE isolates from 2019-2021. The prevalence and susceptibility profiles were evaluated. The most common organisms isolated and the wards with most of the CRE isolates were investigated.

RESULTS

A total of 510 CREs were isolated during the study period. The study found an increasing isolation trend over the study period; 2019 (134) ,2020 (158) and 2021 (218). Klebsiella pneumoniae accounted for 82% of the total CRE isolates. Most CREs were cultured from the general wards followed by intensive care units. Majority of the CREs were susceptible to tigecycline (85% in 2019, 80% in 2020 and 66% in 2021), colistin (72% in 2019,64% in 2020 and 78% in 2021) and amikacin (75% in 2019 ,80% in 2020 and 68% in 2021). Amikacin and tigecycline susceptibility decreased over the study period. Susceptibility to ciprofloxacin has been variable throughout the years with 39% in 2019;15% in 2020 and 19% in 2021.

CONCLUSION

The most active agents against CRE infections at this institution are colistin, tigecycline and amikacin. There is a need for intervention to slowdown the growing resistance trend observed over the study period.

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Medicine Use Among Breast Cancer Patients at a Teaching Hospital in North-Central Nigeria

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BACKGROUND

Patients' use of medicines is affected by their knowledge of the medication's name, indication and precaution. Dearth of information on breast cancer (BCa) patients' knowledge about their medicine at a teaching hospital in North-Central Nigeria has attracted concerns. This study aimed at identifying medicines that are used by BCa patients and assessing their knowledge about these medicines at a teaching hospital in North-Central Nigeria. The study comprised the use of structured questionnaire that was interviewer-administered to 60 eligible BCa patients, observational checks of medicines dispensed to these patients and data extraction from their medical folders. Ethical approval was granted by an Institutional Ethical Review Committee. Eligible patients' consents were obtained before inclusion into the study. The study revealed that most of the participants were married, 50.0% had primary education, duration of illness since diagnosis modal class was 1 – 5 year and 63.3% were on cancer chemotherapy. Antineoplastic medicines included tamoxifen (40%) cyclophosphamide (25%), doxorubicin (18%), docetaxel (16%), epirubicin (11%), and capecitabine (5%). Non-antineoplastic medicines included ondansetron (42.4%), dexamethasone (40%) paracetamol (30%), and vitamin C (26.7%). Only 54.1% and 41.7% of the study participants knew their medications' names and indications respectively. All participants knew the general precautions to take their medicines with water and avoid concomitant use of dispensed medicines with alcohol or herbal products. Medicines identified were in line with recommendations for the management of BCa. All study participants knew the general precautions of the dispensed medicines. However, poor knowledge about the medications' indications calls for intervention.

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Real-World Effectiveness of Biological Therapy in Patients with Rheumatoid Arthritis: Systematic Review and Meta-Analysis

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BACKGROUND

Rheumatoid arthritis (RA) is a chronic systemic inflammatory autoimmune disease treated with disease-modifying anti-rheumatic drugs (DMARDs), as conventional synthetic DMARDs (csDMARDs) and biological DMARDs (bDMARDs). Objectives: Evaluate the effectiveness of biological therapy in patients with RA in administrative health databases.

METHODS

PubMed, Embase, Lilacs, Ovid, Scopus, and Web of Science databases were searched from inception to September 14, 2020, to identify observational studies that assessed the effectiveness of biological therapy in patients with RA using administrative databases. Risk ratios and 95% confidence intervals were estimated using a random-effects model. The analysis was divided into four groups: tumor necrosis factor inhibitors (TNFi) versus non-TNFi; TNFi (Adalimumab, Etanercept, and Golimumab) versus TNFi (Infliximab); bDMARDS versus Janus kinase inhibitors (JAKi); and bDMARDs monotherapy versus combination therapy (bDMARDs and MTX).

RESULTS

Twenty-one records were included, published from 2007 to 2021. Overall, 182,098 RA patients were evaluated. In the meta-analysis, lower effectiveness was observed among TNFi users versus non-TNFi (RR 0.88; 95% CI 0.81-0.95; $p < 0.01$; $I2 = 94.0\%$) and bDMARDs versus JAKi (RR 0.86; 95% CI 0.79-0.94; $p < 0.01$; $I2 = 93.0\%$). Higher effectiveness among TNFi compared to TNFi (Infliximab) (RR 1.19; 95% CI 1.05-1.36; $p < 0.01$; $I2 = 96.0\%$) was found. No significant differences in the effectiveness of bDMARDs monotherapy compared to combination therapy (RR 0.83; 95% CI 0.68-1.00; $p < 0.01$; $I2 = 81.0\%$) was observed.

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CONCLUSIONS

Our results suggest that biological therapy effectively treats patients with RA, indicating higher effectiveness of non-TNFi and JAKI over TNFi.

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Selective Prescribing of Atypical Antipsychotics to Medicare Beneficiaries

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OBJECTIVES

An essential principle of conservative prescribing is to optimally use only a few within a drug class. However, with newer atypical antipsychotics (AAPs) being approved by the US Food and Drug Administration (FDA) in the past decade, it is unclear if clinicians are conservative in prescribing them. Therefore, this study aims to determine how prescribers limit the number of AAPs they prescribe to Medicare beneficiaries.

METHODS

We conducted a cross-sectional analysis of prescription claims of AAPS using the 2016 Medicare Part D Public Use Files (PUF). We retrieved data from prescribers with ≥100 prescriptions of AAPs. We estimated the number of analogs accounting for 50% (DU50) and 90% (DU90) of the prescribed AAPs. We used Gini coefficient to determine the Formulary Selectivity Index (FSI), which is a number between 0 and 1, with '0' representing equal prescription of each analog (no selectivity) and '1' representing prescribing of only one analog (perfect selectivity).

RESULTS

There were 14,054,118 AAPs prescribed to Medicare Part D beneficiaries. The prescribers were very selective in AAPs (FSI: 0.81; CI-95%). Among the thirteen AAPs prescribed, six drugs; quetiapine, risperidone, olanzapine, aripiprazole, clozapine and ziprasidone accounted for more than 90% of the medications. Quetiapine and risperidone alone accounted for more than 50% of the drugs.

CONCLUSIONS

The findings suggest that prescribers limit the use of AAPs to quetiapine and risperidone. Future studies should examine if prescribing these drugs is associated with fewer adverse drug events and favorable health outcomes than other AAPs.

POSTER PRESENTATIONS

Presenting author underlined.

1

Evaluation of Antibiotic Prescribing for Ambulatory Patients Seeking Primary Dental Care Services in a Public Hospital in Ghana

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BACKGROUND

1 in 10 of all antibiotic prescriptions globally are for dental conditions with 80% of them being inappropriate making it a potential source of antimicrobial resistance. The study aims to evaluate antibiotic use among ambulatory patients seeking dental care services in a Public Hospital in Ghana.

METHODS

A retrospective clinical audit was conducted by extracting the medical records of all patients seeking dental primary care at the ambulatory care clinic of Keta Municipal Hospital (KMH) from January 2020 to December 2020 using the hospital's electronic database. Descriptive statistics, bivariate and multivariate analysis were performed on the data collected.

RESULTS

1433 patient medical records were extracted from the hospital electronic data within the study period. The mean age of the patients identified was 39 years with almost two thirds being female. Over 90% of them were attended to by a dental nurse. 88.6% of the patients received antibiotics and 87.5% of antibiotics prescribed were non-compliant with Ghana Standard Treatment Guidelines. Again, three-quarters of the dental conditions were managed with dual antibiotics comprising of amoxicillin and metronidazole. Antibiotic prescription was associated with the age, gender, the type of prescriber and the type of dental condition diagnosed.

CONCLUSION

There is a high usage of antibiotics for dental conditions managed at the outpatient section of the hospital. Development of local guidelines supported by education of dental clinician especially dental nurses on empiric selection of antibiotics for common dental conditions is a suitable target for AMS team to address in KMH.

2

Antimicrobial Self-Medication in Nigeria: A Systematic Review

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BACKGROUND

Antimicrobial self-medication (ASM) is a major global health burden that is associated with the risk of antimicrobial drug resistance. There is a high prevalence of ASM in low and middle-income countries including Nigeria, hence the review was undertaken to evaluate its impact and consequences. The study entails a systematic review of 18 research articles on antimicrobial self-medication in Nigeria using search engines such as Google Scholar, Medline, Hinari, PubMed, Ebscohost, Embase, and Scopus. A two-stage approach was used in selecting the articles using specifically defined inclusion and exclusion criteria. A schematic flow-chart was developed as recommended by the Prisma statement on conducting systematic reviews and meta-analysis and results were presented as proportions in tables and charts. The review showed that the prevalence of ASM in Nigeria was 51.4% with antimicrobials such as amoxicillin + clavulanic acid (66.7%), ampicillin + cloxacillin (55.6%), Ampicillin (44.4%), metronidazole (27.8%), and ciprofloxacin (27.8%) topping the list as the most frequently misused antimicrobials in Nigeria. The burden of antimicrobial self-medication is high and it has had a grave impact on healthcare delivery both in Nigeria and globally. The adoption of a multisectoral approach as a public health intervention strategy will greatly help in mitigating the emerging risk of SAM in the country.

3

Medicines Regulatory Science Expertise in Africa: Workforce Capacity Development and Harmonisation Activities Towards the Establishment of the African Medicines Agency

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BACKGROUND

The medicines regulatory landscape in Africa is undergoing transformation with at least two countries having national medicines regulatory authorities (NRAs) that operate at World Health Organization (WHO) maturity level 3. However, this represents the exception as over 90% of African NRAs have limited capacity to perform core medicine regulatory functions, have a shortage of competent regulatory professionals, have high staff turnovers, lack diversity of scientific expertise, and have staffing shortages relative to the high workload. A systematic approach to developing the regulatory workforce is therefore crucial to addressing the existing shortfalls in regulatory capacity, particularly at this time that efforts are underway to operationalise the African Medicines Agency (AMA). In this article initiatives that are building African NRAs' regulatory capacity and developing their workforce are reviewed in preparation for work to be conducted by the AMA. We found that the African Medicines Regulatory Harmonisation (AMRH) initiative has been at the forefront of capacity building and workforce development mainly through the designation of specialised Regional Centres of Regulatory Excellence and the implementation of medicines regulatory harmonisation initiatives in regional economic communities. In addition, some NRAs within high-income countries and trusted institutions have been supporting regulators in low-income countries with registration assessments and facilitating access to quality-assured medical products through their stringent review procedures (SRPs). Capacity building has subsequently been facilitated through this active involvement of African regulators in SRPs. This article also provides recommendations for further capacity building and workforce development.

Presenting author underlined.

8

Immune Recovery of People Living with HIV after Antiretroviral Therapy Initiation in Brazil: A Challenge for Hiv Treatment

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BACKGROUND

The impact of antiretroviral therapy (ART) on morbidity/mortality of people living with HIV (PLHIV) depends on the CD4-count distribution in treated individuals. Increased CD4 indicating immune-recovery (IR) is a reflection of the health of treated PLHIV. Our goal was to estimate the time and associated factors to IR.

