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To Study About the Demographic Profile of Brick Kiln Workers of Allahabad, U.P.

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ABSTRACT

India has second rank in the production of bricks in the World and has annual turnover of more than 10000 crore. The brick kiln generates employment on the seasonal basis. Workers of brick kiln are from deprived sectors and whole family work together. The involvement of the male and female workers at the brick kiln is equal. The workers worked at the brick kiln to earn money as well as for bearing and rearing their children. The work of brick kiln workers is least recognized and effect of the work on health of workers is less studied. Brick kiln workers are introduced into the work at an early phase of their life due to poverty and most of them remain uneducated. Socio economic status of brick kiln workers at the brick kiln was very low. Sample sizes of 250 respondents were interviewed under simple random sampling in village Chak Garib Das Ka Pura. The purpose of the study was to determine the impact of brick kilns on socio-economic conditions, working environment, hazards and risk associated with each of the tasks as well as the negative effect of the hazardous work of the brick kiln workers. The main objective of the study was to study the demographic profile of brick kiln workers engaged in brick production.

Key Words : Brick kiln, Moulding, Brick kiln workers, Working environment, Socio-economic status

INTRODUCTION

Brick is one of the most important building material or unit of construction in India and about 42,000 small or cottage scale brick kilns and clamps operate seasonally. As per the latest estimated annual production of bricks, In India 51,000 million from 45,000 small/ cottage scale units distributed throughout the country and there are 2.5 million workers are employed at the brick kilns in India. In India, Brick kiln industry was still remains unorganized and has no authentic data is available regarding its status. India is second largest producer of burnt bricks accounting for more than 15% of global production. A brick kiln in India is dependent on labours and employing million of workers. Brick kiln is diminutive but contribute more to economic and employment in India. Workers engaged in brick kiln work are mostly migrant and economically poor.

Brick kilns are an unorganized sector where the workers are employed for the seasonal or

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temporary basis for entire season of brick making work at the brick kilns. The brick kiln workers are untrained and having no experience. Therefore, they do not have any previous knowledge about unsafe acts and hazards related to brick kiln work, awkward postures, or in simple words we can say that they ignore the safe working process. The common work at brick kilns comprise of pushing, pulling, bending, reaching, stretching, lifting, lowering, sitting, standing, walking and carrying, mining, rimming of clay, preparation of clay, molding of clay, drying of bricks, burning of bricks and finally the brick is prepared. Work Related Musculoskeletal disorders include individual factors (e.g. inadequate strength and poor working posture), physical requirements at the work place (e.g. work required higher force, prolonged awkward static posture, highly repetitive work, use of vibrating tools) and organizational and psycho social factors (e.g. prolonged working hours, shift work, poor work-rest cycle, no job security, little social support. It is reported by Mukhopadhyay (2008) that in developing countries like India, Brick kiln workers suffered from assorted health problems due to handling of heavy loads without taking proper rest breaks. In addition, the unorganized workplace and type of work performed by the brick kiln workers were some of the reasons for poor health conditions and injuries.

According to census (2011) more than 85% of the working population in India works in unorganized sector and out of these at least 120 million are women. The brick kiln workers carry work of bearing and raring of children along with work in brick kiln. The workers come from poor economic class and most of them are illiterate. The workers were engaged in many activities like digging clay, mixing clay, moulding bricks, carrying bricks, loading and unloading bricks and also rabbish (burning bricks) section. Workers engaged in brick kiln work were lived in same working environment with their families. Workers are not benefited with adequate wages. Lack of rest, working for long hours in same position, lack of rest and improper diet of brick kiln workers get affected physiologically and psychologically. The wages paid per thousand bricks were about 500-600 Rs.

The workers force in brick kiln work is contributed by various family members such as husband-wife, father- son, and brother-sister. This group forms the labour force at any stage of production. The brick kiln workers worked for longer hours in unhygienic conditions affecting their health. The occupational Health and safety Act (1989) clearly stated that the general duty of all employers is to provide their employees with a workplace free from recognized serious hazards. This includes the prevention and control of these hazards. The incident and severity of musculoskeletal disorders and other workplace injuries and illness in the industry demand that effective programs be implemented to protect workers from these hazards. They perform different activities manually and mechanically.

Back pain problem has been a culprit to many occupational safety and health problems, lack of knowledge of ergonomics and intervention in daily activities of the workers as well as excessive manual material handling are among the many factors contributing to study related disorders. The higher prevalence of work related musculoskeletal disorders at different segment of the body of workers might be due to use of significant force, repetitive movements and longer duration of exposure.

