**Abstract**: Manufacturing sector plays a significant role in the economy of any country. Competitiveness is one of the biggest challenges for the organizations of manufacturing sector. Improvement in the productivity and optimal utilization of the resources are among the key factors for being successful and competitive in the market. The emphasis of top management for improvement in the productivity put a tremendous pressure on the employees which usually result in the workplace stress. It is the major hindrances to the individual and organizational performance. The objective of this study is to review the literature for finding the possible causes of work place stress, their effects on individuals; organizations and societies; and the role of interventions to address the stress related issues. A critical insight on the published literature has been provided. Finding of the research is a source to know about the causes and effects of workplace stress and their relevance with individual and organizational work performance and finally to address this issue by implementing interventions. Moreover, the effectiveness of interventions and need for the promotion of participatory management interventions approach has been concluded. It has been further concluded that there is a need to conduct a comprehensive study on manufacturing sector and the development of participatory management interventions framework so that the issue could be resolved in a better way.

**Index Terms** — Workplace Stress; Causes; Effects; Interventions; Manufacturing Industry; Human Factors/Ergonomics.

I. INTRODUCTION

Human resources are, definitely, the best asset for any Nation, Country or Organization. They play a vital role in every walk of life and are critical for performance of the organizations: administration, manufacturing, production or service and thus important for the economy of any country. Likewise, the manufacturing sector of any country has a significant importance in their economy.

According to Mike Lynch, Director of Technical Services, CPI Card Group, “Manufacturing is the engine that drove the USA out of the great depression. Manufacturing must be the back bone of our country’s economy and our products need to be viewed as the best money can buy”. National Association of Manufacturers (NAM) at U.S. presents some of the salient features of American Manufacturing that finally concludes that American Manufacturing accomplishes a great business for the economy of country [1]. These features are:

- Manufacturers contribute to US economy about $2.08 in 2013, which was $2.03 in the last year – which is 12.5 % of GDP.
- Manufacturing sector provides jobs of worth about 17.4 million, whereas 9 % of the total workforce is directly employed in manufacturing sector (near about 12 million).
- During last year, in comparison with other sectors, a worker working in manufacturing sector earned $77,506 annually, whereas other sectors employees earned $62,546 – which shows a clear difference in earnings as well.
- In United States, manufacturers are at top of the world major manufacturing economies in terms of work productivity that ultimately lead to better wages and living standards.
- Manufacturers not only contribute to the national economy but perform two-thirds of all private-sector research and development as well, and doing more innovation than any other sector.
- Moreover, in United States, if we consider only manufacturing, it would be the 8th largest economy in the world [1]. Globalization in general and enhanced exports in particular is considered beneficial for developing countries. Pakistan’s export is largely a scribal to textile and semi-manufactures, and there is a need for further strengthening of this sector. Moreover, globalization influenced export prices for developing countries as currency exchanges are being carried out in foreign currencies like dollars or euros etc. As more than 75 percent of Pakistan’s exports are based on manufactured goods; so it’s highly important and indispensable for a country like Pakistan to achieve, maintain and sustain the highest level of productivity and quality of manufacturing systems so that it cannot only counter international...
market changes but also enhance its market share and export contribution.[iii]. As the competitiveness is one of the biggest challenges for the organizations of manufacturing sector, improvement in the productivity and optimal utilization of the resources are among the key factors in meeting the same. The emphasis of top management for improvement in the productivity renders a tremendous pressure on the employees which usually result in the workplace stress.

Workplace stress is a cosmopolitan issue of the day and its intensity is increasing day by day. Apart from the other characteristics, physically and mentally fit HR will be boosting the organizational performance. Besides, their optimal utilization for productivity enhancement and the concern for improvement in the economy, HR __ a best asset for the entities: organizations, societies and counties and even the whole humanity___ might not become a liability for them as stress has severe health issues as well. Consequently, the well-being of HR is the concern of nations, countries and organizations. Workplace stress is a major issue for the entities concerning the well-being of the HR. It is not only harmful to one’s health but also to the health of those working/coexisting with him. It also adversely affects individuals as well as organizational performance. It is crucial to address the stress issue of a company, as the man is a key factor affecting performance and security [iii].

