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## THEMES AND PERSPECTIVES IN OFFICE ERGONOMICS: IMPLICATION FOR SAFETY, HEALTH AND WORKERS' PRODUCTIVITY IN KATSINA STATE LOCAL GOVERNMENT OFFICES IN NIGERIA

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### Abstract:

Issues concerning ergonomics have become central to office occupational safety and health due to the prevalence of work-related musculo-skeletal disorders which cause worker discomfort, disability, and loss of productivity. In Nigeria, upper extremities disorders such as wrist pains, pains in the upper back region, shoulder pains, ulna neuropathy, neck disorders, and eye syndrome are common epidemics among typists, secretaries, computer users and other related office jobs with negative socio-economic consequences. The purpose of this paper is to present the result of an investigation of the current office ergonomic situation of Katsina State Local Government offices in Nigeria with its implication for workers' safety, health, and overall productivity. The methodology adopted is the qualitative strategy of inquiry using 210 questionnaires with a section having open-ended questions designed to ask respondents to speak their minds concerning the nature of ergonomic facilities of their offices, nature of office work policy (ergonomic policy) and their level of ergonomic awareness. Using thematic network analysis, the responses from that section of the questionnaire were organized into themes, patterns, and categories based on three deductive themes (ergonomic facilities, ergonomic policy, and ergonomic awareness) as key concepts in the investigation. From the analysis of the responses, it was found that the ergonomic scenario of Local Government offices in the Katsina State of Nigeria in terms of office facilities, office ergonomic (work) policy and level of ergonomic awareness are poor and that workers are exposed to the dangers of work-related musculo-skeletal disorders and other related occupational diseases. Despite the fact that the study area for this research was Local Government Offices in Katsina State, Nigeria, the findings and implications are relevant to other government offices in the country. Therefore, the conclusion of this study is that the office environment of Katsina State Local

Governments in Nigeria needs to be improved for the general safety, health and overall productivity of the workers.

**Keywords:**

Ergonomic Awareness, Ergonomic Facilities, Ergonomic Policy, Office Ergonomics, Thematic Analysis

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## **Introduction**

Ergonomics is a scientific approach concerned with the understanding of interactions among humans and other elements of a system, and as a profession, it applies theory, principles, data and methods to design products in order to optimize human well-being and overall system performance (Michelle *et al.*, 2008). It is called with so many names such as human factor design, human capable designs, human factor engineering, friendly design, functional design etc. It is a field of work design that takes human factor into consideration.

Thus office ergonomics, is the proper application of ergonomic principles in the design of office layout, work stations, furniture, as well as ensuring that all the aspects of office work environment are in tune with the capability and limitations of the workers in such a way that no injury is sustained by the worker (Menendez *et al.*, 2012).

Human Factor Engineering and Ergonomics are terms that are being used interchangeably, especially in the United States (Alan, 2013), and are employed to fulfill the ultimate goals of occupational safety and health to achieve optimum productivity. In the context of office environment, ergonomics is relevant in the design of such things as safe furniture and easy-to-use interfaces to machines and equipment. Proper ergonomic design is necessary to prevent repetitive strain injuries and other musculoskeletal disorders, which can develop over time and can lead to long-term disability. Therefore, the two terms "human factor" and "ergonomics" are essentially synonymous, and each can be used to denote the concept of human and machine fit. Within the context of office work environment safety and health, ergonomics ensures that workers are absolutely protected from injury or trauma as a result of poor working facilitates and unhealthy work policy (Takala, 2002)

Nigeria as a signatory to Geneva Conventions on Occupational Safety and Health in 1981, and in conformance with the international requirement, a Bill was passed in 2012 by the Nigerian Legislators called "Labour Safety and Welfare Bill" which empowers the National Council for Occupational Safety and Health to enforce and implement Occupational Safety and Health measures and awareness in Nigeria to cover both formal and informal sectors (Idubor & Oisamoje, 2013). However, according to Nigerian legal system, this bill cannot translate into National Law (Act) until it is ratified by the executive arm of Government (President). Due to neglect of safety and health issues in Nigeria, this Bill has not been accented by the president and it is therefore not enforceable. Therefore, based on this, it could be said that, the Occupational Safety and Health Bill of 2012 is ineffective in Nigeria and this makes the implementation of Safety and Health Laws very insignificant. With this scenario, occupational safety and health and ergonomic practice in Nigeria is very poor (Adeagun & Okafor, 2013).