Sharma (1999) studied that continuous work and unhygienic environment of brick kilns have created many diseases to workers and their family members. Majority of the respondents (65%) were suffering from various diseases like diabetes, tuberculosis, hepatitis, asthma, and developed frequently some acute diseases like fever, cold, cough and flue. The creditors did not provide any facility in case of both acute and chronic diseases, rather they managed themselves approaching doctors and purchasing medicines on rare occasions. At brick kilns, no safety steps for labours

were seen. The study indicating no accessibility of workers to health facility and vulnerability to different diseases of bonded labours at the work places.

Work Related Musculoskeletal Disorders (WRMSDs or WMSDs) have been defined by Barr and Clark (2004) as the injuries or disorders of the tendons, muscles, nerves, joints, cartilage and spinal discs associated with exposure to risk factors at the work place. Work Related Musculoskeletal Disorders don't include injuries or disorders caused by slips, trips, falls, motor vehicle accidents or similar accidents. Musculoskeletal Disorders represents nearly one third of all injuries and illnesses requiring days away from work, a trend that has remained relatively unchanged over the past five years. The nature of Musculoskeletal Disorders injuries-is far more severe than typical injury.

The manufacture of bricks begins with mining, preparation and moulding of clay, followed by drying and burning of bricks, after which they are arranged in a prescribed fashion for transport. Prior research in this area has identified that poor working conditions, suboptimal physiological postures that compel frequent bending, twisting and rest breaks are among the risk factors for MSD among these brick kiln workers.

In unorganized sectors, the workers are recruited temporarily on a seasonal basis for the entire seasonal basis for the entire season of brick making. The workers have no experience and they are not provided with any training therefore, they don't have any previous knowledge about unsafe acts and hazards related to this work, awkward postures or they simply ignore the safe working process. Manual material handling is cheapest solution in developing countries (Maiti 2008), so most of brick manufacturing units in India perform the task of MMH.

Sheikh *et al;* (2012) stated that brick kiln workers performed several types of strenuous activity such as (i) cutting the mud with spade (ii) carrying the mud (iii) preparation of clay (iv) cutting the clay (v) moulding (vi) stacking (loading and unloading the bricks) (vii) carrying the bricks (green and burn bricks) and (viii) burning the bricks in kiln. During this process, brick field workers have to face lots of problems. For instance moulders are directly exposed to dust which contains a mixture of inorganic compounds including free silica, iron oxide etc. on the other hand, brick kiln workers have to face very high temperature along with more proximal exposure to smoke and some toxic gases like sulfur dioxide, hydrogen sulfide, carbon dioxide and carbon mono-oxide, as well as particulate air pollution while burning biomass fuels.

The workers are recruited by brick kiln on a seasonal basis, mainly from November to May. These workers come from the different States of India. Work is not done on the brick kilns during Monsoon season (June to September). The workers go back to their home towns and engaged themselves in some other work like agriculture, masonry work or remain unemployed.

Objective :

– To study about Demographic profile of brick kiln workers.

METHODOLOGY

Selection of tool :

The pre coded interview schedule was used to collect the data with respect to general and specific information of brick kiln workers to accomplish the objective of the study.

Collection of data :

The data was collected from 250 respondents in which 145 male and 105 female brick kiln

workers personally by using interview method and with the help of pre coded interview schedule. Total 58 percent male and 42 percent female were involved in the brick kiln activities. The data was collected in the month of February to June, prior to this pilot study was conducted to test the appropriateness of the tool. Questionnaire and interview schedule method was adopted to collect the data. Assessment of demographic characteristics of the brick kiln workers was done by questionnaire related to age, marital status, education, annual income, family type etc.

Selection of Locale:

A purposive selection of the samples was done from the brick kiln. Brick kilns was located at **chak garib das ka pura, chaka block**, Allahabad was selected for the study. The main reason behind the selection of locale was that it was easily approachable for the researcher and total sample size was also available in this area.

There was total 145 male and 105 female working at the brick kiln. Total 250 brick kiln workers were selected for data collection. Brick kiln were selected on the basis of availability of workers available at the brick kiln. Purposive sampling techniques were used to select the study area and samples.

RESULTS AND DISCUSSION

Demographic profile of the workers :

– **Age:** Age is determined by degree of emotional, mental, anatomical and psychological maturation of individual and has a bearing on thinking, experience and exposure of a person that are achieved at various stages of life.

- 20-30 years
- 31-40 years
- 41-50 years

The data reveals in Fig. 1 that majority of respondents 24% male and 19.6% were of the age group ranging from 20-30 years, 20% male and 16% female were from 31-40 years and nearly 14% male and 6.4% female were from age group between 41-50 years.

