

4. Results

Data was obtained from machinists attending the four designated health centres. Unfortunately, Grassy Park, and Atlantis Health Centre did not attend to patients with these injuries and a locum in Elsie's River Clinic attended to the one patient they attended to; therefore all the cases are from the Salt River area. This led to a problem of a very small data set, with 18 cases and 18 controls.

Incidence

Table 1 illustrates the spread of principle member consultations across the 4 clinics from 1 February 2002 to 31 July 2002. Machinists are included in the principle member amount. Injuries made up 0.26% of the consultations with needle- in- finger injuries making up 24.59% of injuries attended to.

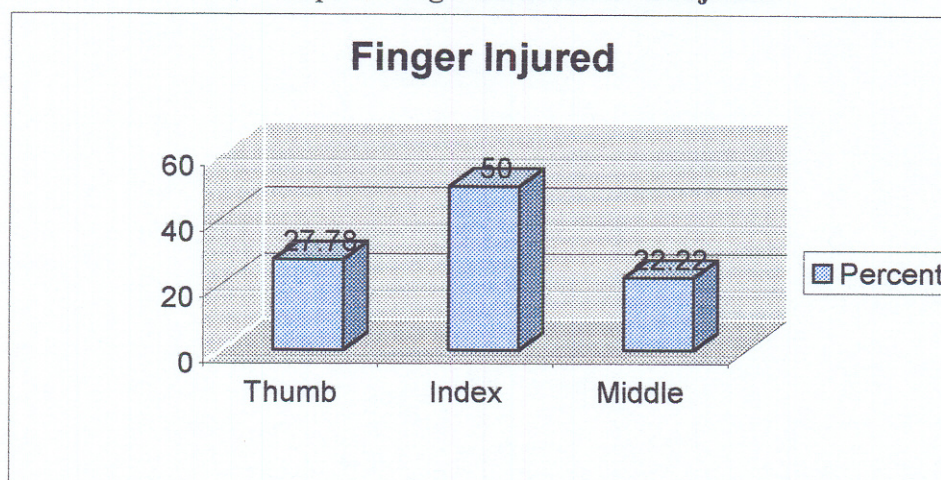
Table 1 Spread of consultations and injuries

Health Centre	Principle members	Machinists (%)	Injuries (%)	Needle (%)
Salt River	11445	7160(62.56)	34(0.29)	14(41.18)
Atlantis	5136	3271(63.39)	4(0.08)	0
Grassy Park	4851	2555(52.67)	9(0.19)	0
Elsie's River	5652	3894(68.9)	14(0.25)	1(7.14)
Total	27084	16880(62.32)	61(0.26)	15(24.6)

Type of injury

Workers injured their left hand more frequently, 14 (77.78%) injuries with 4 (22.22%) occurring to the right hand. Graph 1 illustrates the finger distribution of injuries.

Graph 1. Finger distribution of injuries.



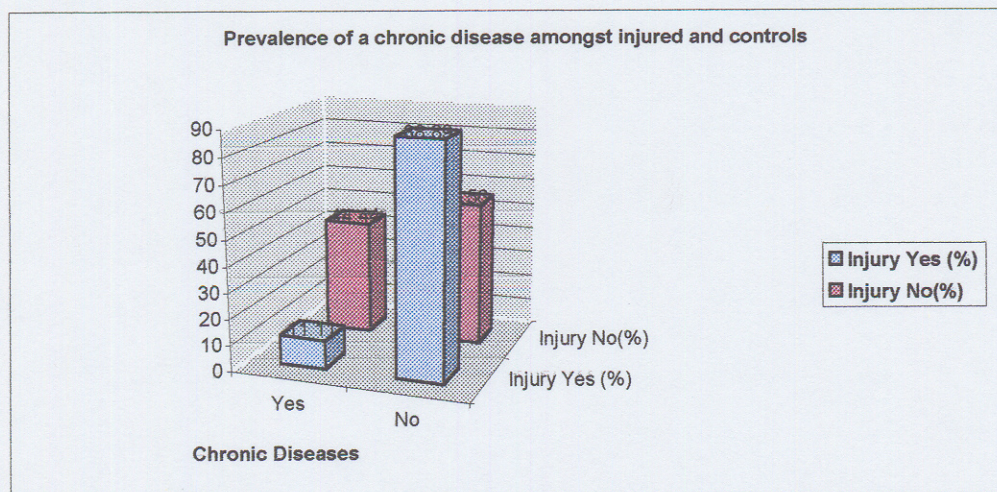
Demographics

The results of the characteristics of the workers are illustrated in Table 2. As mentioned before, all the participants were women as all machinists in the Clothing Industry are women.

