

Observation of Body Weight of Desi Chicken Affects Due to *Ascaridia Galli* Infection treated with Ayurvedic Formulation

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Abstract

This study is all about to finding the effect of the *Ascaridia galli* disease on body weight of desi chickens. Ayurvedic dose gives to the diseased birds for cured. Free ranging chickens having high possibility to have infection of various diseases. Chickens infected with many parasitic diseases, among that Ascariidiosis is most common parasitic disease that founds in chickens. Groups of the chickens were observed for this study. Result shows that body weight of the infected chickens is decreased as compare to healthy chickens. After ayurvedic treatment body weight of chickens were increased. Ayurvedic formulation is used for this study is Palas, Wavding, Tulas. Ayurvedic formulation is also compare with standard (drugs) treatment like albendazole.

INTRODUCTION

According to Indian history the first fowl was domesticated as early as 3200 B.C Egyptian and Chinese records shows that fowls were laying eggs for man in 1400 B.C the industry remains in backyard of houses for many years (www.aeb.org).

The poultry industry is vast industry which gives economic stability to the farmers who did the poultry farming along with farming. In rural area most of the farmers doing backyard poultry farming. They reared chicken in backyard. These chickens are free range chickens which not keep all time in cage. The birds are reared for the purpose of meat and eggs for human consumption. It is predicted that about 70% of poultry outcomes produced by farmers with limited resources and by family owned poultry systems out of that nearly 80% are found from the rural areas below the free-range system (Kalita N *et al.*, 2004).

Two systems exist at present scenario Commercial system and Backyard system. Around 80% of the world poultry lay inside second system

that is backyard system. These systems are portrayed by a low contribution in terms of investment and a low production regarding final outcome. Parasitic diseases impact on the health of the birds and also directly on the outcome that can be gain from the birds in terms of meat and eggs. These are some limited factors that effect on poultry production in developing countries (Permin A *et al.*, 1998).

The occurrence of disease problems of poultry in India and their relatively importance have been related to differences in climate, methods of management and husbandry and levels of development of poultry production Prior to last 5-6 decades when poultry in India were reared by traditional extensive methods, there occurred few diseases namely Ranikhet (New castle) disease, fowl cholera, fowl spirochaetosis, salmonellosis, fowl pox, coccidiosis and Ascariidiosis which used to manifest in a well ordered fashion and posed not much problem in their control since effective inhibitory measures were available and the birds were have the disease resistant health.

Ascariidiosis is the important helminthic disease of poultry which is most significant, dangerous and is related to managerial practices. It is one of the major diseases of poultry, mostly affecting the small aged birds. The parasites have many fold effects on poultry production. *Ascaridia galli* is a parasitic roundworm belongs to the phylum Nematoda. Nematodes of the genus *Ascaridia galli* are basically intestinal parasites of birds (Yamaguti, S., 1961).

The *Ascaridia galli* which causes Ascariidiosis in poultry and found in almost all the area of country among all the chickens; causing significant financial losses which are mainly due to high percent of morbidity and mortality, poor weight gain. This is one of the most prevalent consistent problems in poultry, particularly tropical countries like India.

MATERIALS AND METHODS

Experimental studies on field level to assess the efficacy of Ayurvedic remedies:

Figure 1 shows the flowchart of the work. For conducting the experiment on field, examined the fecal sample of Desi Chickens in the research area. These samples were observed under the microscope.

90 Samples which found positive with Ascariidiosis infection in Desi Chickens were purchased and divided in six groups (B, C, D, E, F and G) kept under natural condition as like in villages they reared. 15 healthy Desi Chickens were purchased in healthy condition and kept in healthy group (A). For the evaluation of the Ayurvedic remedies these birds reared for 45 days under observation for finding the effect of the treatment on Physiological parameter. Effect of disease and treatment on weight factor was also observed. Obtained data was statistically analyzed by SPSS software did one way ANOVA followed by LSD test for finding significance of the result.

Body weight gain:

The body weight gain of all the individual birds was recorded and average body weight gain was calculated for each group recorded after treatment. Weight record of group at the 1st day of experiment, after 15 days (1st day of treatment) of experiment and after treatment of the infectious Desi Chickens (on 30th and 45th days) as well as healthy group.