Due to this neglect in relation to the enforcement of ergonomic and safety and health laws, epidemic of work related musculo-skeletal disorder has become prevalent in Nigeria. It was reported that between the period covering 2002 to 2012, there were about 31,830 cases of work related occupational injuries (average of 3,185 per annum) (Federal Ministry of Labour and Producvity, 2014) and significant percentage of these cases are work related musculo-skeletal

injuries which accounts for the 4% reduction of the Gross Domestic Product (GDP) of the country which is estimated annually to be 510 billion US Dollars (Nigerian National Bureau of Statistics, 2014; Kalajaiye, 2013). Still, occupational and work-related injuries are under reported in Nigeria (Umeakafor, Issac & Jones, 2014). Due to poor funding of Local Governments as a tier of government in Nigeria, their offices are lacking in right ergonomic facilities to provide for maximum comfort to the workers and the work policy has no regard for workers safety and health (Kyenge, 2013). Coupled with inadequate funding to enable staff training on ergonomic and safety and health measures, the level of ergonomic awareness is very low (Ismaila, 2010). These are factors which expose workers to the high prevalence of work related musculo-skeletal disorders highlighted above.

This study, therefore, covers a thematic investigation of current ergonomic scenario of Katsina Local Government offices in relation to the level of ergonomic facilities, nature of work policy (ergonomic policy) as well as the level of ergonomic awareness as predictor variables for the etiology of work related musculo-skeletal disorders among the workers.

### **Objective**

The study objective was stated as “To study the current ergonomic scenario of Local Government offices in Katsina state of Nigeria in terms of office facilities, ergonomic policy and the level of ergonomic awareness of staff.

### **Research Question**

From the above statement of research objective, a question was posed “What is the current ergonomic scenario of Local Government offices in Katsina State of Nigeria in terms of office facilities, ergonomic policy and the level of ergonomic awareness of staff?

### **Literature Review**

The main key concepts discussed under literature review are as follows: Office Ergonomics, Ergonomic Facilities, Ergonomic Policy and the Level of Ergonomic Awareness of the Workers

#### ***The Concept of Office Ergonomics***

Office ergonomics as part of office environment safety and health, aims at ensuring that office work facilities, office work policy and other elements within the work system are designed and organized in such a way as to provide maximum comfort to the workers. The ultimate goal of office ergonomics is to immune workers from injury as a result of repetitive movements and stress from typing, computer screen viewing, sitting time and unbalanced work posture.

Office work is a system which is entirely carried out by human beings. Hence the point of concern for office ergonomics is the *comfort and happiness of the people who carry out office work, whatever its nature* (Karl, Kroemer & Anne, 2001). To provide the required comfort to the office workers, effort must be made towards total organization of the workspace and its components such as computers, desk, chairs, floor measurement (workspace) and other adjustable working tools designed to suit individual worker’s need. Office ergonomist are therefore experts who, by virtue of their technical know-how, use their expertise to ensure such comfort to office workers so as to enhance their healthy well-being and to achieve maximum productivity.

The scope of office ergonomics goes beyond providing workers with adjustable chairs, sit-stand workstations, soft touch keyboarding facilities, but also entails giving workers task which

is easier to handle and designing software which makes work easier and friendly. Such software includes statistical packages that simplifies normal data handling and analysis. This helps to achieve cognitive ergonomics within the office work environment (Budnick & Michelle, 2010). Studies have proved that office work overload is among the major culprits which cause headache, general body pains and other musculo-skeletal disorders (Cho Hwang & Cheng, 2012; Barrientos *et al.*, 2015).

### ***Office Ergonomic Facilities***

Office ergonomics facilities are office work facilities which make office work easier and easing work for the workers has formed a very good aspect of office occupational safety and health. Carrying out office activities requires a lot of physical body motions and this body motion needs to be cushioned by providing work- friendly design of work facilities. In carrying out office routine work such as typing jobs, arranging and preparing records, making calls, writing reports, minuting files, conducting meetings (involving sitting for a very long time), preparing accounts and ledger and general clerical work, efforts should be made so that in the process of conducting such physical activities, nobody sustains pains or injury in the wrists, shoulders, neck, back, eye problem or even develops loss of sight as a result of unprotected glare of computer monitor (Kroemer and Kroemer, 2016).

In order to have ideal designs of office work facilities, the concept of universal designs for humans must be revised so that the designs must be based on good collection of anthropometric data in order to accommodate differences in the workers' population. Similarly, this exercise is not a static affair which could be dispensed once and for all, as recent obesity epidemic compels a number of anthropometric changes that have significant impact on designs of office facilities (Clair & Bradmiller 2012).