Table 2 Work and medical history of participants

Variable	Cases n = 18	Controls n = 18	Significance test (p)	Effect (95% CI)
Work experience (yrs)	X=12.94(SD=6.18)	17.75(10.13)	t=1.72 (0.09)	
Training (yes)	12	13	chi ² =0.16(0.68)	OR=0.78 (0.14-3.98)
Weeks trained	X=10.38(SD=14.92)	3.71(3.08)	z=-0.401(0.69)	
Chronic diseases (yes)	2(11.11%)	8(44.44%)	chi ² =4.98(0.026)	OR=0.16 (0.14-1.06)
Medication (yes)	3(16.67%)	9(50%)	chi ² =4.5(0.033)	OR=0.16 (0.029-1.13)
Visual problems (yes)	6(33.33%)	11(61.11)	chi ² = 2.79(0.09)	OR=0.32 (0.065-1.5)
PMT (yes)	5(27.77%)	3(16.66%)	chi ² =0.64(0.42)	OR=1.92 (0.3-14.58)
Age (yrs)	X=35.44(SD=7.99)	40.28(9.48)	t=1.65 (0.1)	

Graph 2 illustrates the prevalence of chronic diseases amongst the injured workers and controls.

**Graph 2**

When comparing the mean ages of workers who presented with an injury to those who did not have an injury, no statistical difference was found ($t = 1.65$ with a p value of 0,10) but the workers who presented with the injury were younger with a mean age of 35.44 ± 7.99 yrs compared to a mean age of 40.28 ± 9.48 yrs of those workers without an injury.

By dividing the workers into an old and young group (using the median as the dividing point) an odds ratio of 0.31 with a 95% CI between 0.065 and 1.49 was calculated.

Interestingly enough, the presence of a chronic disease seems to be protective as the null hypothesis that the amount of workers with chronic disease in both groups was the same had to be rejected as $\chi^2 = 4,98$ and $p = 0,026$, the odds ratio was 0.16 and CI between 0.14 and 1.06. Is the presence of a chronic disease truly protective or is it a confounder or effect modifier?

To elicit an answer to the above question the data was stratified according to chronic disease. Table 3 illustrates the results.

Table 3. Stratifying by chronic disease

	Chronic disease			
	Yes		No	
	Age		Age	
	Young	Old	Young	Old
Cases	2	0	9	7
Controls	2	6	5	5
Total	4	6	14	12
	OR -undefined		OR = 1.29	

Workplace

Table 4 illustrates the workplace characteristics of the participants.

Table 4 Workplace Characteristics

Variable		Cases n = 18	Controls n = 18	Significance test (p)	Effect (95%CI)
Material Pattern	Solid Colour	15 (83.33%)	16 (88.88%)		
	Check	1 (5.56%)	1 (5.56%)		
	Stripe	2 (11.11%)	1 (5.56%)		
Material Colour Cases n=15 Controls n=16	Dark	8 (53.33%)	11 (68.75%)		
	Pastel	2 (13.33%)	5 (31.25%)		
	Bright	5 (33.33%)	0		
Poor Lighting (yes)		0	3 (16.67%)	chi² =3.36 (0.067)	OR=0
Production Work (yes)		16 (88.89%)	17 (94.44%)	chi² =0.36 (0.55)	OR=0.47 (0.007-10.07)
Machine	Normal	15 (83.33%)	17 (94.44%)	chi² =1.12 (0.28)	OR =0.29 (0.05-4.25)
	Faulty (yes)	2 (11.11%)	1 (5.56%)	chi² =0.36 (0.55)	OR=0.47 (0.007-10.07)
Previous Injury (yes)		10 (55,56%)	11 (61.11%)	chi² =0.11 (0.7)	OR=0.8 (0.17-3.64)

It needs to be noted that 1 of the 2 injured workers who were not working for production was working on an unfamiliar machine while the other worker's machine was faulty.

21 (58.33%) of all the participants reported having had a previous needle in finger injury. These workers had a mean of 13,65+/- 7,62 years of experience at the time of the injury.