Lots of research has been done in this regard and measures are being taken to address it in different organizations/industries around the globe, but no comprehensive study has been undertaken in the manufacturing organizations so far. The findings of different studies conducted on different organizations, like: hospitals, banks, information technology and education, might be a key source of learning for this work but they cannot be exactly implemented on the manufacturing organizations because of major operational differences. To get the best results from the infrastructure available with the organizations, it becomes all the more necessary to utilize the HR properly. Since HR is a key element behind the proper and optimal utilization of all the other resources of the organizations and the ‘one’ to initiate all the activities and the processes of the organizations, their adequacy is a matter of great concern for all the stake holders. Dependability of the HR is closely linked with the workplace stress, and can be a critical issue [iv]. The workplace stress is one of the major hindrances to the efficient and effective utilization of the HR. Therefore ‘Workplace Stress’ among the employees of any organization, is the area to be focused and given due importance.

II. METHOD

This is a narrative based review article that describes the workplace stress, possible causes and their effects on individual and organizational work performance along with the interventions to overcome this issue in industrial environments in particular. Overall review has been divided into four main themes: workplace stress; causes of stress; effects of stress and stress management interventions. Finally, a critical insight has been given on the published literature that ultimately leads towards discussion and conclusions.

III. LITERATURE REVIEW

“Stress is defined in terms of its physical and physiological effects on a person, and can be a mental, physical, or emotional strain. Stress occurs due to a demand that exceeds the individual's coping ability, disrupting his or her psychological equilibrium”. Hence, in the workplace environment stress occurs when the employee perceives a situation to be too difficult to handle, and is threatening to his or her well-being. Workplace stress is the result of the interaction of the worker and the conditions of work. There are different opinions on the importance of worker characteristics versus working conditions as the primary cause workplace stress. The difference in the viewpoints is the basis for existence of different strategies in preventing stress at work. Variations in individual characteristics such as personality and coping skills can be critical in predicting whether certain job conditions will result in stress. Specifically, a stressful condition for one person may not be a problem for another person. Stress-related disorders encompass a broad array of conditions, including psychological disorders (e.g., depression, anxiety, post-traumatic stress disorder) and other types of emotional strain (e.g., dissatisfaction, fatigue, tension), maladaptive behaviors (e.g., aggression, substance abuse), and cognitive impairment (e.g., concentration and memory problems). Workplace stress is also linked with various biological reactions that may ultimately lead to compromised health, such as cardiovascular disease or in extreme cases death [v].

At individual level the symptoms of stress could be: sleep problems, tardiness & absenteeism, withdrawal and mood swings, risk taking and accidents, exhaustion, job dissatisfaction, anxiety/depression, anger/frustration, feelings of helplessness, heart disease & high cholesterol, poor health, tension/worry, alienation; whereas the organizational symptoms of stress could be: high staff turnover, poor performance, low morale, high absenteeism, accidents, difficult relationships, industrial relations disputes, litigation, higher staff training costs, reduced profits, long working hours, staff burnout/rust out, poor quality control and bullying/harassment [v].

Stress factor not only affects how you interact with others but also how you perform in daily life. All above is about negative stress and its consequences are negative to
the individual as well as for organizations and society. There is another type of stress which is essential for every individual one not only to come into action but also to perform at the best. This type of stress is called eustress and it has positive consequences on the individuals, organizations and society, that’s why it is called positive stress as well. This is the positive stress which enable one to get up in the morning and force a student to prepare for the exam but it is positive at certain limit otherwise it will be negative and thus damaging [vi].

