

POSTER ABSTRACT PRESENTATION

WA 001 P

Solubility enhancement of dexamethasone using a solid dispersion system containing starches isolated from maize genotypes and surfactant blends as hydrophilic polymers

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Background: Dexamethasone is a poorly water-soluble drug that belongs to class II/IV in biopharmaceutical classification system.

Objectives: This study aims to improve the solubility and dissolution rate of dexamethasone by formulating it into solid dispersion using starches isolated from maize genotypes and surfactant blends (Poloxamer 188, Kolliphor EL and Tween 80) as hydrophilic polymers.

Methods: Solid dispersion (SD) was prepared by solvent evaporation technique and the solubility was determined. The SD with the optimum solubility and dissolution rate was subjected to further analysis using scanning electron microscopy (SEM), differential scanning calorimetry (DSC), fourier-transform infrared (FTIR) spectroscopy and X-ray diffractometry (XRD). The time taken for 50% (T50) and 90% (T90) drug release were obtained.

Result: The solid dispersion formulations exhibited significantly higher solubilities ($p < 0.05$) than plain dexamethasone powder. The SD particles had small, round, loosely agglomerated structures with few striation. DSC analysis suggests no potential interaction between the components of the formulation while FTIR investigation confirmed that there was no intermolecular interaction between dexamethasone and polymers. XRD revealed a phase transition from crystalline to amorphous state. Formulation containing a binary mixture of Tween 80 and kolliphor as surfactant exhibited 50% and 90% drug release in 4.8 and 10.1 hrs respectively which suggests a sustained release effect.

Conclusion: The results show starches isolated from genetically modified maize could be considered as a potential alternative in the formulation of dexamethasone solid dispersion with improved solubility and dissolution profile.

Keywords: Solid dispersion, dexamethasone, genetically modified starch, solubility, dissolution rate

WA 002 P

Retrospective study of prescription patterns of antihypertensive medications at Umaru Musa Yar-Adua Memorial Hospital Sabon Wuse, Niger State

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Background: Hypertension remains one of the leading causes of death and its prevalence ranges from 12.4 % to 34.8 % in Nigeria. Pharmacotherapy of hypertension involves the use of various classes of medications aimed at lowering blood pressure to reduce the risk of cardiovascular complications hence, the need for rational drug use.

Objective: To study the prescription patterns of antihypertensive drugs among patients attending Umar Musa Yar-Adua Memorial Hospital Sabon wuse

Methods: The study was a descriptive, retrospective study, conducted after ethical approval. The prescription sheets of adult patients containing one or more antihypertensive drug that visited the hospital from January to December 2023 issued at different points of the hospital were used for the study. Data were collected using data collection form and analyzed using simple tabulation.

Results: A total of 24,663 prescriptions were evaluated where only 510 (2.1 %) were found to contain antihypertensive drugs. Only 68 (13.3 %) of the hypertensive

patients consistently follow up their medication pick-ups throughout the year, with a male-to-female ratio close to 1:1. Among these patients, 261 drugs were reviewed, averaging 3.8 drugs per encounter. Calcium channel blockers were the most commonly prescribed class of antihypertensive medications, utilized predominantly as monotherapy (52.6 %) and in combination with angiotensin-converting enzyme

inhibitors. The most common combination therapy consisted of two drugs (36.8), followed by three drugs (25%) and four drugs (10.3 %).

Conclusion: This study noted that the most commonly prescribed antihypertensive class for patients in the Hospital were the calcium channel blockers as monotherapy and in some cases in combination with other antihypertensives.

WA 003 P

Evaluation of adherence to medications among type 2 diabetic patients attending outpatient clinic at a Tertiary Health Institution in Lagos State.

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Background: Medication non-adherence in type 2 diabetes mellitus remains a critical public health issue contributing to poor glycemic control, complications, and increased healthcare costs.

Objective: The objective of this study was to assess medication adherence levels and identify factors affecting medication adherence among type 2 diabetic patients attending the outpatient clinic at 68 Nigerian Army Reference Hospital Yaba, Lagos.

Methods: Cross-sectional prospective study was conducted that enrolled 104 type 2 diabetic patients who met the inclusion criteria. Face-to-face semi-structured questionnaires were administered to the respondents and the filled questionnaires were collected immediately. The simple percentage method was used in presenting all the questions in sections A, B, and C. Some key variables were used to assess the knowledge and adherence to medication

among the patients using a chi-squared test at $p=0.05$ level of significance. R programming facilitated data tabulation and visualization.

Results: Key factors that influenced medication adherence in this study included organizational (clinic structure and location), and personal (respondents' socioeconomic status, employment status, educational qualification, and diabetes health education exposure). Statistically significant ($p<0.05$) association was found between age, gender, and medication adherence.

Conclusion: While medication adherence was relatively high, structural challenges and socioeconomic disparities persist. To optimize outcomes, healthcare providers should prioritize structured diabetes education programs and increase patients' involvement in their management.

