ISSN 2073-9990 East Cent. Afr. J. surg

`Prevalence of Low Back Pain amongst Workers at a Paediatric Hospital in Nairobi.

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Background: ***Back pain is a common complaint among working individuals worldwide. It is a significant cause of reduced work productivity and sick days.***
Methods: ***This was a prospective hospital based study done to determine the pattern of back pain amongst workers at a paediatric hospital in Nairobi.***
Results: ***Validated structured questionnaires were administered to 347 employees with a response rate of 19.3% The age range was 25 to 57 years with a mean of 34 years Females comprised 72.6% of the total with a Male to Female ratio of 2.6:1.Nurses comprised 42.2% of the total. 63.6% had suffered back pain in that year. 90.5% of back pain was located in the lower back.***
Conclusion: ***Back pain is a common affliction amongst staff especially the nursing staff. This is in keeping with other health Institutions around the world.***

Keywords: back pain, pattern, paediatric, hospital

Introduction

Back pain is the most common cause of disability among young adults. There are many factors that contribute to this condition ranging from physical, psychological and occupational amongst others. There are many work environments including those that do not present with obvious strenuous conditions that have workers suffering back pain [1]. About 80–85% of back pain episodes have no known cause. Low back pain, the most common spinal disorder, affects over 80% of persons at some point in their life, and from 4–33% of a population at any one time[1].

Back pain is widespread in both developed and developing Nations in the work environment. Ergonomic stressors play a role in this. Data from developing countries is scarce but that collected from developed countries indicate that back pain significantly affects global economic productivity[2]. In the United States studies have shown that at least 26 million working Americans suffer lower back pain annually.[2] with an estimated annual productivity loss of U$28 billion annually[3]. It is linked to lifting heavy objects, twisting and bending, rapid work pace, repetitive motion patterns, insufficient recovery time and non neutral body positions [4, 5]. In the developed countries, it is also one of the most common reasons for filing a workers' compensation claim, hence, one of the most costly health disorders to society[6].

Studies show that occupational risk factors account for 37% of back pain worldwide[7]. Many workers in the hospital setting are prone to these forces especially nurses and porters and thus risk suffering occupational back pain. Despite the prevalence of this disease and the toll that it exacts on workers and their families there are some cost effective interventions.

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Patients and Methods

This was a prospective hospital based survey conducted by questionnaire at Gertrude's Garden Children's Hospital (GGCH) in Nairobi, Kenya. GGCH is a private institution located about 7 kilometres from the central business district dedicated to children's health care. Following Hospital ethics committee approval and informed consent by participant's data was collected. A structured questionnaire was used to collect data which included demographic data and other variables. Data was analysed using SPSS computer software.

Results

Responses from 67 employees were analyzed. Their ages ranged from 25 to 61 with a mean of 35, a median of 34 and a mode of 25 years (Figure 1). The majority (72.6%)were females. The Male to Female sex ratio was 1:3. Nursing officers constituted 42.2% of the study population (Table 1). Subordinate staff and Secretaries accounted for 9.4% and 7.8% respectively. A total of 16.7% worked in general paediatrics, 13.6% in theatre and 7% in administration (Table 2).