It’s highly important to understand what actually stress is. For understanding purpose, we can say that whenever we face a challenging situation, our body will react to that. So, stress is body’s response to the situation. Stress cannot only be negative but motivator or positive as well. However, it’s all up to us how we take this and how we manage this for converting this into an advantage. Positive stress is mentioned as “eustress”, which is characterized as the positive drive that makes us motivating and excited and provides us a push that keeps us going and moving forward with a positive mind. It’s equally important to notice that eustress lasts for a limited time period; however, negative stress referred as “distress” expressed by the feelings of depression, anxiety and tension, lasts for longer time period. Negative stress (distress) not only reduces the performance but also have severe mental and physical implications. If we are unable to handle the stress properly, tensions builds up that ultimately result in the loss of control what we do [vii].

Examples of positive stressors are: planning of a wedding ceremony; buying home for the first time; purchasing of a new car; planning for a baby; getting promoted on the job and going on vacations etc. It’s interesting to note that these stressors initially bring some feelings of tension and anxiety; however, these finally come up with the feelings of psychologically overwhelmed where we start enjoying each bit of activities. Another aspect is the changes in life; this also modifies ones feelings and thoughts and this change can also result in stress [vi].

Workplace stress, also called Job stress or Occupational stress, is increasing all around in the world in all areas. The term refers to distress arise from a condition where the demands of a job are not in accordance with the resources provided to get the job done. Either or both sides of this equation can be adjusted to prevent or reduce workplace stress – minimizing demands stressors and improving job resources. Resources might count a worker’s occupational skills, job experience or education, or organisational resources such as machinery, raw materials, or staffing levels available to produce goods or provide services. Job stressors are working conditions that raise the risk of workplace stress and subsequent effects on health. Australian research revealed that around 25 per cent of working women and 18 per cent of working men experience workplace stress and, in a recent Vic Health commissioned study, $730 million over one year was estimated as the cost of depression a scribal to job strain in the Australian workforce, and $11.8 billion over a lifetime. The vast majorities of these costs relate to employment (e.g. lost productive time and job turnover) and are borne by the employers [viii].

Workplace stress has been identified as a major health issue for contemporary work organizations. The workplace environment has been shown to lead to negative emotional reactions (e.g., anxiety), physical health problems in both the short term (e.g., headache or stomach distress) and the long term (cardiovascular disease), and CWB counter productive work behavior. Consciousness to curb exercises a significant role in this process, being correlated with all of these variables. Evidence is growing that aggrandized control at work can be an important element in employees’ health and well-being. The various studies revealed that: employees in the United States and other developed countries experienced job stress as a serious issue, resultantly American businesses pay more than $150 billion annually for occupational stress on account of the absenteeism of employees; loss of productivity and low performance and; occupational stress has been known as a serious health issue for organizations and employees as the stressful situations of the workplace lead to negative consequences like anxiety, headache, stomach distress and cardiovascular disease [ix]. It affected 22% of the EU-27 employee at the European level, the job stress is the second work related health problem, after the musculoskeletal disorders [x], it is one of the objectives stated in the European Commission Message on the strategy in the safety and health at work [xi]. Apart from the health issues, stress can damage the business [xii]. The costs of the workplace stress are demonstrated not only to the persons and organizations but go beyond them, up to the level of the society at large. At the individual level stress has negative effects on the workers’ health state [xiii-xv]; reduces performance [xvi-xvii] and decreases chances of grabbing further career

Fig 1: Positive stress (eustress) and negative stress (distress), and their relationship with performance[vii]
opportunities; and even sometimes leading to end of job [xv]. Stress affects not only the leadership but everybody working in the organizations, therefore due attention should be given for its elimination [iv]. In industrial and organizational psychology, workplace stress is an area of major concern and lots of research has been published in this area [xviii]. However, the sources, consequences and potential mediating and mitigating factors of the stressor-strain relationship are still not clearly understood, therefore, it is imperative to strive for better understanding of the process of workplace stress [xxviii]: exploring the causes of workplace stress; effects of workplace stress; and interventions to manage it.