However, this might not work well in the third world where obesity occurs every now and then. So it is very difficult to keep updating the anthropometric data of every worker as frequently as possible. Thus, the cardinal goal of making such proper office designs to satisfy individual workers need is to fulfill the basic ethics of "fitting the job to the person and rather than fitting the person to the job" (Karsh, 2014). Therefore, there should adequate provision of such flexible designs like ergonomic sitting chair, ergonomic adjustable desk, adjustable computer monitor to suit individual viewing distance, ergonomic sit-stand work stations etc., as provision of these facilities has been proved to reduce work related musculo-skeletal pains and complaints among the workers (Karkolis & Callaghan, 2014).

### ***Ergonomic Policy in Nigeria***

Ergonomic principles and safety measures at work must have the blessing of government policy instruments which are specific to the context of a given environment or country. The policy instruments can take so many forms and dimension to suit specific safety needs. Government policy is a system of laws, regulatory measures, course of actions, and funding priorities concerning a given theme or a field of activity or as promulgated by a governmental entity or its representatives (Kilpatrick, 2000). From this, we see that government policy on any issue is a field of activity or programme of action pursued by the governmental authorities (Birkland, 2014). Thus, government policy is an intention of government towards a given area of choice in order to achieve certain socio-economic and political objectives.

Nowadays, governmental policy is a broad term that is used to include both government policy and policy within non-governmental organizations, such as standards bodies like Ergonomic Association and International Labour Organisation. From this notion, therefore, there is a

paradigmatic shift from looking at Government policy as only policy of the governmental bodies. It stretches out to look at the aspect of organizational policies as they affect our lives. However, government plays a leading role in promulgating policies, laws, guidelines and the creation of various agencies to oversee the implementation of occupational safety and health and the observance of ergonomic principles. Every country has its approach towards occupational safety and health regulations.

Promoting high levels of ergonomic principles and safety and health at work is the major responsibility of every national government and should empower, by legislations certain bodies to enforce preventive measures to ensure the safety and health of all category of workers. The national government should also recognize the importance of the legal instruments on safety and health at work of the International Labour Organization (ILO) and substantial roles played by other International Ergonomic and Standard Organizations such as International Commissions for Safety and Health. This involvement of government in overseeing ergonomic policies depends on and varies with the nature of seriousness of a particular country in promoting ergonomic and safety principles. For example, While Japan is a leading ergonomic nation, United States of America is very nonchalant about implementing ergonomic policies ((Hughes & Ferret, 2010; Imada, 2010). In the USA, despite the fact that ergonomics is recognized as a beneficial endeavour, it is also decried that it is expensive when it comes to the design of products and workstations. It is further indicated that, countries such as Australia, Brazil, New Zealand, and EU are the countries with good records of ergonomic policies and have worked cooperatively with International Labour Organisation to implement occupational safety and Health (OSH) at work

Third world countries and Nigeria in particular have a bad record of Occupational Safety and Health Administration (OSHA) and principles or policies of workplace ergonomics. In Nigeria there are series of occupational regulations such as the Factory Acts of 1987, revised to become Factory Acts of 1990, The Labour Act of 1990, Workman's Compensation Act of 2004, and the Employees Compensation Act of 2011 which repealed the Workman's Compensation Act of 2004 (Umeakafor *et al*, 2014). In this entire journey, the whole exercise has been reduced to official rhetoric as there is nothing visible about the ergonomic and OSHA practice in Nigeria. This is as a result of lack of any serious effort in enforcing the regulations, and to ensure the efficacy of such regulations, serious enforcement mechanism is required. It is being emphasized that regulations without serious and proper effort at enforcing such regulations is like there are no regulations at all (Andersen *et al*, 2011; Idubor & Oisamoje, 2013). Since it is contended that, regulations without proper enforcement mechanisms tantamount to no laws, lack of strict enforcement of OSH regulations in Nigeria gives room for non-compliance to OSH and therefore ergonomic policies are not anything serious. This contributes immensely to the various incidences of work related musculo-skeletal disorders especially among the office practitioners (typists, secretaries, computer workers, clerks etc.) and many more reports of similar occupational injuries.