METHODS

Retrospective analysis was performed among PLWH (>18 years) living in Minas Gerais-Brazil, using data obtained from national health-care databases. Eligible patients initiated ART between 2009-2018 and had CD4 measurements recorded before/after ART-initiation. Descriptive analyses, cumulative and person-time incidence of IR (>500 cells/μl) were calculated. The general median-time to IR and stratified by CD4-baseline and time-varying variables (ART-adherence:<45 days between consecutive ART dispensing) were estimated via Kaplan-Meier and the associated by Cox-regression, adjusted for age, gender and ART-initiation year.

RESULTS

Most participants (n=8,014) were male (67%), with mean age=38.65 years (SD:11.47) and baseline CD4=228 cells/μl(SD:137). Follow-up time was 15,872 person-years. Cumulative-incidence of IR was 58% (n=4,678), corresponding to an incidence-rate of 29.47/100 person-years. General median-time to IR was 22.8 months (CI95%:21.9-24.0). Baseline CD4>200 cells/μl was associated with IR that the median-time was 5.6 times lower and hazard-risk (HR)=4.2(CI95%:3.9-4.5), compared to patients with lower CD4. Presence of ART-adherence decreases 7.5 times the median-time to IR and HR=3.1(CI95%:2.87–3.4).

CONCLUSIONS

The IR time remains long and depends on early treatment and ART adherence. Overcoming these factors represents the principal challenges to success on IR.

POSTER PRESENTATIONS

Presenting author underlined.

9

Predictors of Treatment Success Among Patients with Drug Resistant Tuberculosis in Namibia

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BACKGROUND

Drug resistant tuberculosis (DR-TB) is a barrier to ending TB globally. Namibia has a burden of DR-TB among new and previously treated TB patients estimated at 3.3% and 18% respectively.

Study aimed to determine predictors and patterns of DR-TB treatment success rates (TSR) to inform policy.

A case-control study of DR-TB TSR predictors used patient data in the national TB register over 5 years (2015-2019). Treatment outcomes, patient socio-demographic, clinical and treatment, and TB programme covariates were analysed in SPSS v22. TSR patterns and crude predictors were determined using descriptive and univariate analysis respectively. Adjusted odd ratios (aOR) were determined to identify independent predictors of TSR in DR-TB, using multivariate logistic regression.

56.3% (n=841, N=1494) were for males, the mean age was 35.6±14.2 years, 8.3% had HIV coinfection, and TSR was 66.5% (n=994). Prevalent adverse drug reactions were ototoxicity/tinnitus (1.8%, n=27), vomiting (0.6 %, n=9), 0.4% for joint pains and peripheral neuropathy, 3% for renal impairment, visual disturbance and skin rash.

Independent socio-demographic predictors of treatment success were female sex (aOR=0.6,95%CI:0.34, 0.89; p=0.015), young age <5 years (aOR=0.1,95%CI:0.0007, 0.421; p=0.005) and 5-14years (aOR=0.0,95%CI:0.002,0.269;p=0.002), and Namibian citizenship (aOR=0.3; 95%CI: 0.089,0.961; p=0.043). Clinical predictors were; baseline mono-resistance (aOR=7.6,95%CI:1.427,40.631;p=0.018), and bilateral pulmonary forms (aOR=0.2,95%CI:0.057,0.498;p=0.001).

Whilst TSRs have improved, they remain below global targets and vary by disease type, regions and patient populations. There is need to individualize DR-TB treatment targeted at males, older patients, expats, baseline resistance to more than one drug and bilateral pulmonary disease administer using community-based Directly Observed Treatment.

10

Analysis of Policies for the Utilization of Important Antibiotics in Animals in Nambia and the Implications for Future Antimicrobial Stewardship

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BACKGROUND

Globally, the overuse of medically important antibiotics in animals is common and a considerable driver of antimicrobial resistance (AMR) with implications on mortality and costs. Consequently, among African countries with high AMR rates there is a need to analyse policies and resistance patterns with the ongoing use of medically important antibiotics in animals. The findings can be used to guide future policies.

METHODS

Descriptive analysis of the appropriateness of policies and their current impact on resistance patterns of medically important antibiotics in Namibia against the WHO AWaRe guidance on antimicrobial stewardship.

RESULTS

Out of the 45 medically important antibiotics currently registered for use in animals in Namibia, 77.8% are in the AWaRe Access category, 68.9% are broad-spectrum and 60% are non-prescription – mainly tetracyclines, penicillins and sulphonamides. Consequently, there is currently misalignment in policies for human and animal use in Namibia alongside global recommendations. There is also currently no guideline for the use of antibiotics in animals in Namibia. Most medically important antibiotics that are currently being used are indicated for control of gastrointestinal (77.7%), musculoskeletal (71.1%) and respiratory (46.7%) infections in addition to growth promotion (4.4%). Resistance is high among humans to commonly used AWaRe Access antibiotics including penicillin (13.5%-100%), sulphonamides (19.5%-100%) and tetracyclines (56%-100%).

CONCLUSION

Whilst Namibia has banned the use of antibiotics in farming, current policies are not aligned to global AWaRe guidance, and promote the overuse of broad-spectrum antibiotics. This needs addressing in a multi-sectoral one health coalition alongside advancing antimicrobial stewardship.

12

Evaluating the Antibacterial Activity of Pterocarpus Tinctorius Bark Extract Against Non-Lactose Fermenting Coliforms Isolated from Individuals with Bacterial Gastroenteritis

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BACKGROUND

The bark extract of Pterocarpus tinctorius (Fabaceae) is traditionally claimed to have antibacterial properties and used in the treatment of gastroenteritis. However, there is lack of scientific data to authenticate its effectiveness and safety.

METHODOLOGY

The powdered bark extract were successively extracted with methanol using cold maceration method, followed by fractionation using column chromatography. The antibacterial activity was performed using agar well diffusion method. Minimum Inhibitory Concentration was performed using agar well diffusion method and Minimum Bactericidal Concentration was carried out using serial macro-dilution method. Acute toxicity test was performed in rats using Organisation for Economic Co-operation and Development (OECD) guidelines.

RESULTS

Phytochemical analysis showed the presence of phenolics, flavonoids, tannins and saponins as compounds responsible for antibacterial activity. The extract was bactericidal against Escherichia coli (1.25mg/ml), Salmonella typhi (1.25mg/ml) and Shigella dysentriae (0.6mg/ml). The LD50 of the extract was ≥2000mg/kg body weight. There was no significant difference (P ≥ 0.05) in the body weight, organ-weight ratio as well as biochemical markers (alanine amino transferase, aspartate transferase, alkaline phosphatase, creatinine, urea and total protein) in rats at the doses of 50, 300 and 2000mg/kg body weight compared to the control.

CONCLUSION

The results obtained indicate that the methanolic bark extract of P. tinctorius has antibacterial activity against the human pathogenic microorganism tested. The findings authenticate the use of P.tinctorius in Traditional Medicine. Furthermore, the results suggest that P. tinctorius methanolic bark extract is not acutely toxic to the rats. Therefore, purification and structural elucidation studies are highly recommended.

Presenting author underlined.

13

Familiarity, Knowledge and Practices of Health Care Professionals regarding the Pharmacovigilance of Biological Medicines at Selected Hospitals in Lusaka, Zambia.

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BACKGROUND

pharmacovigilance (PV) of biological and biosimilar medicines at selected hospitals in Lusaka, Zambia

METHODS

The study was an analytical questionnaire based cross-sectional study conducted among healthcare professionals (HCPs) at Adult hospital, Cancer Diseases hospital, Paediatrics hospital and Women and New Born hospital in Lusaka. Data were collected over a 4 week period in May and June 2021 and subsequently analysed using IBM SPSS version 21. Significance level was set at 5 %.

RESULTS

Only 48.9 % of HCPs were familiar with biological medicines to a point of having a basic understanding (48.9%), whilst most had never heard of the term biosimilar (40.9 %). Mean scores for knowledge regarding the PV considerations of biological medicines was 4.1 out of 8 questions. Most HCPs used non-proprietary names (44.2 %) when prescribing, dispensing or administering biological medicines. In addition, more than half (57.3 %) of HCPs did not record batch numbers when dispensing or administering biological medicines.

CONCLUSION

Healthcare professionals were more familiar with the term biological medicines than biosimilars. Healthcare professionals generally scored poorly when their knowledge regarding the PV considerations of biological medicines were assessed. Almost half of HCPs used only non-proprietary names (44.2 %) whilst over half (57.3%) did not use batch numbers when prescribing, dispensing or administering biological medicines, consequently limiting the identifiability and traceability of biological medicines in case of an adverse drug reaction.

POSTER PRESENTATIONS

Presenting author underlined.

14

Vitamins and Minerals as Immune System Stimulants During the Covid-19 Pandemic: A South African Community Pharmacy Survey

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BACKGROUND

The COVID-19 pandemic has put a renewed focus on the role of dietary supplements and nutraceuticals in strengthening the immune system. These products were actively promoted to consumers during the pandemic, which sparked an increase in their sales by pharmacies.

OBJECTIVES

To investigate the use and perceptions of community pharmacists regarding vitamins and minerals during the COVID-19 pandemic as immune system stimulants.

METHODS

Ninety-five pharmacies in the Eastern Cape province of South Africa were selected to participate in an online survey regarding the use of complementary and alternative medicine (CAM), with the focus on immune stimulants. The survey was conducted during October 2021. Eighteen pharmacies responded. Data was analysed using Microsoft Excel®.

RESULTS

All the respondents (13 urban and five rural pharmacists) indicated that CAM has become more popular during the COVID-19 pandemic, and all 18 agreed that vitamins and minerals were the most popular choices as adjuncts for the prevention and support against COVID-19 infections. Fifteen respondents (83%) indicated they were very likely to recommend vitamins and minerals; 67% felt that in terms of purchases and sales, combination products were preferred by consumers, whereas 33% indicated preference for single vitamin and mineral products. Vitamin C, vitamin D and zinc were cited as being selected, in order of preference.

CONCLUSIONS

Community pharmacists were of the opinion that there should be professional oversight to minimise the risk of potential adverse drug reactions and drug interactions, and prevent the unnecessary duplication of ingredients through multiple selection of off-the-shelf products by consumers.

15

Antimigraine Prescribing in a Private Healthcare Setting in South Africa During Lockdown: A Database Study

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BACKGROUND

An improvement in migraine symptoms during the COVID-19 lockdown in the Netherlands has been reported. The findings suggest that lifestyle changes can substantially alter the course of migraine, eluding to the greater use of behavioural interventions alongside existing pharmacological therapies.

OBJECTIVES

To investigate the prescribing patterns of antimigraine drugs in a section of the private healthcare sector in South Africa to determine if prescribing patterns have changed during lockdown.

METHODS

Data was obtained from a South African medical aid administrator for 2020. De-identified records for antimigraine products (ATC group N02C) were analysed. No diagnoses or clinical information about patients were available. Data was analysed using Microsoft Excel®.