A. Causes of stress

To identify, the causes of workplace stress, is one of the areas of this study. The factors or conditions contributing to stress are called ‘stressors’ or loads. These may be from within the organization and from the outside. There might be number of sources of stress – minor or major, for example: Time pressures; role demands – inter role demand, intra role demand, person role conflict, role ambiguity; Interpersonal demands – emotional issues (abrasive personality, offensive co-workers), sexual harassment, poor leadership (lack of management experience, poor style, unable to deal with all the power), physical demands (strenuous activity, extreme working conditions, travel, hazardous materials, working in a tight, loud office) [boundless]. In connection with role in the workplace, few sources found in different studies are: role ambiguity, role conflict and role overload [xix-xxii]; role overload-quantitative and role overload-qualitative [xxiii]; and also, role boundary and role insufficient [xxiv]. Managerial work, itself, is the source of stress [xxv] whereas performance of illegitimate tasks in managerial work has been found as the cause of workplace stress [xxvi]. Illegitimate tasks are positively related to workplace stress and negatively related to satisfaction with work performance [xxvii]. Overtime [xxviii]; work-timing, transport, target achievement and high qualitative demand [xxix]; economic, family, leadership, company policies, working conditions, workload and office timings [xxx-xxxxi]; and lack of career development [xxxiii] have also been found as sources of workplace stress.

‘Negative emotions’ in the workplace is one of causes of workplace stress [xxxii]. Scott Schieman and Marisa C. Young (2013) using data from the 2011 Canadian Work, Stress, and Health Study – a large national sample of working adults (N = 5729), found that Work Contact was correlated with upper levels of work-to-family conflict, distress and sleep problems. They have shown that communication of the employees, on the work related issues, after regular work hours seemed to have more work-family life conflict; psychological distress; and sleep problems [xxxiii]. It is an established fact that job insecurity is harmful to employees’ creativity whereas the team climate, for innovation, is positively related [xxxiv]. Apart from the most identified ‘Task conflict and Relationship conflict’ [xxxv], ‘Non-task organizational conflict’ has been found as a source of workplace stress [xxxvi].

Working in male-oriented society has been found a big source of stress for females; a significant difference in the level of stress, because of the designations, was also observed: high stress is associated with lower designations and vice versa, also higher stress is associated with low qualification and low stress is associated with higher qualifications, similarly low salaried members experience high stress as compared to high salaried faculty members; stress and age also moves like other background variables- meaning younger age members experience more stress as compared to older ages. Akbar and Akhtar (2011) working on sample of higher education recommended further research, as to identify the effects of stress on various institutional outcomes— effects on turnovers, quality education, and low productivity etc.; and to explore, implement and evaluate intervention strategies for prevention of stress and improvement in job satisfaction of faculty in other disciplines as well, such as engineering, literature etc., in Pakistan [xxxi].

B. Effects of workplace stress

To find out the effects, of workplace stress, is also important. Ignorance of the consequences of stress is one of the reasons behind a little interest in solving the problem not only by the employers but also by the employees [xxxii]. Workplace stress will have serious impacts on health as well as job performance. It may have impact on a variety of physiological, psychological and behavioral consequence. Workplace stress affects the individuals, organizations, societies, countries and even the entire mankind. Distress experienced by individuals has negative consequences for them, their families and for the organizations they serve [xxxiii]. Its impact might be in the form a multiplier and damage connected individuals/entities in sort of networking – for example, workplace stress is not only harmful to the person suffering from it but also to the co-workers, persons in his/her surroundings and the family members and thus can result in chain of stress as others might also be vulnerable to stress. The organizations can focus on building good performance levels of their employees if such effects are fully handled and it will lead to the development of a better society as a whole [xxxix].

48
Outcomes of workplace stress can result into physical health related problems like reduction in immunity, cardiovascular problems, musculoskeletal disorders; psychological health problems like anger, depression, anxiety and lack of confidence; and behavioral problems like high turnover, injuries, and decreased job satisfaction. It’s worth mentioning that such problems cost about $200-$300 billion a year to business [v, xxxx].