### ***Ergonomic Awareness in Nigeria***

As poor design of office facilities has been identified as a predictor variable in the prevalence of office work related musculo-skeletal injuries, it is also important to discuss the level of ergonomic awareness as it is also an issue identified to cause musculo-skeletal office disorders ( Kalla, 2010; Niemi & Zaradi, 2014). Therefore, the provision and installation of various models of office ergonomic facilities in form of ergonomic computer, adjustable chair, ergonomic work stations etc., must be followed by effective ergonomic awareness campaign as previous experiments have shown a significant reduction in the cases of musculo-skeletal

pains as a result of effective office ergonomic education and awareness campaigns through training and guidelines (Straker, *et al*, 2013). There is a poor level of ergonomic awareness in Nigeria especially in the government sector (Local Governments inclusive), which accounts for 80% of the workers lacking in ergonomic awareness (Ismaila, 2010) This could be as a result of the fact that Nigeria is not conversant with the benefits of ergonomics or due to the scarcity of literature on ergonomics which makes the government not take the issues of ergonomics seriously in its OSHA policies (Idowu, Adoyin & Adagunodo, 2005).

The poor funding of local Governments in Nigeria which explains its poor level of staff development and awareness on issues of safety and health at work (Eneanya, 2012) is another big challenge which creates limited awareness on workplace ergonomics. In the context of this study, creating ergonomic awareness entails devising a training programme on the correct sitting posture in office, the training on the use of highly adjustable chair if provided, provision of guidelines on the ergonomic tips in form of ready printed manuals, and where possible constituting ergonomic committees and officials to educate workers on the health and economic benefits of office ergonomics.

Another important and viable way to create ergonomic awareness especially at the local government level, which in Nigerian administrative context, is a tier of government concerned with local issues is by way of organizing seminars, conferences and workshops in order to educate the staff on the topic of ergonomics and general issues concerned with work place safety and health. The training on awareness should not only be limited to the training and lectures on ergonomic tips, rather, serious efforts should be made towards changing the work habit and attitudes of the workers as some workers will find it difficult to adjust to the new training and workshop needs. This will involve the use of other methods such as moral suasion as is usually used as effective method of effecting attitudinal changes when any intervention is put in place. Therefore, poor ergonomic awareness in Nigeria, due the low level of government's commitment towards ergonomics and other OSHA issues, as well as the poor funding of local governments, are the also identified as major predictor variables for the etiology of office work related musculo-skeletal injuries.

## **Methodology**

Although, this study is a survey type in its design, however, to answer the above research question, a section in the questionnaire has been created as "Section 6" which included a qualitative question in order to validate the questions asked in other sections of the questionnaire where opinion responses were based on quantitative 5 Likert Scale Rating opinion rating. Thus, the 210 questionnaires that were distributed have 6 sections and in the section 6 of the questionnaire, there were two open questions which asked the respondents to comment on the general ergonomic and safety and health situation of their office workplace. They were therefore requested to speak their minds concerning the nature of office work facilities in terms of comfortable furniture, work policy on timing and break, and the volume of work assigned to them daily as well as their awareness of the issue of ergonomics and general office safety and health. Below is the caption from the section 6 of the questionnaire with the exact qualitative inquiry:

## SECTION 6

This section is an open question asking your opinion concerning general ergonomic and safety and health situation of your place of work. You are therefore requested to speak your mind about the nature of office work facilities in terms of good and comfortable furniture, work policy of work timing and break and the volume of work assigned to you as well as your awareness on the issues of safety and health at work.

1. What is your general opinion and assessment of your office work facilities, organizational policy on safety and health of workers and human factor consideration when assigning you work?

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2. State any other comment concerning the research on ergonomic and office safety and health

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**Figure 1: Section 6 Of The Questionnaire**

### ***The Population and the Sampling Method***

The population comprises the workers of Katsina Local Government offices in the category of typists, secretaries, clerical officers and computer operators. There are 34 Local Government in Katsina State spread across wide geographical areas. Cluster sampling was applied in which 10 Local Governments were selected according to the Senatorial Zone using lottery method in each zone (Creswell, 2012). From the 10 Local Governments selected, the number of the respondents was determined as 428 respondents. Using Morgan table of determining sample size, 210 respondents was determined as the sample size (Krejcie & Morgan, 1970).

### ***Data Analysis***

Although, questionnaire method was used as the main tool for gathering the research data, to achieve the above research objective and answer the research question, thematic approach is used to analyse the responses from section 6 of the questionnaire which has open/blank questions, asking the respondents their views about the general ergonomic situations of their respective Local Governments offices and other issues of work place safety and health. The first question asks the respondent about his/her opinion concerning the office work facilities, organizational policy on safety and health of workers and general human factor consideration

when assigning work. That is issues which border on the nature of office work facilities in terms of safe and comfortable furniture, work policy of the organisation, in terms of timing and break, volume of work assigned to the worker, consideration of age when assigning work as well as his/her awareness of the issues of work place ergonomics and safety and health at work.