Keywords: Type 2 diabetes mellitus, medication adherence, outpatients.

WA 004 P

Assessment of child immunization coverage for children aged 12 to 23 months in Kubwa General Hospital.

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Background: Immunization coverage remains a critical public health concern, particularly in low- and middle-income countries. This study assesses immunization coverage and factors influencing uptake among children aged 12 to 23 months attending Kubwa General Hospital, a public secondary healthcare facility in Abuja, Nigeria.

Objectives: To determine the immunization coverage rate and examine socio-demographic factors influencing immunization uptake among children aged 12-23 months.

Methods: A hospital based cross-sectional study was conducted among 90 respondents, primarily mothers (86.8 %). A simple random sampling technique was employed. The sample size was based on the number of eligible and willing participants available during the study period. Data were collected using a pretested semi-structured interviewer-administered questionnaire. Socio-demographic characteristics, knowledge of vaccines, accessibility to immunization services, and reasons for incomplete immunization were analyzed.

Results: The mean age of respondents was 30 years, with 52.3% male and 47.7 % female children. Tertiary education was attained by 76.7 % of respondents. Awareness of immunization was 100 %, with the most commonly known vaccines being BCG (98.9 %) and polio (100 %), while meningococcal vaccine was the least known (36.7 %). Fully immunized children accounted for 73.3 %. Factors significantly associated with immunization status included maternal age, education level, occupation, and family type. Accessibility to immunization services was high (95.5 %), and 96.7 % of mothers attended at least one antenatal care visit,

while 78.9 % attended postnatal care. Health talks were attended by 86.7 % of respondents, and 93.3% rated them above average.

Conclusion: Immunization coverage among children aged 12-23 months at Kubwa General Hospital was 73.3 %, below the Global Immunization Vision and Strategy (GIVS) target of 80%.

Keywords: Immunization coverage, socio-demographic factors, Nigeria.

WA 005 P

An evaluation of the knowledge, attitude and practices of vaccine handlers in effective vaccine management in Gusau, Zamfara State, Nigeria

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Background: Vaccination can significantly reduce the global disease burden, but improper vaccine management poses risks to millions. Evaluating vaccine handlers' knowledge, attitude, and practices is crucial for effective vaccine management.

Objectives: The objective of this study was to evaluate the knowledge, attitude and practices of vaccine handlers in effective vaccine management in Gusau, Zamfara State, Nigeria.

Methods: A descriptive cross-sectional study was conducted to evaluate the knowledge and attitude of 130 vaccine handlers in Gusau using a self-administered semi-structured questionnaire distributed by convenience sampling to respondents during monthly data validation meetings. In addition, a researcher-administered observational checklist was used to collect data on observed vaccine management practices at 21 cold chain points in Gusau. Correct and

incorrect responses or practices were assigned scores of 1 and 0 respectively. Cumulative scores <45 % were graded as poor and those >75 % graded as good.

Results: Three (2.0 %) respondents had poor knowledge of vaccine management and 16 (76.2 %) cold chain points were found to have good vaccine management practice. Qualification of vaccine handlers was shown to have an association with knowledge of vaccine management ($p = 0.035$).

Conclusion: The knowledge, attitude and practice of respondents were all above average. Continual updates on vaccine management through hands-on training, mentorship, monitoring and supportive supervision are recommended.

Key words: Vaccine management, Knowledge, Attitude, Practice

WA 006 P

Assessing the level of knowledge about diabetes mellitus among diabetic patients at the Tema General Hospital, Ghana. Tema General Hospital, Ghana Cynthia Amoah, Daniel Afriyie

Background: Diabetes mellitus, affecting 3.6 % of Ghana's adult population and contributing to 1.5 million global deaths annually, poses a significant public health challenge, particularly in low-resource settings. Despite its preventable progression through education, gaps in assessing disease-specific knowledge among diabetic patients hinder effective self-management, exacerbating complications like cardiovascular disease and kidney failure.

Objective: To assess the level of knowledge about diabetes mellitus among diabetes patients at the Tema General Hospital, Ghana

Methods: A descriptive cross-sectional study was conducted among 139 randomly recruited diabetic clinic attendees at Tema General Hospital (June-July 2023). The sample size was calculated using the Cochran formula (95 % confidence level, 5% margin of error, 9 % prevalence) with a 10 % non-response adjustment. A modified Michigan Diabetes Knowledge Test questionnaire assessed knowledge of diet, fasting blood

sugar, pharmacological management (insulin/oral agents), and other variables. Participants scoring >11 out of 22 questions were classified as having adequate knowledge. Data were analyzed using descriptive and inferential statistics.

Results: From the study, 86 (61.9 %) patients demonstrated adequate knowledge of diabetes. Females scored slightly higher (60%) than males (58.8%, $p=0.005$). Knowledge was highest among patients aged 40-59 (89%) and those on combined insulin and oral medications (81.2 %, $p=0.006$). Patients diagnosed for over 10 years also scored higher (61.3 %, $p=0.01$). No significant associations were found between knowledge and age ($p=0.49$) or educational background ($p=0.89$).

