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A Study to Assess the Quality of Life and Effects of Poultry dust on the Respiratory Health of Poultry Workers in Selected Area

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Abstract: ***The poultry dust found in the poultry farm is a mixture of organic and inorganic practice. This dust inhaled by the workers a fraction of airborne materials enters in the respiratory tract causing breathing disease. The constituents of poultry dust may range from pure wood dust to a complex mixture containing poultry faeces, feathers, bacteria, endotoxin, fungi, and spores. Poultry dust reported mean concentration of total dust from poultry operation range between 0.12mg/m3 to 26 mg/m3. The inhalable dust concentration has been shows to range from 0.02 to 81.33mg/m3 and that current allergy and clinical immunology of respirable dust from 0.01 to 6.5 mg/m3. Higher concentration have been reported in floor based operation than in cage based operation. A non experimental study is chosen to assess the quality of life and effect of poultry dust on respiratory system among poultry workers. The study was conducted in veppalai village. 50 male and female who comes under inclusion criteria were selected by random sampling techniques, data was collected using sociodemographic and multiple choice questions(to assess the respiratory system and quality of life). The method of data collected after an introduction and report with patient assessing the quality of life and respiratory illness among poultry workers by using quality of life scale (WHO) and modified questionnaire to assess the respiratory illness among poultry workers. The result revealed that the poultry dust in the poultry farm affects the respiratory system of the poultry workers. Thus the poultry dust affects the respiratory system of the poultry farm workers.***

Keywords: Respiratory health, poultry dust, quality of life

1. Introduction

The poultry dust found in the poultry farm is a mixture of organic and inorganic practice. This dust production also depends on the type of birds, during the work activities and the growth or reproductive cycle of birds. This dust inhaled by the workers a fraction of airborne materials enter in the respiratory tract causing breathing disease.Poultry farming is the process of raising domesticated birds such as chickens, dust, turkeys and geese for the purpose of framing meator eggs for food poultry mostly chicken are farmed in greater number, farmers raise more than 50 billion chickens annually as a sourse of food both their meat and eggs.Po ultry dust is used to describe dust including biological agents that is produced work activities in poultry farms. The constituents of poultry dust may rang from pure wood dust to a complex mixture of organic and inorganic materials containing poultry faeces, feathers, bacteria, endotoxin, fungi, and spores. In addition to particulates the decomposition of biological materials may produce gas ammonia, hydrogen, sulphide and carbon dioxide that also cause respiratory health problems.Poultry dust the reported mean concentration of total dust from poultry operation range between 0.12 mg/m3 to 26 mg/m3. The inhalable dust concentration has been shows to range from 0.02 to 81.33 mg/m3 and that current allergy and clinical immunology of respirable dust from 0.01 to 6.5 mg/m3. Higher concentration have been reported in floor based operation than in cage based operation. Some occupation respiratory disease affects the tubes that carry air in and out of the lungs. Occupation asthma is an example of this sort of problem. It is caused by allergy to something in the work place. Eg, poultry dust this type of allergy usually takes several months or even years to develop and may also cause eye and nasal symptoms at work.Controlling exposure to poultry dust lung function and allergic disease symptoms are generally found in poultry workers when they are working for long period or repeated exposure to high concentration in poultry dust. There are some precaution and good working practice for occupational standard for poultry farmers. Avoiding respiratory disease one should follow good working practices and proper setup. Should immediately report symptoms of respiratory illness, and concern to the doctor for health problem.

2. Materials and Method

A non experimental study was chosen to assess the quality of life and effects of poultry dust on the respiratory health among poultry workers. The study was conducted at veppalai village. 50 male and female who comes under inclusion criteria were selected by random sampling technique. The data was collected using socio demographic variables developed by researcher and it deals with age, sex, education, occupation and income. As a part of assessment of respiratory health multiple choice questions to assess the respiratory system and quality of life among poultry workers. The tools were translated in Tamil language. Additionally, paired T test were performed to assess the effectiveness of the study.

3. Result and Discussion

Table 1; Frequency and percentage of demographic variables among poultry workers, regarding age out of 50 sample 05(10%) samples were under 21-30 yrs, 16(32%)

were under 31-40 yrs, 17(34%) were under 41-50yrs, 12(24%) were more than 50yrs. Regarding gender out of 50 samples 31(62%) samples were male, 19(38%) were female. Regarding educational level out of 50 samples 24(48%) samples were below 5^{th} , 09(18%) samples were 5^{th} -10^{th} standard, 10(20%) samples were higher secondary, 05(10%) samples were any degree. Occupation out of 50 samples, 16(32%) samples were farmers, 24(48%) samples were poultry farm workers, 03(6%) samples were companies, 07(14%) samples were others. Regarding to income out of 50 samples, 15(30%) samples were 5000-10000, 12(24%) samples were 10,000-20000, 10(20%) samples were 20000-30000, 13(26%) samples were above 30000. Regarding social economic status out of 50 samples, 20(40%) samples were low class, 20(40%) samples were middle class, 10(20%) samples were high class. Regarding marriage status out of 50 samples, 41(82%) sample were married, 09(18%) samples were unmarried. Regarding area of living out of 50 samples, 35(75%) samples were living in rural area, 15(30%) samples were living in urban area, regarding type of family out of 50 sample, 18(36%) samples were living in nuclear family, 13(26%) samples were living in joint family, 7(14%) sample were living in extended family, 9(18%) samples were simple parent family. Regarding habit out of 50 samples, 18(36%) samples were consumption of alcohol, 19(38%) samples were smoking, 12 (24%) samples were other.