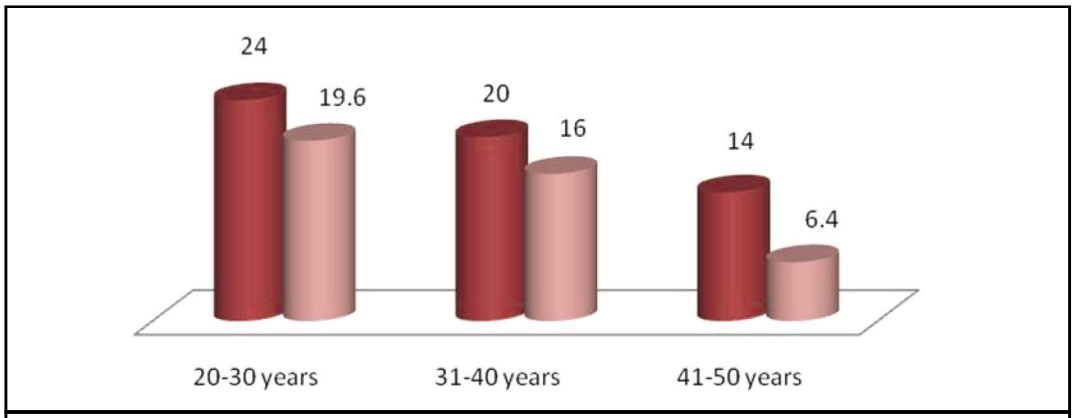

Fig. 1 : Percentage Distribution of Brick Kiln Workers According to their Age

– **Marital status :** The Fig. 2 revealed that majority of respondents 53.6% male and 40.4% were married. Among total nearly 4.4% male and 1.6% female were unmarried.

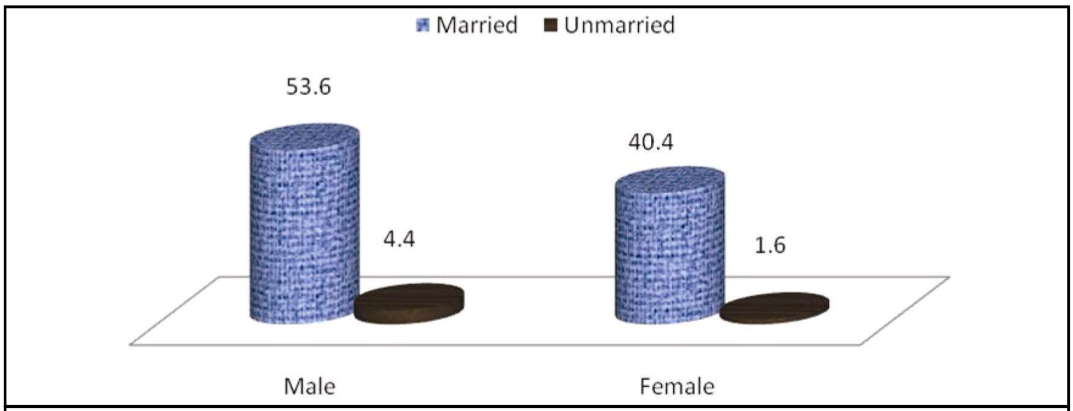

Fig. 2 : Percentage Distribution of Brick Kiln Workers According to their Marital Status

– **Education:** The Fig. 3 revealed that about 38.8% male and 32% female were illiterate. 12.4% male and 4.8% female were having education up to primary level, 4% male and 2.8% female were having education up to high school and very few of them 2.8% male and 2.4% female having education up to intermediate level. No one was having education up to graduation level.

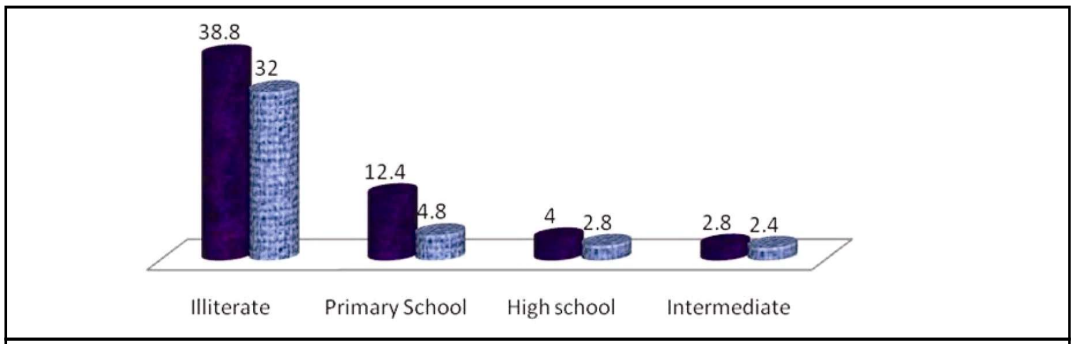

Fig. 3 : Percentage Distribution of Brick Kiln Workers according to their Education

