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PREVALENCE OF PNEUMONIA IN SOUTH DARFUR STATE- SUDAN DATA COMPARED FROM 2009 THROUGH 2013.

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ABSTRACT
This is a Descriptive analysis approach study, aims to underline pneumonia disease in south Darfur community, Sudan, to inform policy-makers about fact status to put preventive plan and interventions against pneumonia, including vaccination. The DATA was collected by FMOH of south Darfur state from January 2009 through December 2013, total number of reported cases are (21961 case), included both the Inpatient and the outpatient cases, however mortality case excluded in the outpatient report due to some difficulties in collecting the data. In Which are only reported in the Inpatient and they are 201 case, the data shows the inpatient incidence represent less than one third of the total incidence of pneumonia disease during this years specifically 27.1%, where the outpatient take the other two third 72.1% prevalence, the female represent more than half and the age group below 25 year has the commons incidence.

KEYWORD: pneumonia, infected, mortality, incident, outpatient, inpatient, male, female.

INTRODUCTION
Pneumonia is a disease causes inflammation of one or both lungs, this inflammation fill the small air sac in your lung which are called alveoli by fluid, and hence the function of this small air sac is gas exchange the filling fluid resulting from the inflammation prevent the ability for breathing, the symptoms of the disease are various from mild to sever depending to many factors like causative agent, age, sex, health status and the community for ex: the commonest cause of pneumonia in children and comorbiditis patient are viruses, Respiratory viruses have long been appreciated as a cause of community acquired pneumonia (CAP), particularly among children, people with serious medical comorbidities and military recruits (Pavia AT 2013), pneumonia is an important public health problem and the incidence of pneumonia is higher in people at the extremes of age, men and people living in socially deprived areas (Myles PR, McKeever TM, Pogson Z, Smith CJ, Hubbard RB 2009) and since the elderly and children are the commonest effected people in the community and their commonest causative organism are viral that may lead us to result of viral to be the commonest causes of pneumonia in the community, but this conclusion are only hypothetical because the incidence of pneumonia are varying from community to each. In south Darfur community the incidence of disease in children are high in the city about half of the total cases reported 45.8%, but in the village and rural area only about 20.1% for children below one year and this may indicates high viral infections of the disease in city compare to other causes, and ratio are lower in rural area however no data have reported in this study include it isolation to the organism, Regarding the sex incidence our result show slight lower incidences in female comparing to male which are the same result shown in anthor research, The incidence of pneumonia was slightly lower in females co*mpared to males [age-adjusted incidence rate ratio (IRR) 0.88, 95% CI 0.86-0.89. 2. Recurrent pneumonia occurs in fewer than one tenth of all children hospitalized with pneumonia. Most of them have a known predisposing factor. The most common cause was oropharyngeal incoordination (Owayed AF, Campbell DM, Wang EE 2000) Bronchial asthma in children aged more than 2 years and gastroesophageal reflux in children aged less than 1 year were the most common underlying illnesses for recurrent pneumonia (Ciftci E, Gunes M, Koksal Y, Ince E, Dogru U 2003) early mortality is relatively low and is caused by pneumonia-related factors. It occurs mainly among the elderly and in patients presenting with altered mental status, multilobar pneumonia and septic shock (Garcia-Vidal C, Fernandez-Sabe N, Carratala J, et al 2008), Pneumonia was considered pneumococcal if either sputum Gram stain, sputum culture, blood culture, or the immunochromatographic (ICT) Binax Now S. pneumoniae test (composite diagnostic) was positive (Albrich, W. C., M. W. Pride, S. A. Madhi, J. Callahan, P. V. Adrian, R. French, N. van Niekerk, S. Sebastian, V. Souza, J. N. Telles, G. Paranhos-Baccala, K. U. Jansen

and K. P. Klugman 2017), The vaccination can play major role especially in bacterial type of pneumonia, Regard to pneumococcal vaccine, 80.4% of patients were not vaccinated, 14.5% vaccinated with PPV23 and 5.1% with PCV13. The 1-year survival rates after hospitalization for pneumonia were 83.6%, 85.9% and 89.3% in the unvaccinated, PPV23 and PCV13 groups, respectively (Baldo, V., S. Cocchio, T. Gallo, P. Furlan, P. Romor, C. Bertoncello, A. Buja and T. Baldovin 2016), but in thoses with less immunity like childreen and those who suffring from chronic illness like cancer and HIV the most common causes of orginism are viruses in which the vaccinted measure diffucltey stablishment like Cytomegaloviruses which are opportunistic pathogens that cause lung infection in immunocompromised individuals (Sunnetcioglu, A., M. Sunnetcioglu, H. Emre, L. Soyoral and U. Goktas 2016), the investigation which done in our study for the pneumonia patient was rang from full blood count, ESR, chest x.ray, sputum culutre and thoses last two are mostly done in highly facility centars, the MRI is an accurate, fast and effective method for diagnosing outpatient pneumonia, with better accuracy compared with chest radiography (Syrjala, H., M. Broas, P. Ohtonen, A. Jartti and E. Paakko 2016), another accuracy tools for investigation is LUS which is a robust diagnostic tool for pneumonia with high accuracy (Xia, Y., Y. Ying, S. Wang, W. Li and H. Shen 2016).

STUDY OBJECTIVE

The objective of this study is to

1. Aim to underlying pneumonia in south Darfur community
2. To exploreprevalence differences between the gender and age groups
3. To highlights the need of awareness incamps settings regarding the pneumonia
4. To show and understand the large differences of the disease between the inpatient and outpatient.