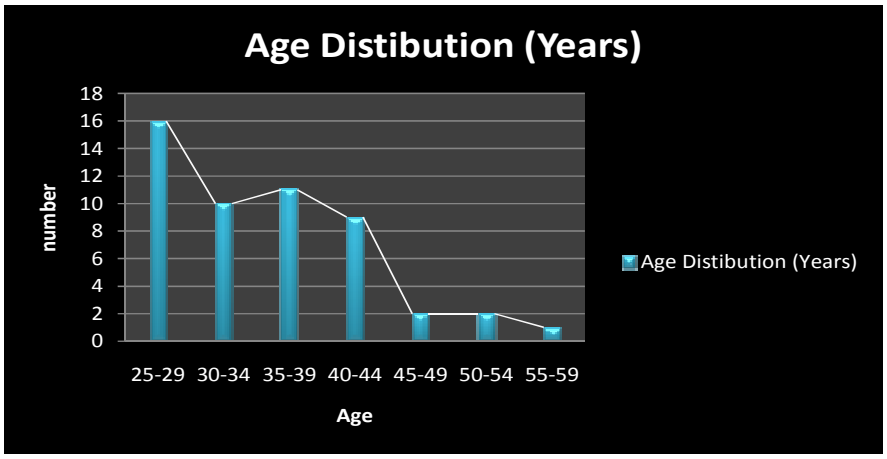

Figure I. Age Distribution in Years

Table 1. Distribution by Occupation

Occupation	Frequency	Percent
Nursing Officer	27	42.2
Subordinate staff	6	9.4
Secretary	5	7.8
Administrator	3	4.7
Porter	3	4.7
Catering	3	4.7
Clerical Officer	1	1.6
Others	16	25.0
Total	64	100.0

ISSN 2073-9990 East Cent. Afr. J. surg

Table 2. Work Station

Work station	Frequency	Percent
General Paediatrics	11	16.7
Theatre	9	13.6
Administration	7	10.6
Casualty	5	7.6
Outpatient clinic	5	7.6
Maintenance	5	7.6
Medical wards	3	4.5
Private wing	1	1.5
Surgical wards	1	1.5
Others	19	28.8
Total	**66**	**100.0**

Most (76.2%) of the respondents had previously suffered back pain at one time of which the majority was within the last twelve months (63.6%) and 55.2% within the last six months. Of the 37 individuals who reported back pain within the previous 6 months, the majority (40.5%) complained of 1-2 episodes. 21.6% reported 3-4 episodes, 18.9% more than 6 episodes, 8.1% 5-6 episodes and 10.8% reported continuous pain. The majority of patients (90.5%) reported lower back pain compared to the 4.8% each who reported pain in the upper back and pain in the whole back. The severity of the back pain was rated as moderate in 64.3%, as mild in 19% and severe in 16.7%.

A total of 92.9% of patients reported presence of a precipitating factor for the backache. The most common precipitating factor was lifting and carrying a load (51.3%), bending (41%), physical activity (38.5%) and menstrual periods (34.1%) (Table 4). The commonest aggravating factors were bending (61.5%) followed by carrying a load (43.6%) (Table 5).

History of previous back injury: The majority (81%) had no prior history of injury to the back. Of the 19% who had history of back injury. Road traffic crash (RTC) was the commonest trauma accounting for 44.4% followed by falls (33.3%). The range of duration of occurrence of back injury was 20 years.

Table 3. Number of Episodes of Backache Suffered During the Previous 6 Months

Number of episodes	Frequency	Percent
1-2	15	40.5
3-4	8	21.6
5-6	3	8.1
More than 6	7	18.9
Continuous	4	10.8
Total	37	100.0

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Table 8. Site of Pain

Area	Frequency	Percent
Lower back	38	90.4
Upper back	2	4.8
The whole back	2	4.8
Total	42	100.0

Table 4. Factors precipitating back pain

Factor	Frequency	Percent
Carrying weights	20	51.3
Bending	16	41.0
Physical activity	15	38.5
Menstrual periods	14	34.1
Sleeping	4	10.3
Emotional change	3	7.7
Other factors (e.g. sitting)	6	15.4

Table 5. Aggravating Factors

Factor	Frequency	Percent
Bending	24	61.5
Carrying weights	17	43.6
Menstrual periods	12	29.3
Physical activity	11	28.2
Sleeping	4	10.0
Emotional change	4	10.3
Sneezing	2	5.1
Coughing	1	2.6
Other factors (e.g. sitting)	2	5.1

Table 6. History of Previous Back Injury

Kind of Injury	Frequency	Percent
RTA	4	44.4
Fall	3	33.3
Lifting	1	11.1
Others	1	11.1
Total	9	100.0

Table 7. Effect of Backache on Working Ability

	Frequency (n = 41)	Percent (100)
Able to work normally	16	39.0
Working ability moderately impaired	15	36.6
Working ability mildly impaired	8	19.5
Working ability severely impaired	1	2.4
Bed rest required	1	2.4

Effect of back pain on work performance
A total of 39% were able to work normally, 36.6% had moderately impaired working ability and 19.5% had mildly impaired working ability. 7.1% reported missing work due to back ache in the last 12 months.