– **Annual income:** The Fig. 4 revealed that 8.8% male and 4.8% female workers were working for annual income of 10000-15000, 15.6% male and 16.8% female were earning 15000-20000 per year, almost 33.6% male and 20.4% female were having 20000-25000 and no one is having more than 25000 and above. The brick kiln workers are bonded workers as they have taken rest of money in advance.

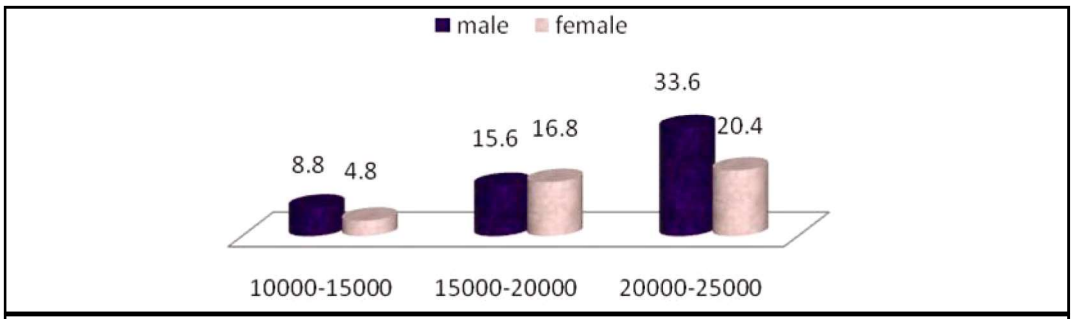

Fig. 4 : Percentage Distribution of Brick Kiln workers according to their Annual Income

– **Caste :** The Fig. 5 presented that 7.2% male and 4.8% female belongs to OBC category, 24% male and 12% female belongs to SC category, and almost 26.8% male and 25.2% female were belongs to ST category. No one belongs to general category. All brick kiln workers were migrant workers. Most of them come from Bihar, Chhattisgarh, Madhya Pradesh etc states.

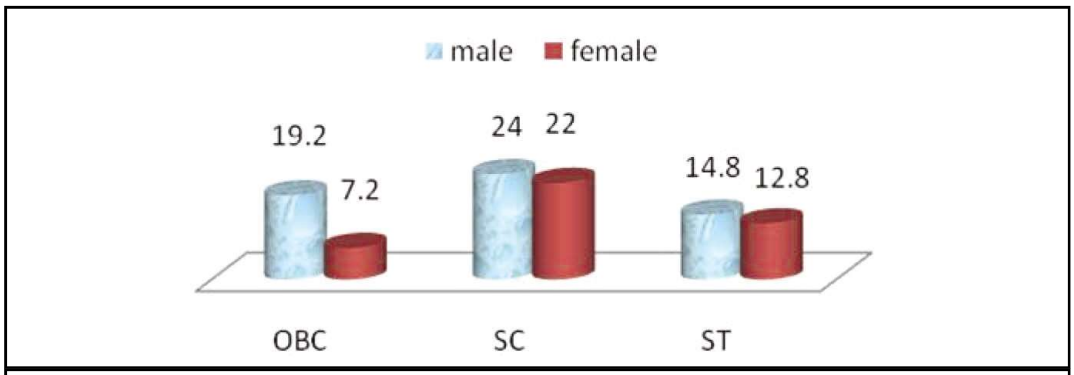

Fig. 5 : Percentage Distribution of Brick Kiln Workers According to their Caste

– **Family type:** A family is a fundamental unit of a social group in society. Family type has positive as well as negative impact on the socio economic status of the family. The data showed that 26% male and 18 % female were belongs to nuclear family and almost 32% male and 24% female were from joint family. No one belongs to single family. The whole family was work together at the brick kiln.