RESULTS

A total of 1220 antimigraine products were prescribed to 567 patients (average age 42.75 (SD=14.88) years; 73.37% female patients). Clonidine (N02CX02) accounted for 56.39% of products, followed by ergotamine (N02CA02, 21.89%). The selective serotonin (5HT1) agonists (triptans) accounted for 21.72% of all products. Four triptans were prescribed, of which rizatriptan accounted for most of the prescriptions (17.87% of all antimigraine products). Only 21.89% of triptans were generic equivalents. The number of products dispensed peaked in March 2020, after which a steady decline towards the end of the year was observed. This finding was different to that of previous studies.

CONCLUSIONS

Seasonal peaks were previously observed in the prescribing of migraine products, but the COVID-19 pandemic may have influenced the claims pattern in 2020. A study investigating migraine prescribing post-pandemic may be relevant to confirm the effect of lifestyle changes on migraine.

17

Web-Based Point Prevalence Survey of Antimicrobial Use and Quality Indicators at Raleigh Fitkin Memorial Hospital in Eswatini and the Implications

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BACKGROUND

Eswatini is located in Sub-Saharan Africa. There is limited knowledge regarding antimicrobial utilisation among public hospitals across Africa, which is a challenge with rising antimicrobial resistance rates.

OBJECTIVE

To undertake a point prevalence survey (PPS) at Raleigh Fitkin Memorial (RFM) Hospital, the leading regional hospital in Eswatini with the findings driving future programmes.

Presenting author underlined.

METHOD

PPS was undertaken at RFM using the Knack web-based application (App) to speed-up data collection, with antimicrobials categorised according to the World Health Organization Access, Watch, and Reserve classification. Each ward was surveyed in one day using patient files.
Results: Overall, 68 patient files in 12 wards were surveyed; 88.2% (60/68) received at least one antimicrobial. Prescribed antimicrobials were mainly from the Access group (69.9%), none from the Reserve group. Amoxicillin (24.5%) and ceftriaxone IV (21.6%) were the most prescribed antibiotics. Of concern was that antibiotics were prescribed empirically for all patients (100%) with most administered IV (88.3%; 91/103). In addition, there was no documented switch or stop dates for administered antibiotics or any patient culture or drug sensitivity results recorded. Alongside this, extended courses of antimicrobials were typically administered as part of prophylaxis for surgical patients (80%; 12/15) despite concerns.

CONCLUSION

There were considerable concerns with current antimicrobial use. Identified targets included reducing extended administration for surgical prophylaxis, encouraging earlier switching to oral antimicrobials and undertaking sensitivity testing. In addition, routinely documenting stop dates. The App appreciably reduced data collection times and analysis, and could potentially be used in other low- and middle-income countries.

POSTER PRESENTATIONS

Presenting author underlined.

19

Use of Preference-Based Measures in Studies Conducted in South Africa

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BACKGROUND
Generic preference-based measures (GPBMs) are patient reported outcome measures incorporating a health state classification system and preference weights for the health states. They are used by researchers, clinicians and health technology agencies to evaluate the clinical effects and cost-effectiveness of health interventions.

OBJECTIVE
To provide insights into GPBMs used in South Africa.

METHODS
A 2019 systematic review was updated in April 2021 using Medline, the Web of Science Core Collection, the South African SciELO collection and Sabinet's African Journals database. No time restrictions were applied but only English and Afrikaans language papers were included. Results were exported into Excel®, duplicates removed and screened by one reviewer. Only studies conducted in a South African setting using PBMs were included in the analysis, which was conducted in Excel® using descriptive statistics.

RESULTS
All 52 publications included (representing 42 studies) used the EQ-5D. The only other GPBM used in a South African setting was the HUI3 (one study). Instruments were administered mostly in adults (35 studies) and populations with chronic conditions (38 studies). Twenty-five studies were conducted in the Western Cape and most included multiple cultural groups using the validated isiXhosa and English versions of the EQ-5D (17 studies each). Only seven studies were randomised controlled trials.

CONCLUSION
Original and translated versions of two GPBMs were used in various South African settings and populations. The existing data potentially provide generalisable, real world data for clinical decisions and cost-effectiveness analysis. However, the use of other GPBMs in South Africa should be explored.

21

Lack of Knowledge of Hepatitis B Vaccine the Main Reason for Poor Vaccine Uptake Among Healthcare Workers Caring for the South African Elderly

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INTRODUCTION
A 3-dose hepatitis B vaccine (HepB) series is recommended for healthcare workers (HCWs) who continue to be at risk of nosocomial hepatitis B virus (HBV) infection due to poor vaccination rates. Data on reasons for HepB decision-making amongst HCWs caring for the elderly are limited. Consequently, a need to investigate and provide future guidance.

OBJECTIVES
To investigate HepB uptake and reasons for vaccination decision-making amongst HCWs caring for the South African elderly.

METHOD
Descriptive study using a self-administered structured questionnaire, conducted among 360 HCWs present on the day of data collection at 18 community health centres and 44 public and private sector old age homes. Data were captured using Microsoft Excel® and imported to Epi InfoTM 7 for descriptive statistical analysis. Ethics approval to conduct the study was obtained. All participants provided informed consent.

RESULTS
The response rate was 76.7% (276/360). Only 29.7% (82/276) were fully vaccinated while 70.3% (194/276) of the respondents were not vaccinated at all against HBV. The main reason for accepting HepB (90.2% [74/82]) was to protect themselves. For those who did not receive HepB, the main reason was lack of knowledge about HepB (63.4% [123/194]), while 35.1% (68/194) reported HepB stock-outs at their facilities.

CONCLUSIONS
HepB uptake by HCWs caring for the elderly was sub-optimal. Lack of knowledge about HepB and the non-availability of the vaccine were the main reasons for non-vaccination. Training for HCWs should underscore the importance, safety, effectiveness and acceptance of HepB.

22

Consumption of Methylphenidate and Atomoxetine in South Africa Using the ATC/DDD Methodology

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BACKGROUND
Attention Deficit Hyperactivity Disorder (ADHD) is a chronic psychiatric condition that has gained considerable interest over the last few decades. Treatment requires a combination of pharmacological and non-pharmacological interventions. In South Africa, methylphenidate and atomoxetine are primarily indicated for the pharmacological treatment of ADHD.

OBJECTIVES
To measure the consumption of methylphenidate and atomoxetine prescribe using the Anatomical Therapeutic Chemical/Defined Daily Dose (ATC/DDD) methodology in the South Africa.

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METHOD
The Intercontinental Marketing Service (IMS) database, was used to review the sales data from 2013 to 2016 of the key medication for ADHD, namely methylphenidate and atomoxetine to establish consumption trends in the South African private healthcare sector. All the available short- and long-acting methylphenidate containing products were included in the study.

RESULTS
In 2013, methylphenidate consumed compared to atomoxetine was 95.85% and 4.15%, respectively. The corresponding figures for 2016 were 96.40% and 3.60%, respectively, indicating a higher preference for the stimulant medication. In a previous study it was reported that the DDD/1000 inhabitants/day for South Africa during 1994-1996 was 0.12 DDDs/1000 inhabitants/day. Two decades later there has been at least a 10-fold increase in methylphenidate consumption based on the results from this study.

CONCLUSION
In South Africa methylphenidate is the preferred treatment for ADHD. Atomoxetine showed lower and consistent use over the study period. With the implementation of adult guidelines in 2017 for the private sector in South Africa, it is recommended that further studies on cost and consumption of methylphenidate and atomoxetine be conducted.

POSTER PRESENTATIONS

Presenting author underlined.

23

Assessment of Prescribing Practice and Prescription Errors and Legibility at the Health Center in a Semi-Urban Community in Bayelsa State, South-South, Nigeria

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BACKGROUND

It is important to routinely assess prescribing practice and prescription errors and legibility at health facilities in a bid to encourage rational drug use and improve outcomes of therapy.

OBJECTIVES

This study was aimed at assessing prescribing practice, prescription errors, and legibility of prescriptions at Amassoma Comprehensive Health Center, Bayelsa State, South-South, Nigeria.

METHODS

Total enumeration of appropriately documented 233 prescriptions of patients, who attended clinics at the study center from January 01 to December 31, 2020 was conducted. The prescriptions were assessed for errors and legibility. Also, prescribing practice at the center was assessed using selected WHO prescribing indicators. The SPSS v23.0 was employed for data analysis, and all data generated were presented in simple frequencies, percentages, and average values.

RESULTS

A total of 2392 prescription errors were encountered in the 233 prescriptions assessed, at 10.3 errors per prescription. Errors of omission related to drugs (1465, 61.2%) were the most observed, followed by errors of omission related to prescriber (623, 26.1%), and lastly, errors of commission (304, 12.7%). Only a quarter (58, 24.9%) of all prescriptions seen were clearly legible altogether. None of the selected prescribing indicators including average number of drugs prescribed per encounter (4.9), percentage of encounters with injections prescribed (57.9%), percentage of encounters with antibiotics prescribed (69.1%), and generic prescribing (70.2%) was within the referenced standards. Conclusion: Most of the prescriptions vetted were not completely legible, and they were fraught with errors. In all, prescribing practice at the study center was suboptimal.

24

Effectiveness of Post-Operative Pain Management Among Patients in a Surgical Ward at Windhoek Central Hospital in Namibia

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BACKGROUND

Effective management of post-operative pain improves patient outcomes and quality of life. This study aimed to assess effectiveness of post-operative pain management among patients in a surgical ward at Windhoek Central hospital in Namibia by comparing the proportion of patients with moderate to severe pain at 24 h and 48 hours post-operatively. A prospective cohort design was utilised. Data related to prescribing patterns were collected from patient's clinical records. Data were analysed using SPSS v22 software. The study was conducted among 75 participants. Of 75 participants, 48 (64.0%) were males. The mean age was 37.41± 11.13 years. Among the patients involved in the study, 74.7% experienced moderate to severe pain at 24 hours post-operatively which reduced to 41.3% by 48 hours. The difference was statistically significant. Overall, over 5% of the study participants experienced moderate to severe pain at 48 hours post-operatively compared to a UK target of less than 5%, showing inadequate management of pain. The cumulative median pain scores for visual analogue scale and numeric pain scale were 5.50 at 24 h and 2.00 at 48 h post-operatively. The difference in median pain scores was statistically significant ($p<0.05$). The commonly prescribed analgesics were paracetamol injection (68%), strong opioids (54%) and weak opioids (23%). Out of 75 clinical records reviewed, only 47 (62.7 %) followed WHO guidelines on pain management. There is a need to more frequently assess patient's level of pain after surgery. In conclusion, post-operative pain is inadequately controlled at WCH.

25

Availability, Price and Affordability of Selected Chronic Medications in Private Retail Pharmacies in Eswatini

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BACKGROUND

Chronic non-communicable diseases are increasing in Eswatini but have not received adequate attention. Persistent shortages of medicines in public health facilities in Eswatini results in patients purchasing their medicines from private retail pharmacies.

OBJECTIVES

To compare availability, prices and affordability of selected medicines in Eswatini private retail pharmacies.

METHODOLOGY

A cross-sectional study design adapted from World Health Organization/Health Action International (WHO/HAI) methodology was used. The survey was conducted in 39 private retail pharmacies across Eswatini, total population sampling, in 2020. Price and availability were collected for originator brand (OB) and lowest priced generic (LPG) equivalent of 46 medicines. Data analysis was conducted using the WHO/HAI Medicine Price Workbook. Affordability was determined using the daily income of the lowest paid unskilled government worker (LPGW).

