j.Egypt.vet.med.Assoc 78, no 3. 501 – 503 (2018)

OCCURRENCE AND RISK FACTORS ASSOCIATED WITH PATHOGENIC *E. COLI* IN DIARRHEIC CALVES

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ABSTRACT

Data were collected from the farmers by a questionnaire. Questions were asked about the herd number, calf age, calf management, calf separation time, routines for antimicrobials treatment, information on calf health, number of calves with diarrhea in the herd, diarrhea consistency, respiratory signs and determination of incidence of Neonatal calf diarrhea in each farm and associated risk factors.

INTRODUCTION

Neonatal calf diarrhoea (NCD) is one of the major health challenges in both beef and dairy cattle herds **(De la -Fuente *et al.*, 1999)**. The aim of study is herd and data collection from three Fayoum cattle farms as unvariable association between herd management practices and incidence for neonatal calf diarrhea.

MATERIAL AND METHODS

Herd and data collection: in total three farms, farmers were interviewed on several aspects related to colostrums management, feeding practices, hygiene, current diarrhea problems and preventive and curative treatment of NCD. Part of the questionnaire is present in (Table 1). On each of these herds, fecal samples of random selected calves were analysed by isolation and identification to test for the presence of *E. coli* **(Meganck *et al*., 2015)**.

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Table (1): Association between herd management practices and incidence of NCD.

Independent variable	Farm1	Farm2	Farm3
Presence of calving stable	**Yes**	**No**	**Yes**
Cleaning and disinfecting calving stable after calving Doing nothing Removing dirty straw/feces Removing dirty straw/feces and cleaning No calving stable	**Yes**	**Yes**	**Yes**
Use of calving stable for dick animals No Yes No calving stable	**Yes**	**Yes**	**No**
Immediate separating calf from cow after calving No "1-3 days after birth'' Yes	**Yes**	**Yes**	**No**
Vaccination against *E. coli*	**Yes**	**Yes**	**No**
Tratetment with rehydration solution **Treatment with antibiotics**	**Yes**	**Yes**	**Yes**
Herd clothes are being used for visitors No Yes	**Yes**	**No**	**No**
Use of one bucket per calf No Yes Use of automate feeder	**Yes**	**Yes**	**No**
Temperature control No Yes 37°C (Full fresh milk) Use of automate feeder (Artificial milk)	**Yes**	**Yes**	**Yes**
Incidence of *E. coli* in feces	**20%**	**50%**	**66%**

RESULT

Distribution and univariable analysis outcomes of risk factors extracted from the questionnaire are presented in (Table 1). The percentage of scouring calves during the study was significant lowering in the vaccinated herd against *E. coli* and treated with rehydration solution orally 20% compared to unvaccinated and treated herds with antibiotics which killing useful bacteria for calves GIT 50% and 66%.

DISCUSSION

The significantly lower percentage of scouring calves in vaccinated herd, and treated with rehydration solution orally in comparison to unvaccinated herds and treated with antibiotics indicates the efficacy of preventive 2 steps program . We may state that fewer calves excreted enteropathogens following the implementation of the2 step protocol (vaccination- rehydration solution treatment), but no whether individual excretion was lowered **(Meganck *et al*., 2015)**. If so, this potentially also may contribute to fewer calves scouring. Vaccination of cowherd using one of the vaccines against rotavirus, coronavirus and *E. coli* K99 is recommended in herds where calf scour is a recognized problem **(Mason and Caldow, 2005)**.

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