

DEDICATION

I would like to dedicate this study and forward my utmost gratitude and appreciation to:-

Dr. Osama El-Sheikh Yassin, for his continuous support and guidance.

My father Atta, for without his help and encouragement, it would not have been possible to complete this study.

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Finally to my brothers and sisters for making everything wonderful in life and to all who have extended hands

Abstract

A survey was conducted on a random sample of poultry farms of different management systems in February and March 2012, focusing on antibiotic uses and residues in commercial table eggs in Khartoum State being the leader in poultry production.

The study also focused on knowledge on many factors pertaining to the study but mainly antibiotic uses, withdrawal period, rules and regulations and the impact on human health.

Close-ended structured questionnaire on categorical variables was used and its validity was assessed by comparison with reliable criteria references. Information recorded was captured through direct interviews.

Open ended questions unstructured interview was conducted in may 2012 in different locations including Ministry of Animal Resources, Fisheries and Pastures, Soba Central Laboratory, Sudanese Standards Metrological Organization, Pharmaceutical Companies and Pharmacies and National Medicine and Poisons Board-Veterinary Pharmaceuticals Registration Department.

The interview was conducted to investigate on the injudicious use of antibiotics and the impact on both animal and human health.

Descriptive statistics was analyzed by SPSS 17 and the categorical variables by ANOVA table.

The main results abstracted from the study of the 30 farms random sample and of which 19 open housing, 6 semi closed

and 5 closed of which most 500 birds or more per house in all-in- all- out production systems are as follows:-

- 73.3% were under veterinary supervision and 26.7% not being a considerable number.
- 80% resort to veterinarians for dose assessment.
- 60% of the study sample store drugs and medicines in stores in the farms.
- For antibiotic use 90% of the farm used antibiotic in February and 93.3% in March 2012 and of all these 70% used water route.
- For reasons of antibiotics uses 40% were for therapeutic reasons and 60% for both therapeutic and prophylactic reasons.
- On the knowledge about the concept of withdrawal period 70% answered negatively and for selling products during drug administration 86.7% answered positively, about drug effect on consumer health 73.3% answered (No), for knowledge of egg quality 76.7%lacked knowledge and about passage of drug from the hen to the egg 60% had no knowledge.
- About the knowledge of any regulations and/or rules, techniques controlling antibiotics uses in the industry 90% of the respondents answered "No".

The study highlighted the non-judicious use of antibiotics and exposed ignorance and lack of awareness of misuse on animal and human health and absence of controlling regulations and rules

الملخص

أجري المسح على عينات عشوائية من مزارع رائدة في إنتاج الدواجن في السودان في فبراير ومارس 2012، مع التركيز على استخدامات المضادات الحيوية وبقاياها في بيض المائدة التجارية في ولاية الخرطوم كونها رائدة في إنتاج الدواجن.

وركزت الدراسة أيضا على معرفة عوامل كثيرة تتعلق بالدراسة اهمها استخدام المضادات الحيوية بشكل أساسي، فترة السحب من جسم الطائر ، القوانين والنظم وتأثير ذلك على صحة الإنسان.

تم استخدام استبيان منتظم ذي أسئلة مغلقة على المتغيرات وجرى تقييم صحتها من خلال المقارنة مع معايير مرجعية يمكن الاعتماد عليها. وتم الحصول على المعلومات المسجلة من خلال مقابلات مباشرة.

وقد أجريت المقابلات ذات الأسئلة المفتوحة المحدده الغير منتظمه في مايو 2012 في مواقع مختلفة بما في ذلك وزارة الثروة الحيوانية والسلمكية والمراعي، المعمل المركزي بسوبا ، الهيئة العامه السودانية للمواصفات و المقاييس، شركات الأدوية والصيدليات و المجلس القومي للأدوية و السموم قسم تسجيل الادوية البيطريه و ذلك للتحقيق بشأن الاستخدام الغير حكيم من المضادات الحيوية وتأثيرها على صحة الحيوان و الإنسان، وتم تحليل البيانات الوصفية عن طريق برنامج التحليل الإحصائى ومقارنة النتائج بواسطة ANOVA.

أظهرت النتائج الرئيسية من العينات العشوائية لثلاثون مزرعة منها 19 مزرعة ذات نظام مفتوح، و 6 مزارع ذات نظام شبه مغلق و 5 مزارع ذات نظام مغلق منها حوالي 500 طائر أو أكثر لكل بيت مع توحيد نظم الإنتاج على النحو التالي: -

- 73.3% من المزارع تحت إشراف بيطري و 26.7% بواسطة المرابي او العامل.
- 80% من المزارع يحددون جرعة الادويه بواسطة الطبيب البيطري.
- 60% من عينة الدراسة يخزنون العقاقير والأدوية في مخازن بالمزارع.
- بالنسبة للاستخدام المضادات الحيوية 90% من المزارع قيد الدراسة استخدمت المضادات الحيوية في فبراير و 93.3% منها في مارس 2012، ونسبة 70% من المزارع تستخدم الادوية التي تذوب في الماء.
- لأسباب استخدام المضادات الحيوية 40% كانوا يستخدمونها لأسباب علاجية، و 60% لأسباب علاجية وقائية.
- من المعرفة حول مفهوم فترة السحب أجاب 70% سلبا وبيع المنتجات خلال الدواء 86.7% بالإيجاب، حول تأثير الادويه على صحة المستهلك أجاب 73.3% (لا)، لمعرفة نوعية و جودة البيض 76.7% تفتقر إلى المعرفة وعن مرور الادوية من الدجاجة إلى البيض 60% لا يعلمون هذه المعلومه.
- عن معرفة أي اللوائح و / أو القواعد، وتقنيات السيطرة على المضادات الحيوية يستخدم في صناعة 90% من المستطلعين أجاب ب "لا".
- وأبرزت الدراسة الاستخدام غير الرشيد للمضادات الحيوية وعدم الوعي لسوء استخدام المضادات الحيوية على صحة الحيوان والإنسان وغياب الأنظمة والقواعد المسيطرة.

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List of abbreviations:-

ADIs	Acceptable Daily Intakes
ANOVA	Analysis Of Variance

AR	Antimicrobial Residue
CAP	Chloramphenicol
CDC	Centre for Disease Control and Prevention
CVMP Products	Committee of Veterinary Medicinal
EU	European Union
FAO	Food and Agriculture Organization
FCR	Feed Conversion Ratio
FDA	Food and Drug Administration
FSIS	Food Safety and Inspection Service
GRE	Glycol peptides Resistant Enterococci
HACCP	Hazard Analysis and Critical Control Point
Ha	Hectares
HPLC	High Performance Liquid Chromatography
HPTLC Chromatography	High Performance Thin-Layer
IAC	Immuno-Affinity Chromatography
LODs	Limits of Detections
MRL	Maximum Residue Limit
MS	Mass Spectrometric
NARMS Monitoring Systems	National Antibacterial Resistance
NMPB	National Medicine and Poisons Board
PEN G	Benzyl Penicillin

®	Registered Trademark
SPSS	Statistical Package for the Social Sciences
SSMO Organization	Sudanese Standards and Metrology
UK	United Kingdom
UNCED	United Nations Conference on Environment and Development
USA	United States of America
USDA	United States Drug Administration
UV	Ultra Violet
VMD	Veterinary Medicine Directorate
W.H.O	World Health Organization