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RESULTS

The mean availability of all surveyed medicines was 65.7% for LPGs and 24.1% for OBs. Individually owned pharmacies' mean availability was lower than corporate pharmacy chains. Prices for all medicines were on average 5 times higher than the Management Sciences for Health reference prices. OBs prices were 3.23 times higher than LPGs. When generics were used for management of hypertension, dyslipidemia, type 2 diabetes (oral medicines) and acute conditions, these were affordable when compared to the wages of the LPGW. Medication for diabetes (insulin), asthma and CNS conditions were unaffordable by the same metric.

CONCLUSION

High prices, low availability of medicines hinder access to treatment. There is need to improve access to affordable medicines for chronic non-communicable diseases, especially in rural areas.

POSTER PRESENTATIONS

Presenting author underlined.

26

Coronavirus Disease 2019 (COVID-19) Pandemic in Africa: Current Status of COVID-19 Vaccination

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BACKGROUND
Deployment of vaccines in December 2020 marked a significant step in the global response against the COVID-19 pandemic. Equitable access remains a major concern especially among resource constrained nations including Africa.

OBJECTIVE
To describe pertinent aspects of COVID-19 vaccination programs across African countries.

METHODS
Exploratory study to describe COVID-19 vaccines availability, coverage, access, acceptance, hesitancy, challenges and lessons learnt. Self-administered questionnaire completed by senior level academics, researchers and government officials across African countries. Descriptive analysis of data.

RESULTS
Participating countries to date: Botswana, Cameroon, Egypt, Eswatini, Ghana, Kenya, Malawi, Nigeria, South Africa, Sudan, Zambia and Zimbabwe. Vaccine roll-out commenced in March 2021 in most countries. Vaccination coverage (31 December 2021) varied from <3% in Nigeria to 44.99% in South Africa. Most vaccines were obtained through WHO COVAX agreements. Astra Zeneca and Pfizer vaccines are mostly available, followed by Moderna and Johnson & Johnson vaccines, and to a lesser extent Sinovac, Sputnik V and Sinopharm, largely from donations by multilateral agencies and wealthier nations. Priorities given to healthcare workers, adults with co-morbidities and other at-risk groups before extending to the general population. Few countries commenced vaccination among children and booster doses. Challenges identified include irregular supply and considerable vaccine hesitancy arising from misinformation distributed on social media.

CONCLUSION
Generally fair to good access to vaccination, enhanced by government initiatives. Supply challenges identified, underscore the need for improved health system capacity across countries, including local production to be better positioned for future pandemics. Vaccine hesitancy must be addressed with context-specific interventions.

28

Assessment of Knowledge on Utilization of Cosmetic Products and Their Adverse Events

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BACKGROUND
Cosmetics are substances used to enhance, protect the appearance or odour of the human body. Incidences of cosmetic products induced adverse events are increasing due to a lack of knowledge on the safety profiles of cosmetic and personal care products. Therefore, this study aimed to assess student's knowledge on the utilization of cosmetic products and their adverse events.

OBJECTIVES
To assess the students' knowledge on cosmetic product utilization and cosmetics-induced adverse events.
Methods : A facility-based cross-sectional study was conducted using a convenience sampling method among 160 pharmacy students. The pre-structured questionnaire and google forms were used to collect data from the study participants. The pattern of cosmetic utilization and its ACE were studied and analyzed using descriptive statistics and a chi-square test.

RESULTS
The cosmetics were categorized into skin, hair, and nail care cosmetics. A total of 175 ACE were reported from all three categories. ACE was mainly seen with shampoos, conditioner, face creams, and nail polish from respective categories, accounting for the majority of ACE like pimples, dryness, hair fall, dandruff, staining and dryness of nails. ACE was experienced by 55(34.37%) participants using skincare cosmetics products. 84(52.5%) participants experience ACE with haircare products, and 36(22.5%) participants experience ACE with Nailcare products.

CONCLUSION
A noteworthy percentage of the cosmetic consumers suffered from ACE. Awareness has to be created for cosmetics utilization practices to minimize ACE. Major ACE's was experienced among the haircare products followed by skincare cosmetics.

Presenting author underlined.

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Management of Acute Diarrhea in Children Among Community Pharmacies in Anambra State, Southeast Nigeria: A Simulated Patient Approach

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OBJECTIVE
This study aimed to evaluate the treatment of acute diarrhea among children under-5 in community pharmacies through a simulated patient approach in Anambra state, southeast Nigeria.

METHODS
The study was carried out among all 84 registered community pharmacies in the state. Six trained research assistants were dispatched in pairs to selected community pharmacies to collect relevant data on acute malaria management in children; including attitudes, knowledge, and practice of respondents. The research assistants mimicked clients with under-five children presenting with symptoms of acute diarrhea, recording their interactions without the knowledge of the pharmacists. Recorded interactions were transcribed and data were summarized with descriptive statistics and a Chi-square test of significance. Findings were compared to WHO-recommended standard treatment guidelines for acute diarrhea in children under-five.

RESULTS
Majority of the respondents 44(52.4%), were not compliant with the standard treatment guideline, in terms of drug use practice. Of the 45 community pharmacies in Onitsha, only 2(22.2%) were compliant with STG. Better compliance with STG was observed among the respondents in Awka, 7(77.8%). No compliance was recorded in Nnewi. The Chi-square test revealed a statistically significant association among the compliance of community Pharmacies in the three locations.

CONCLUSION
The management of acute diarrhea among children in community pharmacies in Anambra state does not conform to the WHO-recommended/standard guidelines, in spite of their significant knowledge of the protocols. The findings have implications for policy to improve practice given the burden of the disease and the significance of community pharmacy practice.

Presenting author underlined.

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Sub-Optimal Influenza Vaccine Uptake Amongst Student Healthcare Workers at a South African University

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BACKGROUND
Influenza vaccination is recommended for healthcare workers (HCWs), including student HCWs, due to increased risk of exposure to influenza in their work and learning environments. Data on influenza vaccine uptake among South African student HCWs is limited.

OBJECTIVES
To investigate influenza vaccine uptake and reasons for vaccination decisions amongst student HCWs in 2020.

METHODS
Descriptive study using an electronic self-administered structured questionnaire amongst final year health sciences students at a South African university. Data were captured using Microsoft Excel® and imported to IBM SPSS® Statistics descriptive statistical analysis. Ethics clearance was obtained and all participants provided informed consent.

RESULTS
Most respondents were female (61.9% [140/226]), Black African (94.7% [214/226]), from the School of Medicine (41.2% [93/226]), with mean age 23.9±3.7 years. Although 75.2% (170/226) of students knew that vaccination is the most effective strategy to prevent influenza, uptake was low (21.7% [49/226]; 2020 season). The main reason for accepting influenza vaccination was to protect themselves (67.3% [33/49]). Reasons for non-vaccination were related to vaccine hesitancy: 'Influenza is a mild disease and no need to be vaccinated' (28.8% [51/177]) and 'Do not believe in the influenza vaccine' (8.5% (15/177); lack of access: 'Did not get a chance to get the influenza vaccine' (25.4% [45/177]) and no information: 'Never heard of the influenza vaccine' (14.1% [25/177]).

CONCLUSIONS
Influenza vaccine uptake by student HCWs was low due to vaccine hesitancy related reasons, lack of access and no information. Education about, and access to influenza vaccination for student HCWs must be strengthened.

POSTER PRESENTATIONS

Presenting author underlined.

32

Antimicrobial Stewardship for Outpatients with Chronic Bone and Joint Infections in the Orthopaedic Clinic of an Academic Tertiary Hospital

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BACKGROUND
Bone and joint infections are difficult to treat. They require antimicrobial therapy, sometimes outside our local guidelines, at high doses for a prolonged duration. Patient adherence, counselling and knowledge of condition and medication are crucial to reach the desired outcomes. Therefore, the aim of the study was to provide antimicrobial stewardship (AMS) services to the orthopaedic clinic at an academic tertiary hospital.

METHODS
This was a quantitative, prospective and interventional study conducted over a period of four months. A demographics and clinical data form was used to collect baseline and treatment information. An Adherence to Refills and Medications Scale (ARMS) scale was used to assess patients' adherence and a checklist was used to assess knowledge on condition and medication.

RESULTS
A total of 44 patients participated in the study with 71 antibiotics prescribed. 96% of the antibiotics were not prescribed according to the South African Standard Treatment Guidelines and Essential Medicine List (STG/EML), however interventions were only needed in 31% (n=71). At baseline, 77% of the patients (n=44) obtained a high self-reported adherence score with 23% (n=44) obtaining a medium adherence score. Of the 44 patients, 57% didn't know their condition and 43% didn't know the purpose of the medication prescribed, indicating a lack of knowledge thereof.

CONCLUSION
After pharmacist interventions, an improvement in adherence and knowledge was observed in patients that returned for follow up and antibiotic prescribing trends significantly improved.

Presenting author underlined.

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Indirect Costs of Haemodialysis Versus Peritoneal Dialysis From a Patient's Perspective for the Management of End Stage Renal Disease at a Tertiary Hospital in Gauteng

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BACKGROUND & OBJECTIVES
Dialysis is the initial treatment for End Stage Renal Disease (ESRD) in South Africa (SA). There is a lack of knowledge within the SA health care sector on the different costs associated with ESRD. This study aimed to compare the indirect costs associated with haemodialysis (HD) and peritoneal dialysis (PD) at a tertiary hospital in Gauteng from the patient's perspective.

METHODS
A cross-sectional prospective study using face-to-face interviews was carried out amongst all adult ESRD patients who have received HD or PD for at least three months. Socio-demographic data were collected and the human capital approach was used to calculate productivity losses. Data were captured using Microsoft Excel®, cleaned, then imported to IBM SPSS® Statistics for Windows V25.0. for descriptive statistical analysis. Ethics approval to conduct the study was obtained. All participants provided informed consent.

RESULTS
54 patients were interviewed, 28 were on HD and 26 were on PD. HD patients incurred greater productivity losses per annum (R132987.02) compared to PD patients (R55065.43), the difference was statistically significant (P= 0.000). Time spent on dialysis was the biggest contributor of productivity loss for both HD and PD. More HD patients (96.4%) were unemployed compared to PD patients (76.9%).

CONCLUSION
HD patients incur greater indirect costs compared to PD patients. It is therefore advisable for policy makers to create an enabling environment for the use of PD as a preferred dialysis method and focus on preventing ESRD by controlling other conditions that may lead to renal failure.

POSTER PRESENTATIONS

Presenting author underlined.

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Awareness and Acceptance of Covid-19 Vaccines and Associated Factors Among Pharmacy Students in Zambia

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BACKGROUND
Several vaccines have been developed and administered since coronavirus disease 2019 (COVID-19) was declared a pandemic in March 2020. In April 2021, the authorities in Zambia administered the first doses of the Oxford-AstraZeneca® COVID-19 vaccine.

OBJECTIVE
To assess the awareness and acceptance of COVID-19 vaccines and associated factors among pharmacy students in Zambia.

