RESULTS
The demographic details of the controls and exposed are shown in Table-1. The controls and sprayers did not show any significant difference in their mean ages. However the sprayers were short staturated and had lower BMI.

Table -2 shows that 71.1% were addicted to Tobacco chewing, smoking and alcohol consumption in the exposed group and majority of them were literate in the agricultural workers (66.6%).

Table -3 shows the all agricultural workers belongs to different rural areas of the district Krishna, Andhra Pradesh. Most of the sprayers were rural (92.6%) and only 7.1% were urbanites who migrated to mangoorchards in spraying season.

Table -4 shows that socioeconomic status of the control and exposed. Most of the workers (62%) belonged to middle socio economic group and religion wise 58% were Hindus, while 51.3% were vegetarians and had the mean exposure of the OP pesticides to 5.94±5.89 years.

The table-5 shows the severity of toxicity caused by different OP pesticides. Methamidophos, Methyl-parathion, Monocrotophos, showed very high toxicity while Malathion, Triclorphan, showed moderate toxicity.

Table-6 shows the prevalence of Bronchial impairment and its severity in control and exposed groups. The overall prevalence was significantly highly in the exposed workers (34.0 VS 20%). We found primarily the mild cases of Bronchial obstruction which was 21.3% in the exposed and 12% in the controlled groups respectively.

Table-7 reports the prevalence of mixed respiratory impairment in control and exposed workers. The exposed group exhibited 7.33% respiratory impairment in comparison to 2% observed in the case of controls (severe, mixed, respiratory impairment). Most of the cases in both the groups showed higher values of respiratory impairment of mild category.

Table-8 shows the distribution of pesticides absorption in the body, The farm workers showed the route of entry of OP pesticides was maximum (74.6%) through the dermal route. followed by ocular route (59.3%)
Table-9 shows the storage site of OP pesticides. Most of the OP pesticides were stored in homes (92.7%) while only (8.7%) storage was there in farm houses. Bed room was the commonest place to store the OP pesticides showing the ignorance of rural population to the risk hazards of OP pesticides.

The overall prevalence of neurotoxicity observed in agricultural workers taken from different areas was found to be 16%. The maximum neurotoxicity was caused in area-iv where workers were exposed to chlorpyrifos and dimethoate OP pesticides. Followed by in area-2 where the workers were exposed to methyl parathion. (Table-10)

The various occupational exposure routes are shown in Table-11 and it was found that the application or spraying of OP pesticides in the field was the major route (64.6%) of exposure to OP pesticides followed by storing and the mixing process.

The use of protective devices by farm workers is shown in Table-12. It was majority of the workers did not use the protecting devices only 10-15% peoples used gloves and goggles etc.

The usage of pesticides within the project areas are listed in Table-13 shows that OP pesticides are predominately spread in the project area followed by carbamates.

The prevalence of pesticide related symptoms is shown in Table-14. The most prominent symptoms recorded in exposed groups were the burning sensation in the eyes (15.3%), watering of eyes (14%) dizziness (12%) and Headache (12.6%) cases.

The clinical manifestations of acute OP poisonings that is Muscarinic effects are shown in Table-15. Lacrimations, salivation, miosis, were the cardinal features observed in OP posioning cases.

The nicotinic effects of OPP poisoning are shown in Table-16. Mydriasis,(dilatation of pupil), sweating, tachycardia and tremors were the commonest symptoms recorded by the OPP cases.

The hematological parameters are shown in Table-17. No significant difference in the mean values of total WBC count, total RBC count and hemoglobin values were recorded between the control and exposed groups.
DLC count shown in Table-18. It was observed that the exposed workers had slightly higher count of eosinophils which may be related to allergic response to pesticide exposure.

Biochemical profile of farm workers and controls the levels of AchE was significantly reduced in the sprayers so other parameters like GSH while MDA showed significantly higher in value exposed groups (Table-19).

The nerve conduction values in the peripheral sensory nerves (median, sensory, and ulnar) in upper limb, sural sensory nerve in the lower limb are shown in table-20. The exposed group showed delayed neuro-sensory nerve conduction in both upper and lower limbs.

The motor nerve conduction velocity in both control and exposed groups are shown in Table-21. The motor nerve conduction recorded in median and peroneal nerves showed similar amplitude and F-wave latency in the control and exposed groups.

Table-22 shows the correlation between the exposure to OP pesticides and abnormality in the nerve conduction velocity. In the exposed workers, the OP pesticides like chloropyrifos and methyl parathion showed impaired motor and sensory nerve conduction velocity in the ulnar and peroneal nerves. While Diazion, Mevinphos and Dimethoate failed to show any correlation.

Table-23 shows the mean values of various lung function tests in the control and exposed groups. We find that the dynamic lung function viz FEV\textsubscript{1} and PEF as well as the ratio of FEV/FVC were significantly decreased in the pesticide exposed groups.

Table-24 shows the mean values of Tidal ventilation in control and exposed workers. There was elevated Rf in the exposed workers due to this pulmonary ventilation (VE) was found to be higher in exposed workers.

Table-25. The mean and SD values of different urinary metabolites of OP pesticides in exposed agricultural workers is detailed in table-1. We find that DMTP was positive in 99% urinary samples collected while DEDTP was minimally present. The mean values DMTP and DMP showed wide variations in their mean values.

Table-26. The symptoms of OPIDN have been detailed in table-26. Parathesia of extremities and weakness of proximal limb muscles and neck muscles were the significant symptoms of OPIDN observed in agricultural workers.
Table-27 shows the prevalence of Babinski signs in the exposed workers. 11.33% of the workers exhibited positive sign of Babinski while 14.76% showed negative Babinski signs.

Table -28 shows the different types of organophosphorous pesticides used in Andhra Pradesh, production of Solid OP pesticides and liquid pesticides.

Table -29 shows the use of major and minor Organophosphorous pesticides in Andhra Pradesh.

Table-30 Shows the different types of OP pesticides manufacturing companies in Andhra Pradesh.