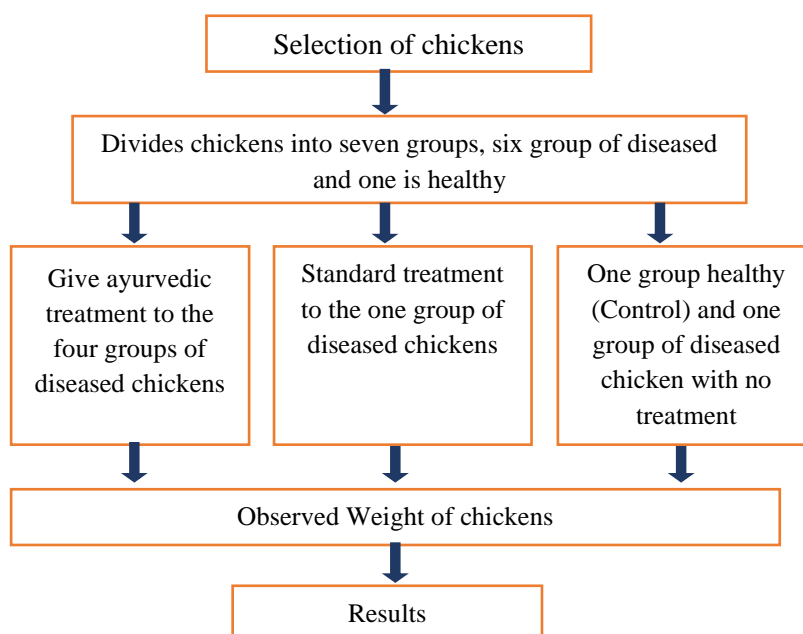


Figure 1: Flow chart of Methodology

Table 1: Groups based on infection and treatment trial

Sr.	Group	No. of chickens in group	Legend	Treatment	Dose (Oral)
1	A	15	Healthy	Control (Healthy)	
2	B	15	Naturally infected and treated with A	Ayurvedic A Palas	3ml/bird
3	C	15	Naturally infected and treated with B	Ayurvedic B Tulas	3ml/bird
4	D	15	Naturally infected and treated with C	Ayurvedic C Vavding	3ml/bird
5	E	15	Naturally infected and treated with A+B+C.	Ayurvedic A+B+C	3ml/bird
6	F	15	Naturally infected and treated with Allopathic drugs	Allopathic Albendazole	3ml/bird
7	G	15	Naturally infected and without treatment	No treatment (Infected)	No treatment

RESULTS AND DISCUSSION

Incidence of Disease Ascariidiosis

Due to the wide expansion of poultry production in India, in recent years several disease problems have struck the poultry flock. The interaction of the disease-causing agent, host and the

environment is responsible for the onset of the disease. It is the disease-causing agent and host which maintain a delicate equilibrium in the environment for their co-existence. Diseases occurring due to nutritional and managerial errors sometimes acquire the epidemic.

Table 2: Weight (gm) Gain of Desi Chickens from Different Group. Physiological studies: Weight (gm)

Group	Day1	Day 15	Day 30	Day 45
A	899.27 ± 11.79	928.33 ± 11.75	959.40 ± 11.99	990.33 ± 12.57
B	823.53 ± 23.14	838.47 ± 23.10	863.47 ± 23.10	888.47 ± 23.10
C	802.13 ± 11.57	817.13 ± 11.57	838.13 ± 11.57	860.13 ± 11.57
D	809.60 ± 22.28	823.60 ± 22.28	842.60 ± 22.28	862.60 ± 22.28
E	828.47 ± 23.17	844.47 ± 23.17	868.47 ± 23.17	894.47 ± 23.17
F	828.93 ± 21.31	843.93 ± 21.31	869.93 ± 21.31	897.93 ± 21.31
G	815.87 ± 8.27	827.87 ± 8.27	837.87 ± 8.27	844.87 ± 8.27