The second aspect asks the respondents to make any further comment concerning the research itself on office ergonomics and safety and health. These questions, as independent section of the questionnaire, are somewhat qualitative in nature and as such, they could not be conveniently captured and coded in the SPSS for analysis. Therefore, it was suggested that such questions should be better analysed by using “Thematic Analysis” (Pallant 2011). That is to categorise the responses into themes and categories and run the analysis based on the summary of the responses on such themes and categories. This involves the process of categorizing a qualitative data, reviewing it, making notes and developing themes and categories (Merriam, 1999).

Thus, thematic analysis is a strategy of transforming qualitative information by encoding the data into codes, phrases, or labels etc., so as to develop patterns, themes and categories (Boyatzis et al, 2000). Depending on the methodology and research question, the codes, themes, patterns and categories can take any shape for analysis. In this case, thematic analysis is a process of searching for themes that emerge as being important to the description of phenomenon. This process involves the identification of themes through rigorous, analytical and careful reading and re-reading of the data. Thus, it is a form of effort towards recognizing patterns within the data, so that the emerging themes become the categories for analysis

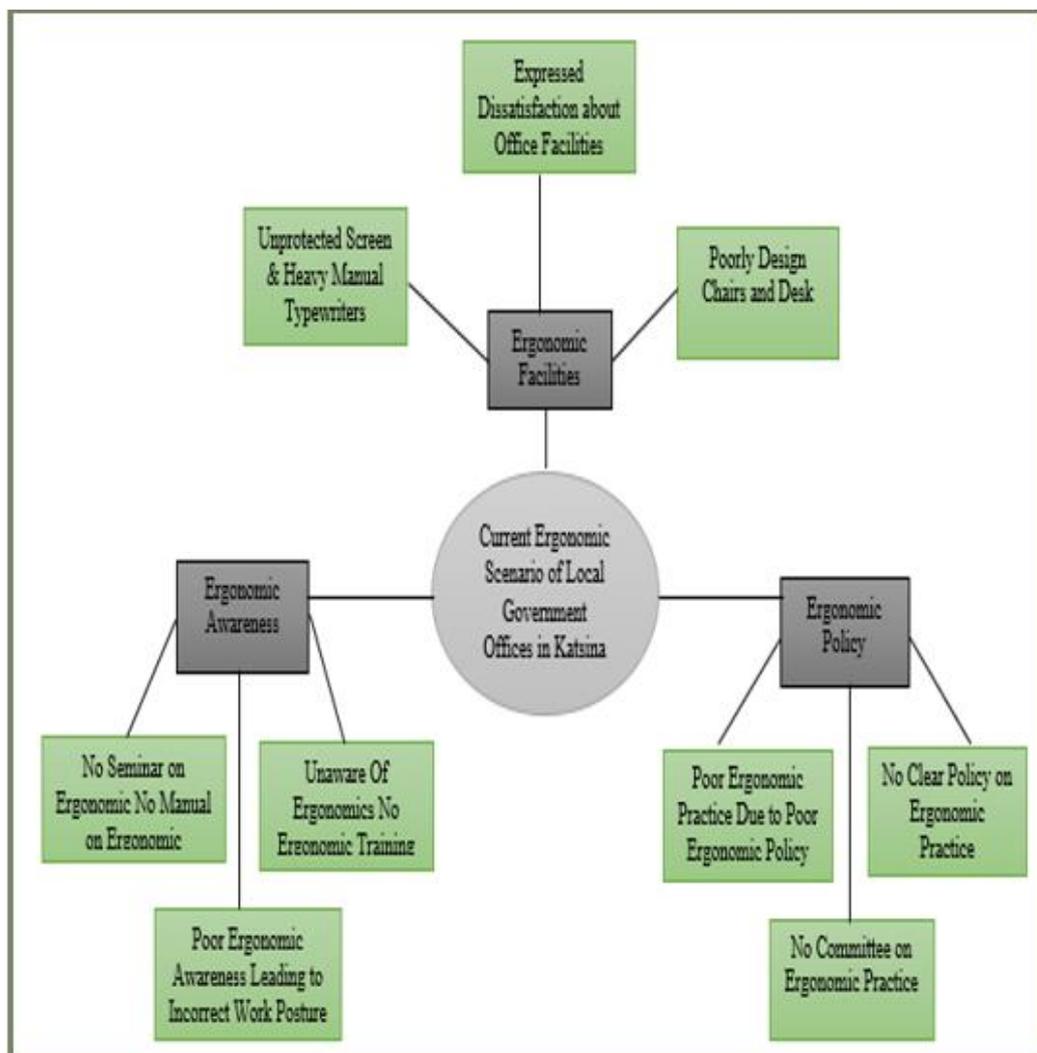
Thus, thematic analysis is flexible and the themes discovered can be predetermined themes from the literature and theoretical framework (deductive themes) or emerged from the data (inductive themes) gathered from the field as a result of expression of the views of the respondents concerning any issue under study (Puvanesvary, *et al* 2008). In this study, the themes, patterns and categories for analysis have already emerged from the extensive literature review and theoretical framework. The main themes for the analysis of responses here are **ergonomic facilities, ergonomic policy and ergonomic awareness**. That is, the respondents will comment or say their opinion concerning these three themes. Attached to these three main themes, is the comment of the respondents concerning the research itself on office ergonomics and safety and health issues.