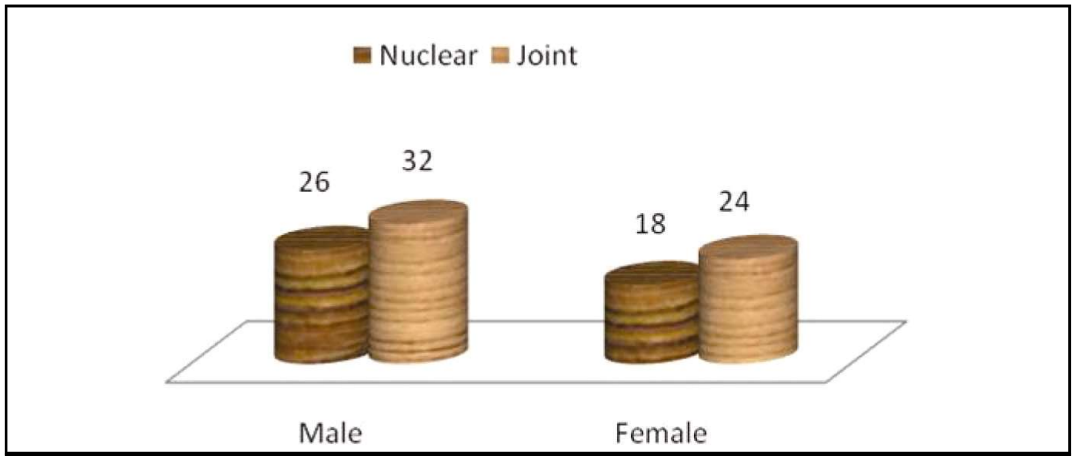

Fig. 6 : Percentage Distribution of Brick Kiln Workers according to their Family Type

Conclusion :

The paper concluded that majority of workers were in the age group of 20-30 years and most of them are married. Most of workers were illiterate so that it is very difficult for the researcher to provide any beneficial information to them. Most of the workers were earning 20000-25000 annually and they all are bonded labours. All the workers of brick kiln were migrant workers and most of them were belongs to ST class.

Table 1 : Frequency and percentage distribution of brick kiln workers according to their demographic profile

Sr. No.	Particulars	Male (N=145)		Female (N=105)		Total (N=250)	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1.	**Age**						
	20-30 years	60	24	49	19.6	109	43.6
	31-40 years	50	20	40	16	90	36
	41-50 years	35	14	16	6.4	51	20.4
2.	**Marital status**						
	Married	134	53.6	101	40.4	235	94
	Unmarried	11	4.4	4	1.6	15	6
3.	**Education**						
	Illiterate	97	38.8	80	32	177	70.8
	Primary School	31	12.4	12	4.8	43	17.2
	High school	10	4	7	2.8	17	6.8
	Intermediate	7	2.8	6	2.4	13	5.2
4.	**Annual income**						
	10000-15000	22	8.8	12	4.8	34	13.6
	15000-20000	39	15.6	42	16.8	81	32.4
	20000-25000	84	33.6	51	20.4	135	54
5.	**Caste**						
	OBC	48	19.2	18	7.2	66	26.4
	SC	60	24	55	22	115	46
	ST	37	14.8	32	12.8	69	27.6
6.	**Family Type**						
	Nuclear	65	26	45	18	110	44
	Joint	80	32	60	24	140	56

Recommendations :

– Labour Department should look forward for the education of brick kiln workers.

– Workers should be given proper knowledge about the brick kiln work by counseling and also give them primary education.

– The study recommends detailed research regarding health education related to safety of the workers.

REFERENCES

Barr, Barbe and Clark (2004). Work Related Musculoskeletal Disorders of the hand and wrist: Epidemiology, Pathophysiology and Sensory motor changes. *J. Orthopedic & Sports Physical Therapy*, **34** (10) : 610-627.

Dul, J., Dauwes, M. and Smitt, P. (1991). A work rest model for static postures, In: Queinnec, Y; Daniellou, F. (Eds.), Design for Everyone: Proceedings of the 11th IEA Congress, Taylor and Francis, London, pp. 93-95

Hagberg, M., Silverstein, B.A. and Wells, R.V. (1995). Work related musculoskeletal disorders; A reference for prevention; Kuorinka I and Forcies L (eds) London: Taylor and Francis, page. 556

Mukhopadhyay, P. (2008). Risk Factors in Manual Brick Manufacturing in India, *Ergonomics Australia*, **22** (1):16-25.

Sharma (1999). Child bonded labour: Nepal, An Asian Regional meeting on the worst forms of child labor, Phuket, ILO, pp-59-65

Sheikh, S., Nafees, A.A., Khetpal, V., Jamali, A.A., Arain, A.M. and Yousuf, A. (2012). Respiratory symptoms and illness among brick kiln workers: A cross sectional study from rural districts of Pakistan. *BMC Public Health*, **12** : 999-1004.

The Occupational safety Act (1989). Official Gazette, supplement, No 11, Vol: **12**, P23-36.

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