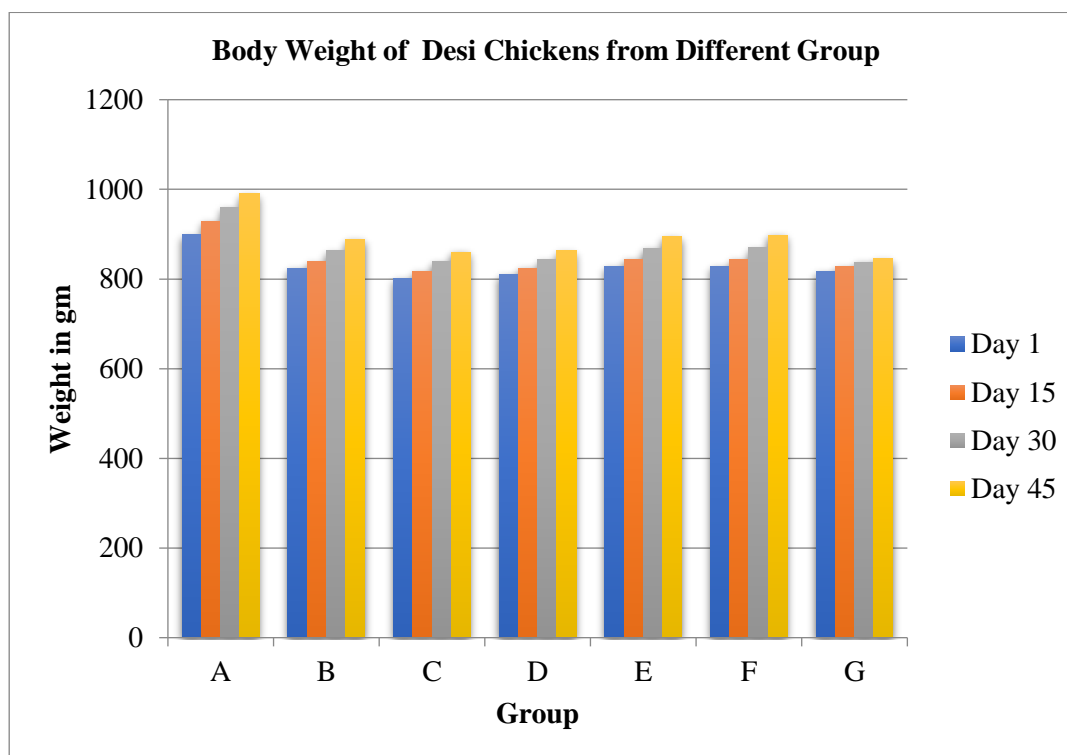


Figure 2: Weight of Desi Chickens from Different Groups

In physiology body weight of Desi Chickens were recorded. Results of the treatment are observed in the study duration. Group A of healthy chickens and group B to G were diseased chickens. Table 2 and figure 2 Shows weight (gm) gain of Desi Chickens from different group.

Weight recorded at day 1st of group B to G were (823.53 ± 23.14), (802.13 ± 11.57), (809.60 ± 22.28), (828.47 ± 23.17), (828.93 ± 21.31), and (815.87 ± 8.27) respectively and weight in group A was (899.27 ± 11.79).

Weight recorded at day 15th of group B to G were (838.47 ± 23.10), (817.13 ± 11.57), (823.60 ± 22.28), (844.47 ± 23.17), (843.93 ± 21.31), and (827.87 ± 8.27) respectively and weight in group A was (928.33 ± 11.75). Record significant increased in group a comparing to the diseased group from B to G.

Weight recorded at day 30th after treatment of group B to F were (863.47 ± 23.10), (838.13 ± 11.57), (842.60 ± 22.28), (868.47 ± 23.17), (869.93 ± 21.31), with slightly increased and in group G weight found decreased (837.87 ± 8.27) and weight in group A was (959.04 ± 11.90).

Weight recorded at day 45th found increased in B to F (888.47 ± 23.10), (860.13 ± 11.57), (862.60 ± 22.28), (894.47 ± 23.17), and (897.93 ± 21.31) respectively. This shows the effect of treatment on weight. Weight of group A was (990.33 ± 12.57) found increased and weight decreased of group G was (844.87 ± 8.27) which is untreated infected group of Desi Chickens.

Zia-ur-Rehman et al., (2014) have observed the effect of the drugs on weight gain of the chickens. They treated *Ascaridia galli* infected chickens with the treatment Piperazine citrate and Ivermectin. They found Piperazine citrate has better affect on mature and immature *Ascaridia galli* worms.

Shahadat et al., (2008) Ivermectin Pour-on and an extract of whole *M. Charantia* were compared in vitro and in vivo for their Antihelminthic efficacy against adult *Ascaridia galli* infected chickens. There was an increased in body weights for groups treated with Ivermectin Pour-on at 500 µg /kg body weight and for those receiving the 3% aqueous extract of *M. Charantia* after treatment but decreased body weight was seen in the control group.

Ghulam Abbas *et al.*, (2016), Helminth infected birds treated with Piperazine citrate showed beneficial effect of physiological, hematological and hormonal profile as compared to those treated with Ivermectin. On the basis of the results of the present study it is concluded that Piperazine is comparatively a better drug than Ivermectin to control worm infestation.

CONCLUSION

From above study the effect of ayurvedic treatment is found higher in group F followed by group E, group B, group C and group D. Group A was healthy group and found high value of weight among all groups while group G found decreasing weight value.

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