The themes for analysis can be categorized into global theme, organizing theme and basic theme. Global theme is related to all-embracing issues to be studied as highlighted in the research questions. In this work, the question is the view of the respondents concerning the current ergonomic scenario of the Local Government offices based on the three themes. The organizing themes are the themes under which the responses will be organized. Here the organizing themes are *ergonomic facilities, ergonomic policy and ergonomic awareness*. The issues that cropped up are categorized as basic themes. Therefore, responses concerning ergonomic facilities is coded as “Theme A”. The responses concerning ergonomic policy is coded as “Theme B” and the responses under ergonomic awareness is coded as “Theme C”.

As it is not possible to capture all the qualitative responses given in all the questionnaires concerning the above themes, in order to summarize the responses under the above themes, all the responses of the respondents in this section were carefully read and re-read. However, some respondents have not answered this section of the questionnaire and thus, cross sectional examples of the responses are reported based on the fact that data or theoretical saturation level

has been achieved and no new knowledge or information is given. In other words, the opinions expressed are almost similar and no new information is provided.

The cross-sectional example of the responses of the respondents are coded and given number according to their number in the 210 questionnaires. From the above explanation, the method for developing themes for the analysis of responses in the section 6 of the questionnaire can be clearly seen in the figure below showing thematic network analysis:



**Fig. 2: Thematic Network Analysis current Ergonomic Scenario Of Katsina State Local Government Offices**

### **Result and Discussion**

The result and discussion are based on the interpretation of the above thematic network analysis of the respondents' view concerning the current ergonomic scenario of Katsina State Local Government offices in relation to the three predetermined themes. That is Theme "A" concerning office ergonomic facilities, theme" B" concerning the nature of office work policy (ergonomic policy) and theme "C" concerning the level of ergonomic awareness. To conclude or arrive at the result of the investigation, a cross sectional views of the respondents from the 210 questionnaires has been capture and presented below:

## ***Cross Sectional Result/Data of the Thematic Responses***

### ***Theme 1: Ergonomic Facilities***

**Respondent 5:** Under this theme, the respondent expresses the view that the working facilities in terms of chairs, tables, computers, and typewriters etc., provided to him to perform office work are not in any way suitable or comfortable and as such, there is the need for the organisation to provide good, suitable, modern and comfortable office facilities to take care of workers comfort for good health and safety at work. The respondent is therefore of the opinion that the general working condition in terms of office facilities needs to be improved for maximum productivity. The view of the respondent concerning the research is that the research is good as it will lead to the recommendations that will help to improve their general working condition.

**Respondent 15:** This respondent is also of the view that there is the need to improve the level of office facilities of the workers in order to secure maximum productivity and good health of the workers. The respondent pointed out that workers are working with poor facilities posing great risk to their health. That the computers are outdated, without ergonomic and soft touch keys, no screen protectors and in most instances, they are subjected to the use of hard, mechanical typewriters. The chairs are hard and some of them are broken with hard and ugly looking tables. The view of the respondent concerning the research is that the research is excellent, and the recommendations of the study should be applied to all offices not only Local Government offices. This is because almost all governmental offices have similar problems of poor office facilities.

**Respondent 53:** This respondent pointed out that the nature of office facilities is very poor, old and will not augur well in providing maximum comfort and good office work environment. Therefore, there should be change towards providing modern and comfortable office work facilities, especially furniture for effective work and good health. The view of the respondent concerning the research itself is that the research should propose and recommend for the general improvement in the area of safety and health. Hence, according to the respondent, the research is very much needed.

