ORIGINAL PROF-953

HOOKWORM INFECTION;
ITS CORRELATION WITH PACKED CELL VOLUME IN A RURAL COMMUNITY OF PAKISTAN

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ABSTRACT... This study correlation of hookworm infection and packed cell volume, was conducted in rural population of Mustafaabad (Lulliani) District Kasur. Through a stratified random sampling 1010 adult male subjects were selected from the locality.253.ie; 25.05% were found hookworm positive. The positive cases were subjected to detailed stool examination and blood examination. A thorough study was conducted on 253 hookworm positive cases for correlation of PCV and No. of hookworm ova per gram of faeces, with coefficient of correlation as r = - 0.841, being a high degree of negative correlation.

INTRODUCTION

Hookworm infection is a great public health problem and produces the serious human disease by producing blood loss and in this way can lead to serious man power and economic loss among people of rural population. Hookworm infection prevails in warm and humid areas of the world where partly shaded sandy and moist soil is present[15].

Millions of people of the world are prey to this notorious infection. Many studies conducted in Pakistan show that hookworm infection is prevalent in Pakistan[6"10].

It has also been observed that the species present in Pakistan is Ancylostoma duodenale. It is more dangerous as far as its blood sucking ability as compared to Necator americanus.

Under the above circumstances it has been emphasized by many scientists to perform research on human hookworm infection especially on details of blood loss. Many studies conducted so for show that correlation of hookworm infection and PCVdoes exist1114. A number of workers did not find any relationship between hookworm infection and PCV[15-18].

AIMS AND OBJECTIVES

1. To find out the prevalence of hookworm ; infection in the rural community of Pakistan.

2. To find out that whether a correlation of hookworm infection and PCV exists or not in rural area of Pakistan.

MATERIALS AND METHODS

On the basis of stratified random sampling method 1010 male adult subjects were selected from rural area of Mustafaabad (Lulliani) Distt. Kasur.

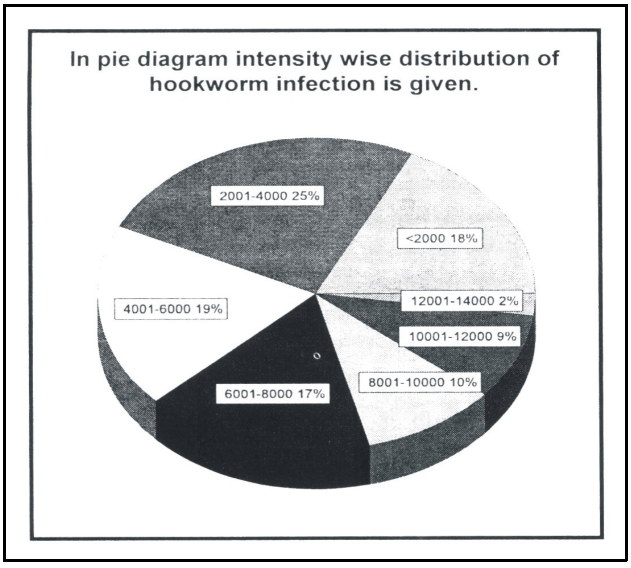
Out of these 1010 subjects 253 were found hookworm positive. All hookworm positive cases were subjected to detailed parasitological and haematological tests. After macroscopic examination of stool microscopic examination was carried out19. Quantitative estimation of hookworm eggs in faeces by Stall's modified egg counting technique was done[20].

The blood samples were collected under strict-aseptic technique21. Packed cell volume was determined by micro haematrocit method[22"23].

RESULTS

Table-l. Prevalence of hookworm infection in sampled population (n=1010)

Category	No. Of subjects	%age
Hookworm positive	253	25.04%
Hookworm negative	757	74.96%
Total	1010	100%



In this Graph there is linear negative or inverse correlation between PCV values in percentage and intensity of hookworm infection in terms of No. of ova per gram of faeces.

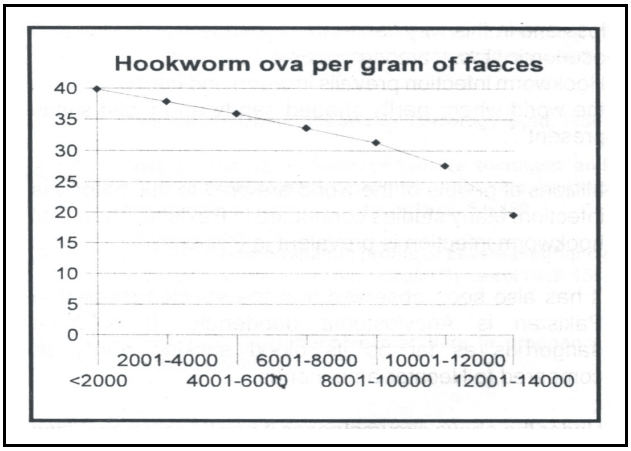
DISCUSSION

This study has shown a high degree of negative correlation between hookworm infection and PCV, (r= --0.841). This study has therefore opened up the chapter of supporting the previous studies in favour of relationship between hookworm infection and PCV values and contradicting those which could not find any relationship.

Table-ll. Relationship of hookworm infection and packed cell volume.

No. Of ova per gram of faeces.	No. Of subjects	Mean PCV
<2000	46	39.82
2001-4000	63	37.80
4001-6000	47	35.88
6001-8000	43	33.55
8001-10000	26	31.27
10001-12000	24	27.55
12001-14000	4	19.55

P<0.05 r = -0.841
This relationship was statistically significant



In many studies which did not find any relationship between hookworm infection and PCV, no statistical analysis was made (Roche and Layrisse[11] Ansari, and Naru[7] Basta et al[14], WHO[25] Gold Simith[26]) some studies who did not find any relationship reveal that the sample size was too small (Roche and Layrisse[11], Kennedy[15], Foy and Kondi[16], Stott[17]).

Perusal of the above shows that studies which don't show any relationship between hookworm infection and PCV, either used small sample size or their studies did not carry all spectrum of cases and data was not subjected to statistical treatment.

In the present study it has been established and proved that there does exist a negative correlation of high degree between PCV and No. of ova per gram of faeces.

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