METHODS
A cross-sectional study among 326 undergraduate pharmacy students in Lusaka, Zambia, from February through to 25 April 2021. Data were analysed using Stata version 16.1. Multivariable logistic regression was used to determine factors influencing vaccine acceptance.

RESULTS
Of the 326 participants, 98.8% were aware of the COVID-19 vaccines, but only 24.5% would accept vaccination. Being of Christian faith was associated with reduced odds of awareness of the COVID-19 vaccine (aOR=0.01; 95% CI: 0.01-0.20). Compared to females, male respondents were 86% more likely to accept the vaccine if it was made available (aOR=1.86; 95% CI: 1.10-3.14). Unmarried compared to married respondents were 2.65 times as likely to accept vaccination (aOR=2.65; 95% CI: 1.06-6.63) whilst unemployed respondents were less likely to accept vaccination (aOR=0.32; 95% CI: 0.16-0.46). Barriers to the acceptability of the vaccine were possible side effects (78.5%) and scepticism about its effectiveness to prevent COVID-19 (10.2%).

CONCLUSION
There was significant vaccine hesitancy toward COVID-19 vaccines among Zambian pharmacy students despite their awareness of the vaccines. Health authorities must work collaboratively with training institutions to mitigate vaccine hesitancy, especially with healthcare students being a key part of the future healthcare workforce overseeing disease prevention strategies.

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Awareness of Antimicrobial Resistance and Associated Factors among Layer Poultry Farmers in Zambia: Implications for Surveillance and Antimicrobial Stewardship Programs

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BACKGROUND
Antimicrobial resistance (AMR) is a global public health problem affecting animal and human medicine. Poultry production is among the primary sources of income for many Zambians. However, the increased demand for poultry products has led to a subsequent increase in antimicrobial use.

OBJECTIVE
This study assessed the awareness of AMR and associated factors among layer poultry farmers in Zambia.

METHODS
A cross-sectional study was conducted among 77 participants from September 2020 to April 2021. Data were analysed using Stata version 16.1.

RESULTS
The overall awareness of AMR among the farmers was 47% (n = 36). The usage of antibiotics in layer poultry production was high at 86% (n = 66). Most antibiotics were accessed from agrovets (31%, n = 24) and pharmacies (21%, n = 16) without prescriptions. Commercial farmers were more likely to be aware of AMR compared to medium-scale farmers (OR = 14.07, 95% CI: 2.09–94.70), as were farmers who used prescriptions to access antibiotics compared to those who did not (OR = 99.66, 95% CI: 7.14–1391.65), and farmers who did not treat market-ready birds with antibiotics compared to those who did (OR = 41.92, 95% CI: 1.26–1396.36).

CONCLUSION
The awareness of AMR among some layer farmers was low. Therefore, policies that promote the rational use of antibiotics need to be implemented together with heightened surveillance activities aimed at curbing AMR.

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Prevalence and Factors Associated with Covid-19 Vaccine Acceptance in Zambia: A Web-Based Cross-Sectional Study

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BACKGROUND
Vaccinations against COVID-19 have been instituted to contain the pandemic. However, information about the acceptability of COVID-19 vaccines in Zambia is lacking. Therefore, the study assessed the prevalence and factors associated with COVID-19 vaccine acceptance among the general population in Zambia.

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METHODS
This was an online questionnaire-based cross-sectional study conducted from 13th April to 21st May 2021. We included adult Zambians who had access to Facebook and WhatsApp. A multivariable logistic regression model was fitted to determine factors influencing vaccine acceptability. Data were analysed using Stata version 16.1.

RESULTS
Of the 677 participants, only 33.4% (n = 226) would accept the vaccine if made available to them. In multivariable regression analysis, respondents who were older than 41 years compared to the 18 to 23 years age group (aOR: 2.77, 95% CI: 1.03-7.48), those who agreed (aOR; 22.85, 95% CI: 11.49-45.49) or did not know (aOR; 3.73, 95% CI: 2.29-6.07) compared to those who disagreed that the COVID-19 vaccine passed through all the necessary stages to ensure its safety and effectiveness, and those who were aware (aOR; 11.13, 95% CI: 5.31-23.35) compared to those who were not aware that the COVID-19 vaccine reduces virus transmission, were more likely to accept the vaccine. Conversely, entrepreneurs compared to government employees (aOR; 0.24, 95% CI: 0.07-0.79) were less likely to accept vaccination.

CONCLUSION
Awareness of the COVID-19 vaccine was high despite low acceptability levels. These findings are significant as they highlight the need to develop strategies for improving vaccine acceptability in Zambia.

POSTER PRESENTATIONS

Presenting author underlined.

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Multicentre Point Prevalence Survey Regarding Antimicrobial Use Among Community Healthcare Centres Across South Africa

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BACKGROUND
A considerable proportion of antibiotics globally are consumed in ambulatory care especially among low- and middle-income countries; however, there are appreciable knowledge gaps regarding the extent and rationale for their use especially among African countries. Objective: Undertake a point prevalent survey (PPS) among community health centres (CHCs) in South Africa (SA) to address this.

METHODS
A PPS was undertaken among patients attending 18 randomly selected CHCs in South Africa (2 from each Province). A newly developed web-based application was used to record antibiotic utilisation data given the time taken with paper-based systems, with utilisation assessed against South African and WHO (AWaRe list) guidelines.

RESULTS
The prevalence of antimicrobial use was 21.5% (420 of 1958 patients), which included one or more antimicrobials per patient. Amoxicillin (32.9%), isoniazide (11.3%) and a combination of rifampicin, isoniazid, pyrazinamide and ethambutol (Rifafour®) (10.5%) were the most frequently prescribed antibiotics. Encouragingly, most antimicrobials were from the WHO Access list (62.1%) with only 15.0% from the Watch List and none from the Reserve list; however, 22.8% were unclassified. There was high adherence to the SA standard treatment guidelines (93.4%). Ear, nose and throat infections were the most common (22.8%), with no culture results recorded in patients' files.

CONCLUSIONS
Encouraging to see high adherence to SA guidelines, with the majority from the WHO Access list. However, concerns with appreciable prescribing of antimicrobials for upper respiratory tract infections and lack of sensitivity testing. Antimicrobial stewardship programmes can help address identified concerns and we will be following this up.

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Point Prevalence Survey of Antibiotic Use at Kirinyaga County Hospitals

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BACKGROUND
Antibiotics are useful in treating and managing infections in patients. Antibiotic use varies from one medical practitioner to another, infections, patients, wards, countries and regions. Understanding antibiotic use patterns inform strategies to curb antimicrobial resistance.

OBJECTIVE
To describe antibiotic use patterns in Kirinyaga County hospitals.

METHODOLOGY
The study was a point prevalence survey of antibiotics use among patients admitted to four district public hospitals in Kirinyaga county, Kenya, in peri-urban centres. The study utilized the World Health Organization methodology. Data were abstracted from patients' files of patients who consented using a pretested tool in Open Data Kit collect™. The data was exported to MS Excel for cleaning and analyzed descriptively using Stata 14™.

RESULTS
The prevalence of antibiotic use in the four hospitals in Kirinyaga county was 44.0% (95%CI, 38.6-49.5%). All antibiotics were prescribed empirically. Penicillins were the most prescribed antibiotic class at 29.1%, followed by cephalosporins at 23.0%. Ceftriaxone and metronidazole were the highest prescribed at 22.0% and 19.8%, respectively. Antibiotics were mainly prescribed for community-acquired infections at 58.2%, followed by surgical prophylaxis at 26.0%. Most patients (52.5%) received two antibiotics, predominantly benzylpenicillin and gentamicin, at 40.3%. The majority, 63.0%, of all antibiotics were administered parenterally.

CONCLUSION
There was a relatively high prevalence of antibiotic use, all prescribed empirically. Community-acquired infections were the most common indication for antibiotics. There was extensive use World Health Organization's "watch" category of antibiotics without microbiological tests. There is a need for laboratory support to guide antibiotic use.

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Challenges in Lipid Profile Management in Dyslipidemia Patients: Healthcare Professional Perspective

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BACKGROUND
Management of dyslipidemia is important to reduce cardiovascular diseases. Despite knowing, this fact only 17 – 35 % of patients with dyslipidemia receive diet or drug therapy.

OBJECTIVE
To identify the challenges in lipid profile management in dyslipidemia patients among health care professionals.

METHODS
A cross-sectional study was conducted for three months in a tertiary care teaching hospital. Participants who were eligible were enrolled after taking written informed consent. The questionnaire (tool) was prepared after a thorough review of the literature and then validated by physicians, academic pharmacists, and clinical pharmacists.

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RESULTS
Out of 101 participants, 59 were physicians, 40 were Pharm. D interns and 2 were working clinical pharmacists. Only 15 out of 40 physicians have attended seminars or continuing medical education on the management of dyslipidemia in the past year. It is surprising that only 38.61% (39) of healthcare professionals surveyed know about the Lipid association of India expert consensus statement on the management of dyslipidemia in Indians. Patient forgetfulness (66.67%) followed by the low education level of the patient (61.90%), High cost of the drugs (42.86%), and side effects of the treatment (42.86%) are the common reasons for non-compliance to the dyslipidemia therapy as reported by healthcare professionals.

CONCLUSION
Patient-related factors contribute to major challenges in the management of dyslipidemia. Future studies should focus on strategies to tackle patient-related factors to overcome the challenges in dyslipidemia management.



POSTER PRESENTATIONS

Presenting author underlined.

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Comparison of Three Levels of Ascertainment of Antenatal Medication Use at Gugulethu Midwife Obstetric Unit

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BACKGROUND
Antenatal medicine use is common but owing to the historical exclusion of pregnant women from clinical pharmaceutical trials, safety assessments depend on post-marketing observational studies. It is therefore necessary to establish reliable methods to determine antenatal medicine exposures.

OBJECTIVES
We compared three methods of ascertainment of antenatal medicine use (self-report, clinician records and electronic pharmacy dispensing records [EDR]) to determine the optimal method for different medicine types.

METHODS
Data were collected for a cohort of women attending antenatal care at a primary care facility in Cape Town, South Africa (2016-2018) using the three methods and coded using ATC Classification. We assessed agreement using Cohen's Kappa. We used Latent Class Analysis to estimate the sensitivity, specificity and positive predictive value (PPV) for each data source.

RESULTS
Up to 89% of 967 women had any medicine use documented depending on the data source. Kappa agreement was poor throughout (except for HIV treatments; kappa 0.6 – 0.71) with no source reflecting all medicine use. Self-report was best for over-the-counter, traditional and complementary medicines; clinician records for vaccines and supplements; and EDR for chronic medicines. Agreement was better between the EDR and self-report than with either dataset and the clinician records. Self-report and the EDR demonstrated the highest sensitivity and PPV.

CONCLUSIONS
Medicine use was common. Agreement between three data sources was poor and depended on medicine class. This study suggests that sources should be combined to ensure accurate antenatal medicine exposure data, although this will have cost implications.