**Respondent 59:** This respondent emphasized by saying “honestly speaking”, the level of office facilities is very poor and old and as such cannot take care of workers’ safety and health”. The respondent therefore, strongly suggests that there should be improvement in the general level of office facilities. The respondent further stated that this poor level of office facilities is as a result of laxity and lack of concern for workers’ welfare and safety at work from the government. This is because, as highlighted by the respondent, since the Local Governments are funded by the State and the Federal Government as enshrined in the constitution of the Federal Republic of Nigeria, the State and the Federal Governments do not provide adequate fund to take care of the provision of adequate office work facilities. The view of the respondent concerning the research is that the research is good and timely.

**Respondent 71:** According to the response of this respondent, there is the dire need for general improvement in the level of office facilities. Similarly, the view of the respondent concerning the research is that the culture of work environment safety and health should be extended to all governmental and similar offices.

**Respondent 81:** This respondent also has the view that the condition of work in terms of both ergonomic facilities and safety and health is poor. The view of the respondent concerning the

research is that the study is very important in the sense that it will go a long way in ensuring and entrenching safety and health culture in the Local Government offices.

**Respondent 121:** The respondent here pointed out that the condition of work in the organisation as far as office facilities are concerned is generally poor and that any organisation that needs efficiency in the area of secretarial, clerical and other general office work has to take adequate care of staff by providing good and friendly facilities as well as conducive and ideal work environment. The view of the respondent concerning the research is that, it is hoped that after the completion of this study, it will enhance the welfare and professional growth of the general office work through providing an enabling and sustainable work environment that takes care of safety and health issues. Hence the research is very important as it is targeting to solve the lingering problem of poor work environment bedeviling the Local Governments.

**Respondent 147:** The view of this respondent hinges on the provision of good and comfortable working facilities that will not inflict any injury or pains to the worker. The respondent further pointed out that the condition office facilities in their organisation is very poor and as such can cause serious body pains. The respondent therefore calls for the improvement in the level of office facilities. The view of the respondent concerning the research is that, it will lead to the improvement of the work facilities and general office environment.

**Respondent 155:** The respondent here highlighted the need to improve the general working condition of the workers by providing proper office work facilities (ergonomic facilities) so as to enable the workers to enjoy healthy and safe working environment. According to the respondent, workers are put to work under poor facilities and environment. The view of the respondent about the research is that the research is good as it will create general awareness concerning office safety and health.

**Respondent 165:** This respondent indicates that the level of office facilities is a bit moderate. However, there is need to improve on the general ergonomic situation of the organisation. The view of the respondent concerning the research is that, the research is good as it will lead to the improvement of ergonomic and safety and health situation of the organisation where the research is being carried out.

### ***Theme 2: Ergonomic Policy***

**Respondent 5:** The respondent here indicates that the ergonomic and general work policy is very poor and unfavourable. In fact, the ergonomic policy and practice are not existing in the organisation. However, even if the policies are existing, they are never put in place at all as nobody cares to check the volume of work given to the worker, the sitting and working time in the office, the age consideration when assigning work as well as work break. Therefore, according to this respondent, the ergonomic policy in their Local Government is very poor.

**Respondent 15:** The view of the respondent is that the organizational ergonomic policy or practice is poor as workers are used just like the extension of machines. There is therefore a great need for improvement in the organizational work policy for the health and safety of the workers as well as for improved productivity.

**Respondent 53:** This respondent highlighted that the organizational policy on ergonomics and safety and health is poor at all levels of governmental offices. Hence, there is a serious case for drawing the attention of the decision makers towards better work policy concerning office safety and health.

**Respondent 59:** The respondent here indicates the work policy on ergonomics is very poor. To this effect, the respondent suggests that there should be a general policy or law to be enforced so as to ensure the well-being of workers through work policy that will take care of the health and safety needs of the workers. According to this respondent therefore, the policy on ergonomics is not existing.

**Respondent 71:** This respondent upholds the belief that through this research, the work policy in the Local Government offices will be improved so as to have a healthy work environment. The respondent went on to add that the welfare and health of the workers are not given any priority. The respondent added that all that is needed in the Local Government offices is the work and not minding the welfare, health and safety of the workers.

**Respondent 81:** The view of this respondent concerning work policy is that, generally speaking, there is no any regard given to the safety and health of workers in the organisation. Therefore, the work policy is very poor and cannot take care of health and safety of the workers.

**Respondent 121:** Here, the respondent has not said much on the general work policy but it could be deduced that the work environment is not conducive. Based on this, the work policy is not appreciated and therefore needs improvement.

**Respondent 147:** This respondent also calls for the general review and improvement in the organizational work policy and ergonomic practice.

**Respondent 155:** The response of this respondent is that, there is the need for government to improve the general welfare of the workers through good ergonomic policy in order to have healthy working population.

