Regarding age of animals group, the ELISA3ABC showed revealed, the lower percent of positive are found in group 2 (3.33%) while higher percent of positive samples in adult (25.53%) group 3. There is a significant difference (P<0.05) between different animal status (table 4).

Table 1: The number of tested animals in different regions of Diyalaprovince

Regions	Male	Female		Total
		Pregnant	Non- pregnant	
AL-Jazera	6	9	11	26
AL-Shakha	10	12	27	49
AL- Haroniaa	5	3	9	17
Total	21	24	47	92

Table 2: The prevalence of antibodies to FMDV

Animal species		Tested NO.	Positive	Negative
Male		21	2 (8.76%)	19(91.24%)
Female	Pregnant	24	7 (26.83%)	17(73.17%)
	Non-pregnant	47	6 (11.74 %)	39(88.16)%
Total		92	15 (16.3%)	14 (83.7%)
X^2= 4.04; P. Value= 0.132; DF=2				

Table 3: Positive cases in different regions

Reigns	Tested NO.	Positive	Negative
AL-Jazera	26	3 (11.5%)	23 (88.5%)
A *L-Shakha*	49	9 (18.36%)	40 (81.64%)
AL- Haroniaa	17	3 (17.6%)	14 (82.4%)
Total	92	15(16.3%)	77(83.7%)
X^2= 0.608 ;P. Value = 0.737 ; D.F=2			

Table 4: Numbers of tested cattle in relation to age

Age of cattle	*Total*	*Positive*	*Negative*
Group1(Up to 1 year)	15	2 (13.33%)	13(86.67%)
Group 2(1-3 year)	30	1(3.33%)	29(96.67%)
Group 3(More than 3 year)	47	12(25.53%)	35(74.47%)
Total	92	15(16.3%)	77(83.7%)
X^2= 6.729 ;P. Value = 0.034;DF=2			

4. Discussion

In FMD-endemic regions the major cost of the disease is associated with reduced livestock productivity, regular mass vaccination and reduced access to international markets for livestock and livestock products. Therefore the achievement and maintenance of an FMD-free status has major benefits for international trade. In many situations, regular vaccination is an essential part of the disease control strategy. However, due to the high number of virus strains, vaccination provides only limited protection. In regions free of FMD, control is based upon prevention of the virus introduction through import regulations and, in case of an outbreak, a combination of movement controls and stamping out. These measures may have to be supported by emergency vaccination in order to limit the spread of the disease (6).

The study revealed a significant variation on FMDsero- positivity among the three age groups .The significantly higher seroprevalence of FMD in adult and young animals than in calves observed in the current study is in agreement with the previous reports in Ethiopia. (7) and Egypt(8) and FAO(9). In current study, No significant difference (P>0.05) was observed in the prevalence of FMD between female and male which come in line with others (7).

Depending on the statistics of the veterinary hospital in Diyala indicated that the vaccination rate in Diyala province in 9-2011 was 100%, while the immunization rate was 88.2%, and in the first half of 2012 was 65.o%, while the rate of immunization is 48%.In the second half of the same year, the vaccination rate 53% and the immunization rate was 43%. During this research, the immunization rate was 16% in this province and this means that preventive immunizations are necessary to curb the outbreak and spread of the disease.

Vaccination plays an important role in the control of FMD in Asia, Middle East, Africa and South America. In most FMD-free countries a non-vaccination policy is in place. Recent outbreaks in Europe clearly demonstrated the risk of this policy. Using conventional diagnostic techniques, up to now it was not possible to distinguish FMD infected animals from purely vaccinated animals. In vaccinated areas disease control authorities had limited possibilities to monitor virus presence or circulation (10).

These results indicate that the ELISA-3ABC method could be used as a complementary method for sero-epidemiological studies as an indirect indicator of viral activity, as long as the age and vaccination status of the animals being sampled are taken into consideration(11).An ELISA using baculo virus-expressed 3AB and 3ABC as the antigens has been demonstrated to successfully differentiate vaccinated from infected cattle and sheep (12).

In Conclusions: low number of clinically infected animals indicate the efficacy of vaccination program in Diyala province and booster doses were highly recommended

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