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The Impact and Influence of Parental Knowledge and Beliefs Regarding HPV Vaccine Hesitancy in Kenya and the Implications

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BACKGROUND
The human papillomavirus (HPV) vaccine is effective in preventing cervical cancer. However, parents have concerns about vaccinating their daughters at an early age leading to HPV vaccine hesitancy.

OBJECTIVE
Identify the prevalence and risk factors regarding HPV vaccination hesitancy among parents in Kenya.

METHODS
Descriptive cross-sectional study was undertaken among parents of pre-adolescent children attending Kenyatta National Hospital in 2020. Data on sociodemographic traits, HPV knowledge, beliefs and hesitancy were collected using an administered questionnaire.

RESULTS
Out of 195 participants, 183 (93.5%) were aged above 30 years. Thirty four (46.4%) of the male respondents and 39 (35.1%) of the females did not know that the vaccine is given to prevent HPV infection. Generally, the level of vaccine acceptance was high at 90% (n=175) although males had lower knowledge levels. 37.9% of the respondents had a negative perception about the effectiveness of the vaccine. Vaccine hesitancy was attributed to safety concerns (76%) and a feeling the child is too young (48%). Positive beliefs (aOR 2.395, 95% CI: 1.604, 3.577) and knowledge score (aOR 1.133, 95% CI: 1.050, 1.227) were positively associated with parental willingness to vaccinate their children. There was a negative association between parental low level of education, younger age among females and the willingness to vaccinate. Beliefs were positively influenced by knowledge. Many parents (59%) would consult their daughters before vaccination, and 77% recommended adolescents' early sex education.

CONCLUSION
Despite the low levels of knowledge and safety concerns, there was high parental willingness to have their children vaccinated.

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Comparative Glycemic Control in Adult Patients with Type 2 Diabetes on Herbal Versus Conventional Blood Glucose Lowering Medicines in Nairobi, Kenya

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BACKGROUND
Herbal medicines use is common in patients with chronic diseases including type 2 diabetes. The burden of daily self-management practices, cost and adverse effects of conventional antidiabetics may impact adherence, leading to increased herbal medicine use. There is paucity of data comparing glycemic control in conventional versus herbal use patients.

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OBJECTIVE
To assess and compare glycemic control in patients with type 2 diabetes on treatment with conventional versus herbal medication.

METHODS
A cross-sectional study was conducted at the outpatient diabetes clinics at Kenyatta National Hospital (KNH) and a private herbal clinic between March 2019 and December 2021.Glycated hemoglobin (HbA1c) was used as a measure of glycemic control. Ethical approval was obtained from the Kenyatta National Hospital- University of Nairobi Research and Ethics Committee. Descriptive and inferential data analysis was performed using IBM-SPSS package (SPSS 26.0, Chicago, IL).

RESULTS
Eighty patients on conventional treatment at KNH and 37 patients from a private herbal clinic were enrolled in the study. The mean age of the participants on conventional medicine was higher (62.3± 13.9 years) compared to those on herbal medicine (55.95 ±13.98 years). Patients treated at the herbal clinic had higher mean HbA1c (8.338±1.9708) compared to those at KNH (7.397± 1.9168) (p=0.435). Factors associated with glycemic control were owning a glucometer (p=0.014), frequent self-monitoring of blood glucose (p=0.013) and regular HbA1c monitoring (p=0.010).

CONCLUSION
Glycemic control was poorer in patients on herbal medicines. Regular blood glucose monitoring was associated with better glycemic control, necessitating patient education on the same.

POSTER PRESENTATIONS

Presenting author underlined.

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The Impact of Covid-19 Pandemic on Tuberculosis Patient Care and Uptake of Services at Kenyatta National Hospital

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BACKGROUND
The COVID-19 pandemic and associated lockdowns and movement restrictions heavily impacted access to healthcare worldwide including outpatient TB services. This could potentially reverse the gains made in TB treatment especially in sub-Saharan Africa.

OBJECTIVES
To explore the patient and healthcare facility factors that impacted the provision TB care, among patients attending the TB clinic at Kenyatta National Hospital (KNH).

METHODOLOGY
A cross sectional study was conducted. Adult TB patients who visited the KNH TB Clinic between March 2020 and June 2021 were interviewed, either as they attended clinics or through phone calls. The data was analyzed descriptively. Approval to conduct the study was sought from the KNH/UoN Ethics and Review Committee.

RESULTS
Eighty four patients were recruited, out of which 52.4%, n=44 were female. There was an overall 34.8% (n=29) reduction in the number of new patients initiated on therapy from the onset of the pandemic. 83.3% (n=70) of patients reported visiting the clinic as scheduled, though 44% (n=37) reported delayed visits due to the travel bans and lockdowns, and 57.1% (n=48) reported feelings of anxiety for fear of contracting or being tested for COVID-19. 9.6% (n=8) reported a shortage in TB medication during the pandemic. 92.9% were financially affected by COVID-19, though this did not impact TB treatment access.

CONCLUSION
Most patients (83.3%) were able to access TB care during the pandemic. Fear, stigma and financial effects impacted on health seeking behaviour. The TB clinic model can be adopted to maintain continuity of service in future pandemics.

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Dispensing Patterns of Antithrombotic Agents in South Africa During the First Year of the Sars-Cov-2 Pandemic: A Database Analysis

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BACKGROUND
South Africa reported an index case of SARS-COV-2 on 5 March 2020, with cases reaching 1518979 within the first 12 months. SARS-COV-2 is associated with frequent venous thromboembolic events, notably in patients with severe COVID. The impact on the prescribing patterns of antithrombotic agents is of particular interest.

OBJECTIVES
To determine the prescribing trends of antithrombotic agents during the first year of the pandemic in South Africa. Preliminary comparison is made with prescribing trends of the same agents in the previous year.

METHODS
Data was obtained from a South African medical aid administrator for 2020 for a retrospective, cross-sectional drug utilisation study. It represents a sample of patients in the private health care sector. De-identified records for antithrombotic agents (ATC group B01A), prescribed for various medical conditions, were analysed. No diagnoses were available. Data was analysed using Microsoft Excel®.

RESULTS
A total of 8427 patients (57.32% males) were dispensed 48960 products in ATC group B01A. The median patient age was 51.91 (SD=14.71) years. Prescribing in the ancestral wave peaked mid-2020. Platelet aggregation inhibitors (B01AC) were the most frequently prescribed (60.84% of all products), followed by the heparin group (B01AB, 28.81%). Acetylsalicylic acid (B01AC06) was the most commonly prescribed active ingredient, similar to the pre-SARS-COV-2 trend. This is followed by enoxaparin (B01AB05). A proportional increase in prescription from the heparin group, compared to 2019, is evident.

CONCLUSION
The high risk for thrombotic complications in SARS-CoV-2 infections were reflected in antithrombotic agent dispensing patterns during the first year of the pandemic.

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Impact of Covid-19 Pandemic on Utilization of Cancer Chemotherapy Services by Patients Attending a National Referral Hospital In Kenya

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BACKGROUND
Strategies instituted by governments and healthcare institutions to combat the COVID 19 pandemic impacted negatively on healthcare delivery, especially chronic illnesses and cancer. Evidence regarding changes in chemotherapy utilization among cancer patients during COVID-19 in Kenya is limited. We sought to identify changes in chemotherapy utilization before and during COVID-19, and its determinants.

METHODOLOGY
The study was conducted at the Kenyatta National Hospital outpatient cancer centre, targeting adults on chemotherapy, who were randomly sampled and interviewed. Logistic regression was conducted to determine the variables that were independent predictors of chemotherapy utilization. A time series analysis of the chemotherapy attendance records from January 2019- December 2020 was done. The average quarterly scores were analyzed using an interrupted generalized linear regression analysis using R software. xiii

RESULTS
Among the 241 participants recruited, 36(14.9%) had missed at least one scheduled chemotherapy appointment. Independent risk factors for missed appointments were hike in fares AOR 4.56, (95% CI:1.35;15.47; p=0.015), rescheduled appointments AOR 7.84, (95% CI:2.66;23.08; p<0.001), comorbidity AOR 2.46, (95% CI:1.05;5.75;p=0.038), marital status AOR 6.31, (95% CI:1.36;29.23;p=0.019), and difficulty in getting an appointment AOR 31.50, (95% CI:4.32;229.70;p=0.001). Notably, the chemotherapy attendance was already on a decline in 2019 even before Covid-19 began, however, a distinct decrease was observed in 2020 when the restrictions were put in place with a significant beta of -21.7(8.2).

CONCLUSION
A significant proportion of patients missed at least one scheduled appointment. Effective strategies should be formulated to ensure continuity of services to cancer patients in future pandemics.

Presenting author underlined.

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Signal Substantiation for Ritonavir Induced Hypospadias by Target Gene Identification and Insilco Approach

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BACKGROUND
Hypospadias is a congenital condition that occurs among infants leading to deformity in the external genitalia. It is known to be caused by different classes of drugs like antivirals, anticonvulsants, anti-depressants, antibiotics etc. Among antivirals, ritonavir has a novel signal to cause hypospadias.

OBJECTIVE
The current study focuses on a bioinformatics approach to identify the target genes for hypospadias and signal detection for ritonavir by cystoscope with literature derived sources like NCBI, PUBMED and huge navigator and to establish relation between ritonavir and genes.

METHODS
Differentially expressed genes (DEGs) were extracted from NCBI, literature search and huge navigator and subjected for protein-protein interactions in cystoscope. DEG analysis resulted in 6 hub genes specific to hypospadias which displayed high node degree interactions with the literature derived genes of hypospadias and docking studies of proteins related those gene was done by using autodock vina.

RESULTS
Docking studies revealed that AR containing gene 3FYW exhibited high docking score of -9.1 and CTNNB1 containing gene 5IVN showed docking score of -6.0 indicating the possibility of hypospadias with ritonavir.

CONCLUSION
This study revealed a novel adverse event of ritonavir through systematic approach. The research finding generates safety alerts to the clinicians for further monitoring in the antiretroviral therapy among the pregnant females to avoid congenital anomalies in infants.

POSTER PRESENTATIONS

Presenting author underlined.

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A Bio-Informatics Approach to Identify the Target Genes for Lopinavir Induced Hypospadias

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BACKGROUND
Lopinavir is a protease inhibitor used in antiretroviral therapy. The drug was reported to cause multiple adverse reactions like nausea, diarrhoea, depressed immune system and congenital abnormalities.

OBJECTIVE
The current study focuses on a bioinformatics approach to identify the target genes for hypospadias and signal detection for lopinavir by using cytoscape with literature derived sources like NCBI, PUBMED and huge navigator and to establish a relation between lopinavir and genes.

METHODS
Differentially expressed genes (DEGs) extracted from NCBI, literature search and huge navigator were subjected to protein-protein interactions in cytoscape. DEG analysis resulted in 17 hub genes specific to hypospadias which displayed high node degree of interactions with the literature derived genes of hypospadias and docking studies of proteins related to those gene was done by using autodock vina.

RESULTS
Docking studies revealed that AR target protein exhibits high docking score of -9.8 and ctnnb1 containing gene 5IVN showed lowest docking score of -6.1 indicated that lopinavir might cause hypospadias. The genes identified such as SOX 9, AR, SRDSA2, CYP19A1 and ER1showed significant associations based on the biological pathways to cause hypospadias.