Conclusion: Patients had low knowledge regarding blood glucose levels, non-pharmacological and pharmacological management, despite average understanding of diet and complications.

Keywords: Knowledge, Diabetes Mellitus

WA 007 P

Assessment of adherence to antiretroviral therapy among adult people living with HIV /AIDS accessing care in virus (HIV) remains one of then Olabisi Onabanjo University Teaching Hospital Sagamu. Afolabi Bukola Adejoke¹, Saka Opeoluwa

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Background of the study: Human immunodeficiency ten leading causes of deaths in Nigeria. Adherence to antiretroviral therapy is a major determinant of viral suppression, however suboptimal adherence rates remain a significant challenge in Nigeria.

Objectives: To assess adherence to antiretroviral therapy in adult out- patients attending the virology clinic of Olabisi Onabanjo University teaching hospital, Sagamu, Ogun State.

Methods: The study adopted a quantitative cross-sectional survey design in which data were collected using the systematic sampling technique with an adapted questionnaire to assess adherence to antiretroviral therapy among 335 recruited HIV positive clients. Descriptive and inferential statistical analysis methods were employed to analyse the data using the Statistical Package SPSS version 25. The result was presented using percentages, means, standard deviation, chi square, correlation and logistic regression. A p-value of 0.05 or lower is considered scientifically significant.

Results: The study shows that majority of participants were 55 years and older (28.1 %) and 75% were female. High self-reported adherence levels of 95% were reported. The strongest factors that influenced adherence were health care communication and social support. 79.4% noticed a correlation between adherence to ART and changes in viral load levels and 66.0% have observed physical health changes since initiating ART. Age also shows a significant association with adherence ($\chi^2 (2, N=335) = 12.587; p = 0.028$).

Conclusion: The study found a high level of self-reported adherence to ART in the study population. Adherence is influenced majorly by healthcare communication and social support. Barriers such as financial constraints and side effects had no significant impact on adherence.

Key Words: Adherence, Self- reported adherence, HIV/AIDS, Antiretroviral therapy

WA 008 P

An observational audit of the vaccine storage and supply chain system in Edo State

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Background: Vaccines protect against diseases and require a reliable supply chain system to maintain potency and achieve immunization targets. Effective supply chains rely on trained personnel, appropriate and functional cold chain equipment and correct procedures for vaccine management.

Objective: This study assessed the vaccine storage and supply chain system in Edo State using the state cold store as its hub of official vaccine receipt, storage, distribution and retrieval.

Methods: A questionnaire guided interview was conducted among the facility's staff to assess their knowledge and use of correct procedures in vaccine management and logistics. The cold chain equipment and infrastructure in the facility was assessed using the Effective Vaccine Management 2.0 version 1.15 tool.

Results: The facility had trained personnel with appropriate and functional cold chain equipment, although maintenance was poor. Power supply was unreliable; this resulted in unrecorded periods of temperature excursions. The facility lacked a dedicated vehicle for vaccine logistics.

Conclusion: Regular cold chain equipment maintenance and repair is recommended. Solar powered equipment should be considered as an alternative power source in the absence of which proper monitoring and recording of vaccine temperature is highly recommended. A functional and well managed vehicle should be made available and dedicated to vaccine logistics.

Keywords: Vaccines, storage, supply chain system

WA 009 P

An evaluation of the quality of care received by patients with type 2 diabetes mellitus at a Nigerian Teaching Hospital

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Background: Diabetes mellitus is considered a global public health challenge, and studies have shown that quality of its care is essential for optimal treatment outcomes.

Objectives: The study assessed quality of diabetes care and its management at Ahmadu Bello University Teaching Hospital, Zaria, Nigeria.

Methods: This retrospective cross-sectional study was carried out on a sample of 380 diabetic patients who met the eligibility criteria of the study. Pertinent data were extracted from patients' case folders following ethical approval. Data were analysed using descriptive statistics and Chi square test of association between two categorical variables set at a level of statistical significance, $p < 0.05$.

Results: All the patients had their fasting blood sugar and blood pressure measured at each visit. Overall, majority of the patients had a suboptimal quality of care (64.21%), with most

patients (249; 65.52%) on oral glucose lowering agents. However, a significant proportion 160 (42.11%) on the medications did not achieve optimal fasting blood sugar (FBS) levels. Only 50% of patients achieved target blood pressure levels (<130/80 mmHg). On follow up, physical examinations were conducted regularly 366 (96.32%), but the use of preventative treatments like low dose aspirin and lipid-lowering drugs was suboptimal (36.8%).

Conclusion: Overall, the study established a suboptimal level of quality of diabetes care in ABUTH. Significant gaps in the quality of diabetes care, particularly in routine screenings and comprehensive adherence to care indicators were reported. Therefore, there is a need for improved glycaemic and hypertension management protocols and regular follow-ups.

Keywords: Diabetes mellitus, care indicators, quality of care and treatment outcomes