**Respondent 165:** This respondent is of the opinion that laws and policies on ergonomics and safety and health should be given priority in any office in Nigeria. This is because workers are made to work without any consideration for physical ability. All that is needed is workers' output and not their personal safety and health.

### ***Theme 3: Ergonomic Awareness***

**Respondent 5:** Under this theme, this respondent highlighted that the level of ergonomic awareness is poor. Hence, according to the respondent, there is a case for creating ergonomic awareness on safety and health by organizing seminars, training and if possible secretarial and other office workers' forum from time to time in order to create awareness concerning safety and health measures at work. Similarly, the respondent highlighted the need to be producing bulletins, and manuals to be distributed to the workers so as to create or improve their awareness on ergonomics.

**Respondent 15:** This respondent also indicates that the level of ergonomic awareness is poor and that a training programme should be organized to be teaching workers proper sitting posture and how to use computer screens so as to mitigate the instances of the development of musculo-skeletal pains and eyes syndromes.

**Respondent 53:** The respondent here expresses the view that though the ergonomic situation is moderate, there is still need for improvement in the level of ergonomic awareness apart from providing good working facilities.

**Respondent 59:** This respondent indicates that there is no any policy that supports the creation of ergonomic awareness in the organisation. Therefore, workers should be educated on sitting posture and other safety measures so as to achieve sustainable work environment.

**Respondent 71:** This respondent indicated that nobody educates the workers concerning sitting posture and safety and health measures. It is highlighted that even if workers cultivate good sitting posture, they only do it unprofessionally and unlike when somebody undergoes proper training for that purpose. Hence, it is important that workers are made aware on safety measures at work.

**Respondent 81:** The level of ergonomic awareness and safety and health measures are not impressive. There is a need to educate workers on sitting posture at work and other hazard prevention measures.

**Respondent 121:** According to the view of this respondent, improvement in the level of health and safety of the workers could be achieved by further enlightening them on general safety and health through seminars, conferences, training programmes as well as workshops and publication of bulletins and manuals. Therefore, there is a need for creating awareness through these media.

**Respondent 147:** This respondent also recommends the improvement in the level of ergonomic awareness so as to elevate the safety and health status of workers in the office environment of Local Governments.

**Respondent 155:** The opinion of this respondent is that office safety and health could be boosted through shedding lighter to the workers concerning work and sitting posture especially during typing job which is a repetitive process and movement and will have a deleterious health implication.

**Respondent 165:** Here, the response given is that not only the issues of office ergonomic facilities and ergonomic policies are paramount, but also creating ergonomic awareness. However, according the respondent, there is absence of ergonomic awareness among the office staff of the Local Governments.

The above responses are presented as a cross sectional sample of responses of 10 respondents as it is not possible to bring all the responses of the section 6 of the questionnaire, where the questions are qualitative in nature. Each respondent's view concerning each research theme has been analysed to arrive at the conclusion.

## **Conclusion**

From the above thematic analysis of the 10 out of the 210 respondents, conclusion could be drawn that the level and nature of office ergonomic facilities of Katsina State Local Government offices is poor, and such could pose serious health threat to the workers. In other words, the poor work facilities could be linked to the etiology of work related musculo-skeletal disorders. Thus, there is a great need for the government to improve the level of office ergonomic facilities for the health and welfare of the staff.

Similarly, the office work policy in the Local Government offices in Katsina State of Nigeria is also a factor which constitutes a threat to the health and safety of the workers. It has been

discovered that the government policy on work does not take into consideration the age of the workers, the volume of work and the timing and rest into consideration and all these, are factors which contribute to the prevalence of work related musculo-skeletal disorders. Thus, work policy should be reviewed to take account of all these variables for safety, health and productivity of the workers.

In connection to the level of ergonomic awareness, the results show that there is a low level of ergonomic awareness in Nigeria at all levels of government offices. This finding has concurred with the findings of Ismail (2010). Low level of ergonomic awareness and issues concerning workplace safety and health could expose the workers to the danger of work-related injuries and various health issues. Thus, the level of the ergonomic awareness of the workers need to be improved.

The respondents indicated that investigation carried out on these three main themes is very important and timely and that the recommendations from the study could help in the general improvement of the workplace safety and health of the workers not only at the level of Local Government, but at all level of work both public and private sector.

It is therefore strongly recommended that serious efforts must be made to improve the nature of office work facilities, ergonomic policy and to boost the level of ergonomic awareness of the workers through constant training on the proper sitting posture and how to handle the improved office facilities in a professional way.

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