CONCLUSION
The association identified provides a new signal to the healthcare providers in the usage of lopinavir regimen in antiretroviral therapy for pregnant women.

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Determinants of Empirical Use of Antibiotics by General Practitioners in eThekwini District: A Cross-Sectional Observational Study

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BACKGROUND
Factors influencing GPs antibiotics prescribing patterns in the private sector can be divided into, prescriber's, patient, and environmental factors.

OBJECTIVE
To determine factors associated with antibiotics prescribing patterns of GPs in eThekwini district, KwaZulu Natal, South Africa.

METHODS
An observational, analytic, cross-sectional study was conducted amongst GPs in eThekwini district in the private sector. The participants were selected by convenience sampling. Of the 366 doctors invited to participate, a total of 359 doctors viewed the survey and the total response was 243. A total of 209 were included in the study as 34 of the self-completed questionnaires were incomplete. Outcomes measured: Prescribers, patient, and environmental factors (independent variables) and empirical use of antibiotics (dependent variable). Descriptive statistics were used to summarize categorical and numerical variables. Multivariate regression was used to test associations between prescriber's/patient/environmental factors and empirical use of antibiotics.

RESULTS
Socio-demographic factors that were associated with empirical use of antibiotics amongst GPs in eThekwini districts were gender, years in practice and type of practice. Statistically significant, prescribers/environmental factors that were found to have increased odds of prescribing antibiotics empirically were: To prevent serious complications, Diagnostic uncertainty, Workload/Time pressure, Medical aid formulary. Prescriber/environmental factors that were found to be less likely to influence empiric prescribing of antibiotics and were statistically significant were: International conference and lack of antibiotics prescribing guidelines.

CONCLUSION
Knowledge is not associated with empirical antibiotic usage; however patient and environmental factors are more likely associated with empirical antibiotic usage.

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Treatment of Conditions in Urban and Rural Areas of South Africa by Primary Care Drug Therapy (PCDT) Pharmacists

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BACKGROUND
The Primary Care Drug Therapy (PCDT) qualification is part of the supplementary training registered for pharmacists in South Africa. Approximately 2% of pharmacists in South Africa have completed the postgraduate PCDT qualification. Despite the fact that this qualification has been in existence since 1993, very little has been published about the patients they treat in South Africa.

RESEARCH DESIGN & METHODOLOGY
An online questionnaire survey was conducted under 363 pharmacists during January and February 2021 (response rate of 21%). The sample consisted of all PCDT qualified and registered pharmacists in the country.

RESULTS
Most PCDT pharmacists were practicing in urban settings (55%) while more than 30% were practicing in rural settings. The remainder practiced in both settings. Family planning, urological conditions and sexually transmitted infections were most frequently consulted and treated in urban areas, whilst gastro-intestinal conditions as well as ear, nose and throat ailments, were more common in rural areas. PCDT pharmacists in the Western Cape indicated that family planning was most often consulted, and the Eastern Cape showed relative high incidence of gastro-intestinal conditions.

CONCLUSIONS
Conditions treated in the urban areas of South Africa may be a linked to a certain behavioural "norm" with increased interest in polygamous sexual relationships and a westernised approach to life. Gastro-intestinal conditions could be more prevalent due to sanitation issues as well as the quality of drinking water available in the rural areas of South Africa. Further studies are required on the role of the PCDT pharmacist in South Africa.

Presenting author underlined.

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Adverse Drug Events in Africa – Systematic Review

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BACKGROUND
Adverse drug events (ADE) impedes developments made in the healthcare system in Africa and it is one of the predominant burdens the healthcare system faces. This study's objective was to systematically review published studies on adverse drug events and summarize the extent of ADE incidence in African settings. Studies published between 2000 and November 2021 were collated from four electronic databases, namely Pubmed, EBSCO, Science Direct, and Web of Science. Included studies investigated the incidence and nature of ADE in any patient population who were hospitalized as a result of ADE, developed ADE during admission, ADE in community settings, or Out-patient settings in Africa. Studies that investigated ADE caused by disease conditions or drug(s) were considered as specific in the study. 45 articles met our inclusion criteria out of 3770 articles identified. The studies were carried out in 10 African countries. Twenty-two studies were conducted in general patient population while the remaining twenty-three were conducted in specific patient populations. The overall median (interquartile range) percentage of patients that experienced ADE was found to be 14.1% (27.7-5.7 %). The median incidence of ADE in general patient population was 10.7% (19.2-7.05) and 19.3% (40.8-5.6) in specific patients' population. Both hospital and community settings in Africa have a high incidence of adverse drug events with a huge impact on the healthcare system. Thus, setting up and implementing functional pharmacovigilance systems in Africa to lessen the burden of ADE should be an utmost priority.

POSTER PRESENTATIONS

Presenting author underlined.

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Pharmacists' Voices Amidst A Pandemic – Are We Listening?

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BACKGROUND
During the worldwide state of emergency due to COVID-19, strict isolation and the closure of non-essential businesses became the norm. However, essential services provided in hospitals, emergency medical services and community pharmacies remained open in their fight against the pandemic. Pharmacists and their staff are often regarded as most accessible, and amidst this pandemic, they are valued as frontline workers. One will therefore never be able to fathom the psychological impact COVID-19, at its peak, may have had on the mental health of these professionals.

OBJECTIVES
To explore the thoughts and feelings of community pharmacists to determine whether COVID-19 has had an impact on their mental health and wellbeing.

METHODS
A narrative literature review was conducted to provide an overview of the commentaries of community pharmacists. The focus was on grey literature sources such as working reports, discussion forums, interviews, newspaper articles and forms of social media. Only grey literature in an online environment relevant to the pandemic was included.

RESULTS
Themes were identified to describe any impact the pandemic may have had on the mental health and wellbeing of community pharmacists. Relevant excerpts from the literature corroborated the themes.

CONCLUSIONS
Although grey literature is regarded as not being of quality and lacking longevity, its uniqueness and currency makes it invaluable in achieving the aim of this study. It is of utmost importance to give a voice to the plight of community pharmacists during their response efforts as frontline health care workers.

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Cost Utility and Budget Impact Analysis of 5-Fluorouracil and Capecitabine Based Regimens for Management of Colorectal Cancer at Kenyatta National Hospital, Kenya

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BACKGROUND
The cost of managing CRC poses a financial burden to the patients and the society due to the high costs involved.

OBJECTIVES
The objective of the study was to compare the cost-effectiveness of 5-fluorouracil and capecitabine-based regimens for management of colorectal cancer in KNH. In addition, a budget impact analysis (BIA) of the adoption of capecitabine based regimen was conducted.

METHODS
A retrospective cohort study was conducted to identify the key resources used in managing colorectal cancer and its complications. Key informant interview was carried out amongst the key officers to collect information on cost of procuring drugs and other resources used for management of colorectal and its complications. Cost utility analysis was conducted using the markov decision model. The study was conducted from a provider perspective. Effectiveness data was derived from literature. A BIA was conducted to assess the cost impact of the adoption of capecitabine-based regimen on the KNH budget. The R version 3.6.0, "heemod" package was used for costing and sensitivity analysis.

RESULTS
Fluorouracil- based regimen was the most expensive. Capecitabine-based was found to be the most cost-effective regimen with an incremental cost effectiveness ratio (ICER) of Ksh.-38632.74 per quality adjusted life years (QALY) gained. The ICER was negative for Capecitabine-based due to the lower cost and more QALY gained. The results show that the use of Capecitabine-based for managing colorectal cancer is cost saving. The impact of adopting Capecitabine-based on the KNH annual budget and medicines budget over 5 years ranged between 2.27% to 2.90%.

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Estimating the Cost of Adverse Events Following Immunization of Measles Rubella Vaccine in a Mass Vaccination Campaign in Eastern Uganda

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BACKGROUND
Evidence about the economic cost of Adverse Events Following Immunization (AEFI) of Measles Rubella (MR) vaccine is unavailable in Uganda. We estimated the cost of management of AEFI of MR vaccine from a societal perspective in Iganga, Eastern Uganda.

METHODS
We nested an incidence-based cost-of-illness study in an ongoing cohort of 9,798 children vaccinated within the Iganga-Mayuge Health Demography Surveillance Site (IMHDSS). A follow-up visits of 382 children were made following signals generated. Caregivers of children with AEFI of MR were interviewed on day one, 2-3, 10 and 14 days after vaccination to help collect non-institutional costs. Costs were discounted accordingly. Human capital approach was used for indirect costs.

Presenting author underlined.

RESULTS
Caregivers with children in inpatient care experienced significantly higher direct costs compared to those in outpatient care (2019 US$ 22.1 compared with US$ 2.6, $p<0.01$). There was no significant difference in indirect costs. Caregivers with severe AEFI were fewer (4.8%) compared to those that had children with mild (76.2%) and moderate (19.0%) AEFI. Caregivers with mild AEFI spent significantly lower direct and indirect costs. Longer lengths of stay (1 days or more) meant higher direct and indirect costs. There was no significant difference in costs for caregivers that spent less than a day and those who spent more one day.

CONCLUSION
This study estimated the costs of AEFI of MR vaccine to reflect the societal burden in a mass vaccination campaign in a low-income country; which generated key information for decision makers and policy for vaccine pharmacovigilance programing.

POSTER PRESENTATIONS

Presenting author underlined.

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Poor Practices When Using the Stock Visibility System Despite Good Knowledge and Positive Attitudes Amongst Healthcare Professionals in the Umgungundlovu Health District of Kwazulu-Natal

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BACKGROUND
The Stock Visibility System (SVS) is a mobile application and web-based management tool used at public primary health care (PHC) facilities to capture and monitor medicine availability. There exists a high number of medicine stock-outs in the uMgungundlovu District despite the implementation of SVS.

OBJECTIVES
To assess knowledge, attitudes and practices of healthcare professionals (HCPs) on the use of the SVS at PHC level.

METHOD
Cross-sectional study using a self-administered structured questionnaire, conducted among 294 HCWs present on the day of data collection at 21 randomly selected PHC facilities. Data were captured using Microsoft Excel® then imported to IBM SPSS® Statistics for Windows V26.0. descriptive statistical analysis. Ethics approval to conduct the study was obtained. All participants provided informed consent.

RESULTS
The response rate was 70.1% (206/294). 62.1% of participants had good overall knowledge and 52.9% had positive attitudes while only 17.0% of participants were considered as having good overall practice. While there was no statistically significant difference between HCPs with good knowledge, attitude and practices with respect to socio-demographic variables (p>0.05), there was a positive correlation between the knowledge and practice scores which was statistically significant (p=0.00159).

CONCLUSIONS
HCPs in this district had poor practices when using SVS despite good knowledge and positive attitudes toward SVS and the higher the HCPs knowledge of SVS, the more desirable the practices on SVS. This underscores the need for continuous training to ensure a constant and efficient supply of medicines to meet the health needs of the population.

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Point Prevalence Survey of Antimicrobial Use at Kitale County Hospital

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BACKGROUND
The misuse of antimicrobials is a great driver of antimicrobial resistance. Antimicrobial resistance (AMR) is a growing public health treat today. Promoting rational use of antimicrobial agents through the antimicrobial stewardship program is crucial in curbing the increase in resistance.