Effect of work on backache: Four (10.8%) of attributed their back pain to work as the cause, 21 (56.8%) considered their work as an exacerbating factor and while the rest (32.4%) felt that there was no relationship between the two. Only 4.9% reported that they have previously had to change their work station due to back pain.

Subjective Opinion of Health status: 17.1% felt that they were in excellent health whilst the majority (61%) were of the opinion that their state of physical health was good. 22% thought it was fair. Over half of the subjects (57.5%) reported participation in exercise programs whilst 26.8% considered themselves overweight.

Instruction on back pain control and prevention: Almost one fifth (19.5%) of the subjects had received some form of instruction on control and prevention of back pain.

Discussion

Back pain is a common complaint among working individuals worldwide. It is a significant cause of reduced work productivity and sick days. Its aetiology is largely non-traumatic with occupational causes dominating and is largely preventable. Mechanical hazards within the hospital put staff at risk of back pain. In this study the prevalence of back pain was 63.6% which is similar to studies done in Nigeria and Ethiopia.[8]

The age range of 25-61 years with the majority of the patients falling between 25 and 34 years indicates younger and more productive members of society suffering from back pain and is a pointer to a potentially big economic burden. There are more females affected than males at 72.6%. This is similar to many studies.[8, 10] The cause could be the anatomic, physiologic and structural differences between males and females that result in mechanical disadvantages to females.[11,12] However in our case we note the fact that there were numerically more female nurses would skew the ratios towards the females.

The majority of the subjects were nurses at 42.2%. This could be due to the fact that they are prone to mechanical strains such as heavy lifting of loads, twisting and bending, rapid work pace, repetitive motion patterns, insufficient recovery time and non neutral body positions which are proven causes of back pain[4, 5]. The same factors may play a role as the cause of back

pain in the other occupations as well as working stations. The majority of the workers suffered lower back pain at 90.5% which is in line with global statistics[1].

Most of the workers attributed their back ache to work related activities such as carrying weights, bending and other physical activity. Many also thought that their work contributed or exacerbated their back pain (56.8%). This is indicative of the need for improved working conditions in institutions. Some physiological factors also play a big role such as monthly menses. The physiological factors may indicate the need for better back care during pregnancy. This is in keeping with the above reasons for females being more prone to back pain [11, 12]. Interestingly workers reported minimal work impairment when afflicted with back pain with only 2.4% being severely impaired or requiring bed rest. Only 7.1% of workers had had days off due to back pain with only 4.8% taking more than 9 days off duty. This is in contrast with international studies that name back pain as one of the biggest causes of reduced worker productivity [3].

Low Back Pain has been identified as one of the main causes of loss of work days among the working class citizens in developed countries. A report in England in 1989 [13] showed an increase of 40% in comparison to 5.6% for other complaints. The survey by Triolo[14] indicated that nurses lost 750,000 days a year as a result of back pain. One could speculate that the reason for the relatively small loss of work days in this study could be a result of perceived potential job loss that could result from reduced productivity.

Study limitations: In this study recall bias was a potential confounder

Conclusion

Back pain is a significant and common complaint amongst health workers. The occupational stresses appear to be a cause and exarcebator of back pain. There is need for Institutional work place policies to reduce the risk and incidence of back pain amongst health workers and thereby improve productivity. A study done in Nigeria[9] has shown a lack of knowledge of lower back pain among sectional heads and a lack of knowledge of understanding of their roles in managing lower back pain.

Studies have been conducted [15, 16] that outline the role of managers in health institutions in controlling back pain. The results of these studies could be applied locally pending our own studies to establish management protocols. Courses on back care ergonomics and installation of lifting equipment in health institutions could impact on back pain and reduce the incidence. Studies show that improvements in ergonomics often result in improvements in productivity (and vice versa). In fact, greater output per worker is often a consequence of ergonomic interventions[17]

In this study the most of the workers denied receiving any education on back pain control and prevention (80.5%). Didactic instruction and physiotherapy based activity for staff to manage prevent and control back pain could improve the situation.

Acknowledgement

We would like to thank the Gertrude's Garden Children's hospital for their co-operation in this Study. We also wish to thank Anita Muoki for the computer entries and data analysis.

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