Stress reduces output, product quality, service or morale [xlii-xliv]; productivity [viii]; increases costs to the organizations because of wages/overtime payments; and creates organizational sabotage [xlii, xliii]. It has been shown by a number of world organizations that the consequences of stress may produce long-term effects on the human body – for example, in addition to few mentioned above, infertility [iv]. It affected 22 percent employees in the European Union, and has been found as the second most commonly reported work-related problem [xliv]. Mohsen Keshavarz and Reza Muhammadi (2011) working for occupational stress and organizational performance, on the sample of Iranian higher education sector found that stress has adverse impact on physical health-muscle tension, nausea, vomiting, increased heart rate etc., and hence results in absenteeism; reduced job performance, job satisfaction, efficiency and job commitment [xlv]. In another study made on a large North American-based multinational corporation in Malaysia and Pakistan, negative linear relationship was found between stress and job performance [xlvi]; and a study on public and private banks of Bangladesh revealed negative effects on the health of employee’s wellbeing in response to workplace stress [xlvii]. However, Kumar (2014) working on a sample of 100 Officers and 100 Jawans of Indian Army found that the dimensions of stress selected for study have no impact on organizational commitment level of the sample [xlviii].

The employees having higher narcissism, have been found in more CWB (counterproductive work behavior) than those having low narcissisms while responding to the workplace stress [xlix]. Any of the conflicts have adverse effect on the well-being; however, Non-Task Organizational conflicts have more [xi]. One group of researchers relates occupational stressors with CWB [li-liii] whereas the other has linked personality to CWB [liii]. Role stressors and especially role conflict may escalate bullying; however, some evidences have been found otherwise [liv]. Reduced job satisfaction [lv]; reduced employee’s job performance [lvi-lvii]; work-related disease and injury [lix]; reduced: work performance, emotional intelligence, employee retention, productivity and satisfaction, organizational performance [lxi, lxii, lxiii, lxiv]. According to Kundi et al (2013), stress can have both positive and negative consequences; it is a normal and adaptive reaction to threat and signals danger and prepare to take defensive action; although it may put hindrance in performance on difficult tasks; moderate stress seems to improve motivation and performance on less complex tasks; and if not handled properly can result into physical illnesses—such as heart disease, and mental illnesses—such as anxiety disorders [lxiii] have been found as the consequences of job stress, however, in some studies, job stress has been found to play a positive role in the improvement on work performance [lxiii-lxiv]. Using the demographic variables, Dar et al (2011) explored that male employees are highly stressed vis-à-vis their female counterparts [lxv]. There have not been found much association for Leaders’ stress and affective well-being and employees’ stress and affective well-being [lxvi].

C. Stress Management Interventions

Finally, how to manage the work place stress among the employees? Research on organizational interventions pertaining to work-related health is equally important to discovering new risk groups and risk factors [lxvii]. Stress cannot be avoided, and the maximum we can do with this is to prepare ourselves how to tackle this. One should not dwell on stress, rather take actions to manage this and face this bravely. Following are some key points on how one can manage stress in his business:

- **Predictability** – means learn as much as one can so that one can prepare himself to tackle the situation. Being prepared for the situation, always help in decreasing frustration and relaxing the mind.
- **Understanding** – a clear understanding of the phenomenon of ‘change’ is very much necessary where it should be explained explicitly why change is necessary and how it will affect you. In other words, effective communication is needed.
- **Control** – by using useful resources and relevant tools, one can effectively control the situation rather than putting in distress and depression.
- **Compassion** – Consideration is needed to handle or control every situation. One should take care of others emotional needs along with your own [vi].
Two crucial points can be discussed while building case for the benefits of addressing stress related issues at workplace: 1) its categorically defined in interventions research, that workplace stress is manageable and preventable and 2) controlling stress at workplaces, can significantly improve physical and mental health of the population. Moreover, economic costs directly or indirectly linked with the stress reduction of elimination can be estimated from organizations expenditure data that further strengthens the need for addressing workplace stress related issues at workplaces [viii].