METHODOLOGY

the relies on descriptive method of data collected in south Darfur state hospitals and health centers both in the rural and cities health facilities, include 13 health centers and hospitals around the entire state, the data were collected between the period of January 2009 through December 2013 in 21961 patient in different age group from age below one year to above 44 years, in both sex, the data are collected by the hospitals administrative staff from the outpatient and inpatient registration books the hospital which contained history taken from the patients in addition to lab report in which showed the type of investigation use to diagnosis the pneumonia and rang from normal routine investigation of the blood count to the specific test of the bacterial culture, chest X.ray and other probable differential diagnosis for other causes like TP and asthma, the abundant bacterial type pneumonia which is isolated was streptococcus pneumonia.

Abbreviations: ex, example; CAP, community acquired pneumonia; FMOH; federal ministry of health; TP, tuberculosis, LUS; lung ultra sound.

RESULT

The study found that, the total reported cases of all morbidity in south Darfur between the year 2009 to 2013 are 165225 cases and the total number of pneumonia during the same years are 21961 case, in which represent about 7.5% from the all reported cases.

Figure 1 shows the increase of the pneumonia and some decrease variation with time, 33.7% increase in cases in 2013 than the first year of the study 2009.

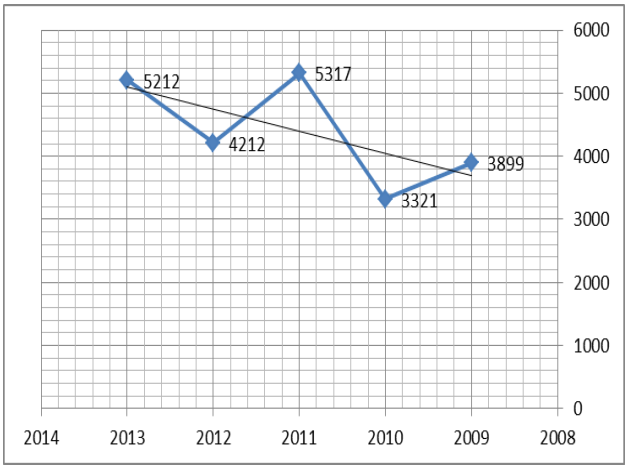


Table (1) shows positive cases of pneumonia in 2012, data collected from all lab department in all hospital, the data shows 47% of the cases are coming from three hospital (nyala,alnahda,South elwihda) in which this hospital are from the nyala city, also we found that near 8.5 of 10 cases in nyala hospital are positive which indicate high prevalence, in other hand kass hospital data are show less positive cases only 11.3%.

Table (1): pneumonia positive cases, for all health facilities in 2012.

Hospital	Cases	postive	%
Nyala teaching hospital	1578	1336	84.6
Kass	813	92	11.3
rhiedelbrdy	967	425	43.9
Buram	641	239	37.2
Eidalfursan	1322	456	34.4
alnahda	1124	412	36.6
tulos	1214	631	51.9
South elwihda hospital	1341	621	46.3

Looking for table (2) pneumonia incidence, data shows the inpatient represent only 28.1% of total cases, while outpatient represents 71.9% of the total incident.

The male represent 48.6% of the total reported cases while female represent 51.4%, respect age distribution

we found that group less than one year represent about 25.6%, while the age group above one year and below 25 year represent about 49.5%, the age group between 25 and 44 year are represent 10.4% and age group above 44 year represent 14.5%, the mortality rate are about 10 for every 1000 patient.

Table(2) pneumonia incidence cases, for all health facilities from 2009 to 2013

Variables	Inpatients	Outpatients	Total
Male	3122 (29.2%)	7565 (70.8%)	10687
Female	3037 (26.9%)	8237 (73.1%)	11274
Age Groups			
Less than 1 year	2447 (43.5%)	3169(56.5%)	5616
Less than 25 and more than 1 year	2781 (25.5%)	8105 (74.5%)	10886
25 to 44	418 (17.8%)	1933 (82.2%)	2351
Above 44	513 (16.5%)	2595 (83.5%)	3108
Incidents	5958 (27.3%)	15802 (72.3%)	21760
Mortality	201	Not recorded	201

CONCLUSION

Pneumonia is common infectious disease in tropical country, in our study we found:

*Nyala hospital has the highest pneumonia prevellance in state of south Darfur

*most of pneumonia cases in the age group below 25 years

*there is no significant different between gender regard the pneumonia prevellance

*death rate in south Darfur state due to pneumonia is 10 case of every 1000 patient.

Table show the diffrences between infected and dying male/femal in the city of nyala.

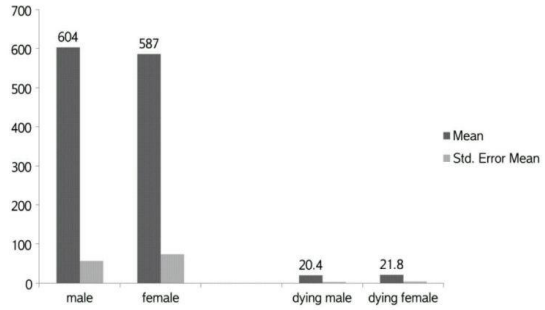
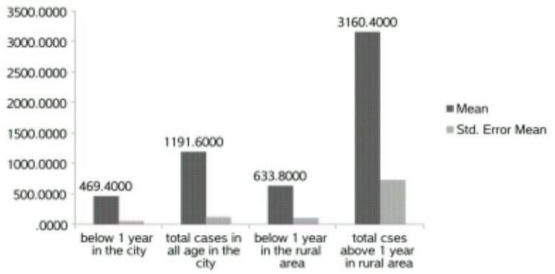


Table show the diffrences between infected paitentbleow 1 year and other age group in the city of nyala and her rural area



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