METHOD
The study was conducted at Kitale County Hospital (KCH), Kenya. It was a descriptive cross sectional point prevalence survey. Universal sampling method was used; all the patients on antimicrobials in all the inpatient wards were sampled. A standardized antimicrobial PPS tool was used for data collection. Data was entered into an Epi-info form and analyzed using STATA software.

RESULTS
The prevalence of antimicrobial use was at 51.14%. Approximately 60% of the patients were on at least two antimicrobials. Ceftriaxone and metronidazole were the most commonly used antimicrobial (33.01% and 17.48%). The most common route of administration was parenteral route accounting for 74.76%. Community acquired infections were common (56.3%) while the hospital acquired infections were at 7.77%. Hospital acquired infections (HAI) were common in the gynecology and maternity wards (>30%). The utilization of the laboratory for microbiology testing was low. 33.7% of the antimicrobials prescribed in the hospital were irrational. Majority of the prescriptions were incomplete (73.79%).

CONCLUSION
The prevalence of antimicrobial use was above the WHO reference value of 30% or less. Irrational prescribing of antimicrobials was common and is the key drivers of AMR. Empirical prescribing was common as request for culture and sensitivity being rarely done.

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Assessment of the Knowledge, Attitude and Practice of Pharmacovigilance Among Undergraduate Medical, Pharmacy and Nursing Students in Selected Tertiary Institutions in Southwest Nigeria

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BACKGROUND
Knowledge about adverse drug reactions and its reporting is essential for healthcare practitioners. There is paucity of information on the knowledge and attitude of future healthcare practitioners in Nigeria about ADR and its reporting.

OBJECTIVE
To assess the knowledge and attitude of undergraduates in the discipline of medicine, pharmacy and nursing about adverse drug reaction and its reporting.

METHODOLOGY
This was a self-administered, questionnaire-based study conducted among undergraduate students of medicine, pharmacy and nursing from three tertiary institutions located in South-West Nigeria. The questionnaire consisted of sections on the demographics of respondents, their knowledge, attitude and practice of ADR reporting. Data analysis was done using SPSS (version 25) using appropriate methods.

RESULTS
A total of 814 students returned completed questionnaires, comprising of students from medicine (42.4%), pharmacy (32.2%), nursing undergraduate (12.7%) and nursing diploma (12.7%). More medical students knew the definition and purpose of PV than pharmacy and nursing students (p<.001). Only 31.7% of pharmacy students were able to classify ADRs, less than 78.7% obtained for medical students. Almost half of pharmacy and nursing students did not know the organization responsible for ADR monitoring and evaluation in Nigeria. Nursing students had observed ADRs during their training more than others while pharmacy students had seen the ADR reporting form more than the other students (30.2% vs 14.2%-19.2%).

CONCLUSION
There are significant gaps in the knowledge of study respondents about ADR and its reporting. There is a need for a review of training curriculum of these courses.

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Drug Exposure Profile of Pregnant Women in Three Hospitals in the City of Yaounde (Cameroon)

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BACKGROUND
During pregnancy, a woman, whether she is ill or not, has to take medication. And, the exposure to certain drugs during pregnancy leads to congenital malformations.

OBJECTIVES
Categorize potential fetal iatrogeny in pregnant women.

METHODS
This prospective cross-sectional descriptive study was conducted from January to May 2021 in three hospitals in the city of Yaounde (Cameroon): Central Hospital, Hospital of the Cameroonian Presbyterian Church of Djoungolo, and the Centre of Social Animation and Sanitary of Nkolndongo. Pregnant women who agreed to participate in the study and were able to speak French or English were selected. The data were collected after consultation by direct administration of a questionnaire in which socio-demographic and clinical information was sought, including the medications prescribed to them. Potential iatrogenicity was determined on the basis of the Food and Drug Administration's fetal hazard classification system. Descriptive statistics were performed using SPSS 26.0 software.

RESULTS
A total of 280 participants were recruited, with an average age of 28 ± 5 years and the most common age range being 25 to 30 years. More than half of them (63.2%) were unmarried and 55% were in their third and 25% in their second month of pregnancy. According to the FDA classification, the exposure involved category A drugs (87.85%), followed by category C (54.64%), then category B (23.57%), category D (7.26%), category X (1.07%) and the rest uncategorized drugs.

CONCLUSIONS
Pregnant women were predominantly exposed to low severity drugs, however exposures to the other categories found justification in clinical use.

POSTER PRESENTATIONS

Presenting author underlined.

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Patent Medicine Vendors and Irrational Use of Antibiotics: A Narrative Review of 5 African Countries

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BACKGROUND

Antimicrobial resistance (AMR) in Africa is strongly aligned with the irrational use of antibiotics. Patent medicine vendors (PMV) serve as important sources of antibiotics in Africa. The evaluation of the dispensing and health practices of antimicrobials by PMVs is essential to ascertain the rational use of antibiotics.

OBJECTIVES

To review the contribution of PMVs practices in the irrational use of antimicrobials in Nigeria, Tanzania, Uganda, Malawi, and Kenya.

METHOD

We conducted a narrative review of selected studies from PubMed, PubMed Central, Medline, and Google Scholar using predetermined search terms to assess the irrational use of antimicrobials and related practices by PMVs in Nigeria, Tanzania, Uganda, Malawi, and Kenya. Studies of any design were included and only studies published in English were recorded.

RESULTS

Twenty-one articles met the inclusion criteria for the review. In Uganda, Antibiotics were provided as first-line treatment for children with diarrhoea, and patent store stocking and dispensing decisions were made unseemly to patient or client demands. Antibiotics were sold without prescription at over 60% of drug stores in Kenya and prescription-only drugs were routinely sold over the counter in Malawi by PMVs. PMV outlets in Tanzania offered no antibiotic counselling and were willing to sell half-course treatments to direct requests for antimicrobials. Limited awareness of good health practices and lack of compliance with regulatory requirements, contribute to the sale and administration of inappropriate and substandard antibiotics in Nigeria.

CONCLUSION

PMVs practices promote antimicrobial selection pressure as irrational antibiotic use is a primary driver of AMR development.

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Assessment of HBV-HIV Coinfection Among HIV Patients on Antiretroviral Therapy in Secondary Care Hospitals in a North-Central Senatorial District, Nigeria

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BACKGROUND

Globally, HBV-HIV co-infection constitutes a public health challenge. Scarcity of information on HBV-HIV co-infection among HIV patients on highly active antiretroviral therapy (HAART) in Ilorin necessitated this study. Thus, the study aimed at detecting the prevalence HBV-HIV co-infection, HBV testing and vaccination among HIV patients on HAART; and assessing their medications at secondary care hospitals in a North-Central Senatorial District of Nigeria. This multicenter study involved screening 303 eligible HIV patients for HBV, using rapid diagnostic test; use of structured questionnaire that was interviewer-administered to these patients and data extraction from their medical folders. Data analyses used descriptive and inferential statistics. Statistical significance was set at $P< 0.05$. An Institutional Ethical Review Committee granted the study approval (MOH/KS/EU/777/476). Mean age of participants was 42.08 ± 11.0 years, 78.5% were females and 85.8% were married. Prevalence of HBV-HIV co-infection, HBV testing and HBV vaccination were 5.6%, 14.9% and 7.6% respectively. The co-infection was higher among females (82.4%), though females HBV-HIV prevalence (4.6%) was not significantly different ($p < 0.05$) from that of males (1.0%). All HBV-HIV co-infected patients were on tenofovir-based HAART of which 94.1% were on tenofovir-lamivudine-dolutegravir combination antiretroviral therapy Also, 93.7% had viral load suppression. There is HBV-HIV coinfection among the HIV patients on HAART in the secondary care hospitals. HAART for HBV-HIV coinfection is in line with treatment guidelines. Prevalence of HBV testing and vaccination is very low. This calls for routine baseline screening for HBsAg among HIV patients. HBV seronegative patients should be vaccinated against HBV.

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Racial Disparities in Medication Use During Pregnancy: Results from the Nisami Cohort

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BACKGROUND

Medication use during pregnancy is common; however, it may differ by race since black people have epidemiological and social vulnerabilities that imply difficulties accessing health services and medications.

OBJECTIVES

Evaluate racial disparities in medication use in women under prenatal care at the Brazilian Unified Health System health units in Santo Antônio de Jesus, Brazil.

METHODS

Data were collected from 1,058 women within the prospective NISAMI Cohort between June 2012 and February 2014. The medications used during pregnancy were classified according to the Anatomical Therapeutic Chemical classification system. Prevalence ratios and 95% confidence intervals were adjusted by Poisson regression with robust error variance. All the analyses were stratified by race/ethnicity.

RESULTS

84.7% of the study participants were black and 15.3% were non-black. Approximately 84% of women used at least one medication during pregnancy, with a lower proportion of meditation use among black women (83.8% versus 87.0%). Antianemic preparations, analgesics, drugs for functional gastrointestinal (GI) disorders, and antihistamines for systemic use were the most consumed medicines. The use of antianemics and drugs for GI disorders was less frequent among black women. Medication use by black women was associated with higher education, access to more than three prenatal consultations, and health problems. Only access to more than three prenatal consultations was associated with medication use among non-black women

Presenting author underlined.

CONCLUSIONS

A lower prevalence of medication use during pregnancy among black women was found, including for medications indicated during pregnancy. Hence, this suggests that race is a factor of inequity in prenatal care.

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Knowledge, Attitudes and Willingness of Herbal Medicine Practitioners to be Trained on Pharmacovigilance of Herbal Medicines

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BACKGROUND

Herbal medications are known to produce adverse drug reactions, therefore herbal medicine practitioners (HMPs) must play a key role in pharmacovigilance (ADRs). HMPs can only be effective in monitoring the safety of herbal medicines if they are educated about ADRs and pharmacovigilance, hence the need to analyze HMPs' knowledge and attitudes toward pharmacovigilance.The aim of this present study was to assess the knowledge,attitudes and willingness of Herbal Practitioners to be trained on the monitoring the adverse effects Medicinal plants.

A cross-sectional study at Lagos State Traditional Medicine Board, data was obtained from 191 HMPs using a semi-structured questionnaire. Frequencies, means, and standard deviations, were determined with a significant difference of 0.05%

Significant proportion of HMPs (31.37%) learned their skills and expertise through parents/grandparents. The fact that herbal medications are very affordale was the most mentioned reason 171 (89.5%) and herbal medicine having none or minimal side effects was the second most often mentioned reason 158 (82.7%) for HMPs recommending herbal medicines to their clients. Only 60.53% had ever heard of pharmacovigilance and 68% accurately defined it. The respondents' overall knowledge score was 4.59±1.70. Although only 16.7% have ever reported an ADR incident, a good attitude score of 4.42±2.32 was recorded.

Notwithstanding their poor understanding and practice of pharmacovigilance (10%), HMPs maintained a positive attitude regarding ADR reporting. National pharmacovigilance centers must urgently engage HMPs in the pharmacovigilance of herbal products by providing pharmacovigilance training to assure the safety of the herbal medications they prescribe or administer.



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