So, it becomes highly important to design and implement such interventions that can control, reduce or eliminate the causes of workplace stress. Literature shows three categories of workplace stress related interventions – primary, secondary and tertiary interventions. Starting from the primary interventions, these aim at the elimination of source of stress or to control or minimize its impact. The other one is secondary interventions that aim at modifying individual’s response to stressors, for example arranging stress management classes with an objective of educating the employees about how to deal with the stress, or developing mediation or muscle relaxation skills. Finally, tertiary level stress management interventions are those which aim at minimizing the effects of stress once it has been developed – these might be implemented through medical treatment or effective management of symptoms or disease by telling the employees how to cope more effectively with the stressful conditions. These efforts might include launching employee assistance and rehabilitation programs that can help them return to work. Furthermore, workplace stress should also be a concern for physical and mental health promotion agencies, government public health authorities, medical practitioners, and community advocacy groups [lxviii].

Family-friendly practices, the job training, and SMIs reduce interpersonal strain [lxix]; also, cognitive-behavioral skills training [lx, lxii]; combination of organizational change and stress management [lxiii]; locus of control, integration of primary, secondary and tertiary interventions [lxii, xx]; regular training for developing strong emotional competencies [xxxii]; evidence-informed approach to stress prevention [lx] are interventions suggested in different studies.

The international workplace stress intervention research literature has been the subject of a number of systematic reviews. Among these, the most comprehensive review (summarizing 90 studies) was accomplished by LaMontagne et al., 2007 and it was centered on interventions in which organizations set out to address workplace stress proactively. The review drawn to close that individually-focused, low-systems approaches – for example, coping and time management skill development, are effective for individuals, i.e., favorably affecting individual level outcomes such as health and health behaviors. Anyhow, individual level interventions tend not to have favorable impacts at the organizational level, for example, reducing exposures, and sickness absence. Organizationally-focused high- and moderate-rated approaches, addressing working conditions, are beneficial at both individual and organizational levels [lxxii].

Use of e-Learning [lxxiv]; flexible timings, some degree of relaxation and proper appreciation for the quality and consistency of their work [lxv]; job control [lxvi]; and EAPs— Employee Assistance Programs [lxii] have been found as the interventions. Alterations in the physical or psychosocial work environment, organizational changes examples are: changes in work pacing, job redesign and the formation of joint labor/management health and safety committees [lxvii]; job satisfaction [lxii]; collaborative effort and, in severe cases, consultation with physicians or psychiatric consultant [lxviii]; reducing task uncertainty and ambiguity, improving an employee’s interacting ability, commitment of the employees and the senior management in implementation of the interventions [lxxix]; simultaneous implementation of stress management and prevention interventions on: individuals, job design, social context and workplace culture; and giving job control to the employees [lxviii] have also been the interventions recommended.

The role of government, legal recognition of psychosocial work factors, the privatization of the occupational health and safety sector, and evaluation of job stress prevention programs [lxxx]; availability of large research body for organizational interventions [lxxxi]; creation of a social climate of learning from failure, provision of opportunities for multi-level participation and negotiation in the design of interventions, awareness of tacit behaviors that possibly undermine the objectives of interventions, and definition of roles and responsibilities before and during the intervention period [lxxxi] are some other interventions.

Participatory intervention and a potential training ground for acquiring participatory skills and resources [lxxxii]; and, also attention to the intervention processes as well as their outcomes [lxxiv] have been considered as stress management interventions. HSE’s (Health and Safety Executive’s) new ‘Stress Management Standard’— based on continuous improvement is another intervention found to be suggested in the state of the art literature [lxv].

Management Standards approach - Management suggests that risks arising from particular shortcomings in relation to the working conditions can be methodically addressed by a amalgamation of well-established risk management methodologies adapted for the psychosocial work environment, coupled with contemporary human resource management approaches. The term Standard
indicates a set of principles acknowledged by unanimity that can be implemented to enhancing health and safety by exploring hazards and minimizing associated risks. Standards do not in themselves institute any obligations for adhesiveness [lxxxvi]. Sandra H. van Oostrom (2009) has identified that there is a high workability for widespread deployment of a participatory intervention for the employees in distress [lxxxvii]. Hui Wu, Yang Zhao 2010 working on the sample of Chinese Doctors found occupational education and occupational training programs with the aspiration to increase doctor’s knowledge and capability to cope with their task as important secondary stress management interventions [lxxviii]. Leadership development [lxxxix]; attention to work design variables— such as control, uncertainty, conflict, and task demands; surveillance of psychological disorders in the workplace; education of managers and workers concerning psychological well-being and stress in the workplace; and treatment of individuals in distress [xc] are also found as the interventions suggested.