Table II; Mean and standard deviation, lower quartile, upper quartile, inter quartile of quality of life among poultry workers. In that the quality of life and general health shows 62 median with 17.5 standard deviation ,physical health shows 37.5 median with standard deviation 9.8,psychological shows 29.1 with standard deviation 7.6 ,social relationship shows 45.8 with standard deviation 16.31,environments shows 34.3 with standard deviation 7.2.

Table III; Frequency and percentage to assess the respiratory illness among poultry workers. in Regarding occupation history, working full time every day 32(62%), exposure of chemical (36%) , asthma problem (44%) , any chest surgery (12%). Regarding family history ,family members has respiratory problem (76%) , Regarding cough (56%), cough during night (56%), Regarding wheezing sound (80%) , wheezing problem more than 3years (38%), treatment for attacks (68%), Regarding habits tobacco smoking smoke cigarette (64%) , smoking 2-3 pack per day (60%).

Table 1: Frequency and percentage distribution of demographic variables among poultry workers

S. No	Demographic Variable	Classification	Frequency	Percentage
1	Age	21 - 30 years	05	10%
		31 - 40 years	16	32%
		41 - 50 years	17	34%
		> 50 years	12	24%
2	Gender	Male	31	62%
		Female	19	38%
3	Education	Below 5th	24	48%
		5-10th	09	18%
		Higher secondary	10	20%
		Any degree	05	10%
4	Occupation	Farmers	16	32%
		Poultry farm workers	24	48%
		Companies	03	6%
		Others	07	14%

Table 2: Frequency and percentage of quality of life among poultry workers

	Median	Standard Deviation	Lower Quartile	Upper Quartile	Inter Quartile
Quality Of Life And General Heal	62	17.5	46.5	62.1	15.3
Physical Health	37.5	9.8	28.2	42.8	14.5
Psychological	29.1	7.6	28.7	37.5	8.8
Social Relationship	45.8	16.31	31.2	52.07	20.8
Environment	34.3	7.2	28.1	40.6	12.5

Table 3: Frequency and percentage to assess the Respiratory illness among poultry workers

S.no	Respiratory health assessment tool	Frequency	Percentage
1	**OCCUPATIONAL HISTORY**		
a)	Have you ever worked full time (30 hours per week or more)?	32	62%
b)	Have you ever been exposed to gas or chemical in your work?	18	36%
c)	Have you ever have any asthma related problem?	22	44%
d)	Have you ever undergone any chest surgery?	6	12%
2	**FAMILY HISTORY**		
a)	Do any of your family members had respiratory problems?	38	76%
3	Cough		
a)	Do you usually have cough?	26	56%
b)	Do you usually cough at all during the rest of the day or at night?	28	56%
c)	For how many year have you had the cough?	25	50%
d)	Do you usually bring up phlegm at all on getting up or first thing in the morning?	18	36%
4	**WHEEZING**		
a)	Does your chest ever sound wheezy or whistling?	40	80%
b)	Do you have wheezing problem more than 3years?	19	38%
c)	Have you ever required medicine or treatment for the attacks?	34	68%
5	**TOBACCO SMOKING**		
a)	Do you smoke cigarette?	32	64%
b)	How many cigarette do you smoke per day? (2 or 4 packets)	30	60%
c)	How many year do you smoke cigarette?	38	76%

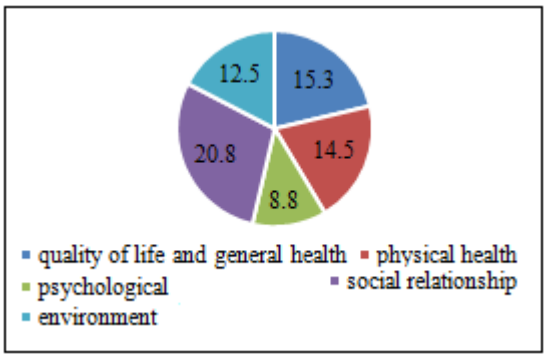

Figure 1: Quality of life among poultry workers

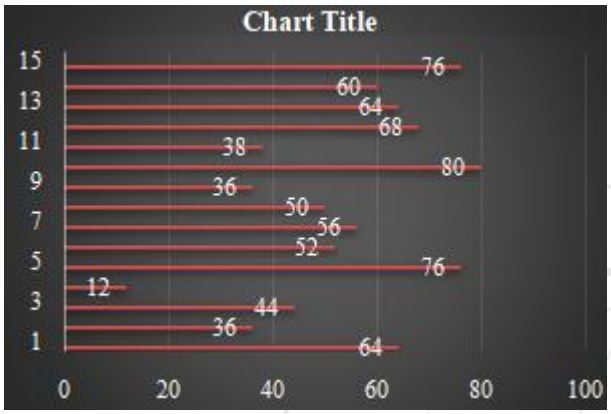

Figure 2: Frequency and percentage distribution of Respiratory health illness

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