Mindfulness meditation-based interventions are progressively well-regarded in the psychological and medical literatures for their therapeutic adequacy and potency in reducing distress [xcii]; also, mindfulness training is termed as clinical intervention [xci]; likewise it has been established that practicing mindfulness results in significant stress reduction [xciii, xcv]. Marisa Salanova et al (2013) in their study developed a set of best practices on positive interventions in the organizational context, which is based on: HERO model, job (re)design, transformational leadership, training programs and career planning and development [xcvi].

Christine and Per (2012) viewed interventions in human factors perspective and concluded that changes should be incorporated in the organizational design and should be taken as a central component It has been further suggested that collective rooms should be established where employees can discuss and share their problems and draw some solutions. This collective approach should also be promoted as stress management practice so that employees could not have a feeling of loneliness. Finally, main actors should be involved in designing and implementation of changes necessary for controlling factors causing stress at work [xcv]. In another study, conducted by Victorian Health Promotion Foundation at Australia, suggested an organizational and systems approach as a stress management intervention strategy, that includes all the stakeholders on board and bring positive changes in policies, organizational culture and practices [viii].

According to Katherine M. Richardson and Hannah R. Rothstein 2008, Cognitive– behavioral programs persistently yielded larger effects than other types of interventions if implemented alone, whenever some other components were added the effect was reduced [lxxii]. PAR, Participatory Action Research, has been found as a tool for primary, psychosocial interventions for workplace stress, though designs are complex, but PAR provides the means of resolving critical issues of stakeholder engagement, including managers, and of ensuring a reliable evaluation strategy [xcvii]. García-Herreroa et al 2013 working on a sample of 11054 employees have shown the significance of social support and getting sustenance from seniors and colloquies in anticipating workplace stress [xcviii].

Lots of interventions have been suggested in the state of the art literature. However, complete prevention of the stress is neither realizable nor desirable as the life is lifeless without stress, as stress is an important stimulus of human growth and creativity and the stressors— if managed properly, can be opportunities [xcix]. The interventions should be designed considering both: the work context and the individual by enabling them to use enough coping strategies and to have better control over their work [ci], however, the number of successful organizational-level interventions can be increased if the commonly reported obstacles to the implementation process be addressed [ci]. Karina Nielsen and Johan Simonsen Abildgaard (2013) structured around four interlinked categories: the organizational “actors”; the mental models of those actors; the context of the intervention; and intervention design and processes and, also evaluation during the process as well as of the overall effects [cij].

Recently, according to Karina Nielsen (2013), concern on the process and evaluation of organizational interventions is increasing. However, interventions evaluation process is still not updated; it’s rather in the form of checklist prepared from public health literature. It is further suggested that organizational level interventions should be designed by using participatory management approach as the recent researchers establish that line managers and employees affect implementation outcomes of interventions. It was suggested that there is a further need to collect information about the relationship and impact of line managers and employees on the outcomes of participatory management organizational interventions that highlights a research gap in the area of stress management interventions and participatory management approach. It was argued about the limitations of existing evaluation frameworks, that they are not aligned with latest research and practices, that’s why they are unable to explain how and why human affect the implementation of outcomes of interventions, don’t offer how these dispensations can be measured and finally they do not guide us how to collect relevant information and knowledge proactively that might be used when designing future organizational interventions. Finally, it was suggested that through the analysis of examining suitability of interventions design to organizations and individuals, we would be able to address the design needs at some pre-design phase and able to avoid the failure of interventions. Frameworks based on this, would help us in understanding why and how we can make
organizational and individual level interventions, that are based on the knowledge gained from previous experiences rather than trying to investigate why we have been failed after investing many resources [ciii].

IV. DISCUSSION AND FUTURE RESEARCH NEEDS

In different studies, numbers of causes, effects and stress management interventions have been found. Causes have been identified to be at individual level, organizational level – within and outside, and country level. Likewise, workplace stress impacts individuals, organizations, societies, nations and countries. Thirdly, in the same pattern, interventions are to be applied / implemented on individuals, organizations, societies and countries; and they may be primary; secondary; or tertiary; combinations of any two; or even combination of all the three categories. There might be so many causes, of workplace stress among the employees, yet to be identified and likewise their effects on the individuals and organizations and even on the society at large. Also validation of the effectiveness of stress management interventions is still to be concluded. It can therefore be commented that there is much room to work on the issue of workplace stress. Even so, from the review of the literature, it can be derived that no comprehensive study on the causes of workplace stress, its effects on work performance and well-being of the employees and the stress management interventions has been carried out in relation to manufacturing industries. However, the findings of studies relating to stress management, carried out on different organizations like: hospitals, banks, information technology and education, might be a key source of learning for this work. Also, the sources, consequences and potential mediating and mitigating factors of the stressor-strain relationship are still not clearly understood, therefore, it is imperative to strive for better understanding of the process of workplace stress [xviii]. So, it would be worth full to: a) explore sources of workplace stress in manufacturing organizations and their possible impacts on individual and organizational work performance; b) identify different stress management interventions in eliminating or reducing the workplace stress; and c) validate the effectiveness of their implementation.

There may be other causes and impacts of workplace stress and certainly the interventions required will depend not only on them but also in accordance with the working environment of manufacturing Industries. Furthermore, existing literature clearly identifies that still effectiveness of workplace stress interventions cannot be guaranteed and there is a great need to develop new procedures and methodologies that can support in achieving employees’ ultimate well-being.

Therefore, it is imperative to conduct a comprehensive study in the manufacturing organizations to identify: different causes of workplace stress; their possible impacts on the individuals and organizations; participatory based management interventions to address stress related issues and also to validate these interventions. It will make a significant contribution, regarding the effectiveness of interventions. According to Nielsen, Karina et al 2010, some areas in the stress intervention research are still hidden; the study might unfold some new causes, effects and their relationship to the effectiveness of interventions that has not been described before [civ].

V. CONCLUSIONS

The manufacturing sector of any country has significant importance in its economy. Competitiveness is one of the biggest challenges for manufacturing organizations and improvement in productivity is among the key factors to meet this challenge. Optimal utilization of the resources is the leading factor in productivity improvement. Consequently, the well-being of HR is the concern of nations, countries and organizations. Workplace stress is a major issue for the entities concerning the well-being of Human Resource, so workplace stress management is the key area to be focused so that the effective utilization of workforce can be assured. This comprehensive review on workplace stress, causes, effects and interventions concludes that lot of research has been carried out on themes; however, still there is a need to pursue the issue as no comprehensive study on manufacturing sector has been found. Moreover, the effectiveness of stress management interventions is still not clear, where the importance of participatory management interventions have been concluded. However, nonexistence of stress management interventions framework is still an issue that should be addressed so that the effectiveness of interventions could be increased. Subsequently, In this context, a comprehensive research in manufacturing organizations is indispensable in order to identify: different causes of workplace stress; their possible impacts on the individuals and organizations; and also to develop a participatory based management interventions framework, to address stress related issues for increasing the effectiveness of interventions.

REFERENCES


McVicar, Andrew; Munn-Giddings, Carol; & Seehoehm, Patience 2013.Workplace stress interventions using participatory action research designs, International Journal of Workplace Health Management Vol. 6 No. 1, 2013 pp. 18-37, Emerald Group Publishing Limited 1753-8351


Nielsen, Karina (2013). Review Article: How can we make organizational interventions work? Employees and line managers as actively crafting interventions, Human Relations, 66(8) 1029–1050 2013