



NATIONAL INSTITUTE FOR  
OCCUPATIONAL HEALTH

Division of the National Health Laboratory Service



# Risk factors for problematic alcohol use among male golf caddies and waste pickers in Johannesburg, South Africa: A cross-sectional study

*Healthy, Safe, Happy & Sustainable Workplaces*

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# Introduction

- Golf is an important industry in SA (1).
- **Golf caddies** carry golfers' bags, clean golf clubs, wash dirty golf balls, and give advice to golf players (2).
- Caddies are independent contractors who work on the golf courses in SA.
- Little research has been conducted on their health and lifestyle (3).



# Introduction

- **Waste picking** is a prominent part of urban landscape in many SAn cities (4).
- Waste pickers collect waste from public places such as garbage dumps and streets.
- Despite working full-time they have a low-socio economic status (5).
- A significant amount of research has been done on SAn waste pickers, and
- A high proportion (41%) of South African waste pickers have been shown to consume alcohol (6).





# Introduction

- **Problematic alcohol use** is defined as heavy drinking or drinking that is accompanied by unpleasant consequences (7,8).
- SA, as a low-middle income country has been reported to be one of the countries with high levels of alcohol consumption in a small proportion of citizens by the World Health Organization (WHO) (9).
- Previous studies have linked informal work to smoking and drinking (10,11).
- There is evidence that substance use also contributes to the **lifestyle associated health-inequalities in South Africa** (12).
- Alcohol dependency has been associated with depression, anxiety, difficulty sleeping, suicidal thoughts and attempts, as well as abuse of other notorious drugs (13).



# Objective

- To describe problematic alcohol use and risk factors among male golf caddies, an under researched group, and waste pickers who have previously been associated with problematic alcohol use.



# Primary studies

- Both studies were conducted by the National Institute for Occupational Health (NIOH), Epidemiology and Surveillance Section.
- Golf caddies were invited from six randomly chosen golf clubs in Johannesburg, South Africa.
- Waste pickers were invited from two of the largest landfill sites in Johannesburg.
- Acquisition of informed consent.
- Structured face-to-face interviews.
- RedCap data processing software.
- Basic health screening was also conducted by trained nurses.



# Methods

- **Demographic information.** Age, nationality, socioeconomic proxies such as education level, cooking source (e.g. electricity, paraffin), water source, toilet type, and average income earned monthly.
- **Alcohol use.** Measured using the WHO Alcohol Use Disorder Identification Test (AUDIT) tool, a screening tool for hazardous and harmful alcohol consumption.
- A score of  $\geq 8$  indicated a probable drinking problem.
- **Mental Distress.** WHO self-reporting questionnaire for common mental health disorders (CMD) was used as a case-finding instrument in both the caddies and the waste pickers studies.
- A score of  $\geq 8$  indicated the presence of mental distress.



# Statistical analysis

- Descriptive statistics were used to describe and summarise variables and compare the two informal worker groups including means, standard deviations, medians, frequencies, and percentages.

Statistical Test	Use
An independent student t-test	To determine significant differences in the mean alcohol use scores between caddies and waste pickers.
A proportions test	To compare differences of proportions in demographic information and AUDIT risk levels between the two groups of informal workers.
The chi-squared test	To test for an association between AUDIT risk levels and symptoms associated with CMD.
A multivariate logistic regression	To explore the predictors of problematic drinking in informal workers.



# Results

## Population description

- A total of 514 male informal workers were interviewed.
- The study group had a median age of 38 years.
- The waste pickers were significantly younger than the caddies (proportion test  $p < 0.0001$ ).

## Socioeconomic status

Income	Entire sample (514)	Golf caddies (249)	Waste pickers (265)	P-value
Less than 1000	100 (19.5%)	30 (12.1%)	70 (26.4%)	<0.0001
1000 to 2500	264 (51.4%)	120 (48.2%)	144 (54.3%)	0.1667
More than 2500 to 5000	118 (23.0%)	76 (30.5%)	42 (15.9%)	0.0001
More than 5000	32 (6.23%)	23 (9.2%)	9 (3.4%)	0.0065
Average income	R2360.4	R2837.9	R1906.6	-
Alcohol monthly expenditure				
Less than 500	363 (70.6%)	156 (62.7%)	207 (78.1%)	0.0001
500 to 1000	92 (17.9%)	68 (27.3%)	24 (9.1%)	<0.0001
More than 1000	59 (11.5%)	25 (10.0%)	34 (12.8%)	0.3190

# Results

## Substance use

- Of the 514 participants, 392 (76.3%) provided answers to the AUDIT questionnaire.

Lifestyle	Entire Sample (514)	Golf caddies (249)	Waste pickers (265)	P-value
Current Smokers	381 (74.1%)	158 (62.0%)	223 (84.2%)	<0.0001
Cigarette Smokers	364 (70.8%)	155 (98.1%)	209 (93.7%)	0.0126
Dagga smokers	157 (30.5%)	39 (24.7%)	118 (52.9%)	<0.0001
Drug users	25 (4.9%)	0	25 (11.2%)	<0.0001
Alcohol consumers	281 (54.7%)	172 (69.1%)	109 (40.8%)	<0.0001
Alcohol consumers	Entire sample (N=281)	Caddies (N=172)	Waste pickers (N=109)	P-value
Probable drinking problem (≥8)	172 (61.2%)	107 (62.2%)	65 (59.6%)	0.6630
Probable alcohol dependence (≥13)	88 (31.3%)	61 (35.5%)	27 (24.8%)	0.0596
Ever binge drank	193 (68.9%)	108 (62.8%)	85 (78.0%)	0.0051
Frequent binge drinking	130 (46.4%)	79 (45.9%)	51 (46.8%)	0.8319
Common mental disorder (score ≥8)	136 (26.5%)	61 (24.5%)	75 (28.3%)	0.3290

Risk predictors	Entire sample aOR (P-value)	95% CI	Caddies aOR (P-value)	95% CI	Waste pickers aOR (P-value)	95% CI
CMD score	<b>1.06 (0.021)</b>	0.18 – 0.59	<b>1.16 (0.001)</b>	1.06 – 1.27	0.96 (0.261)	0.89 - 1.03
Age (years)						
<30	Ref				Ref	
30-40	<b>2.17 (0.012)</b>	1.18 – 3.97	-	-	<b>1.92 (0.047)</b>	1.01 – 3.66
41-50	<b>2.05 (0.060)</b>	0.97 – 4.34	-	-	1.15 (0.779)	0.44 – 2.97
>50	1.11 (0.806)	0.49 – 2.48	-	-		
Age (years) – Caddies						
<30 – 40	-	-	Ref		-	-
41 - >50	-	-	0.86 (0.729)	0.37 – 2.01	-	-
Smoking	<b>2.25 (0.002)</b>	1.34 – 3.79	<b>3.58 (0.002)</b>	1.61 – 7.94	1.01 (0.976)	0.41 – 2.51
Water source						
House tap	Ref		Ref		Ref	
Communal tap	0.93 (0.771)	0.58 – 1.49	1.17 (0.709)	0.51 – 2.69	-	0.60 – 2.28
Other	<b>0.20 (0.049)</b>	0.04 – 0.99	0.21 (0.237)	0.02 – 2.82	0.91 (0.815)	
Type of informal work						
Caddies	Ref					
Waste pickers	<b>0.33 (&lt;0.001)</b>	<b>0.20 – 0.70</b>	-	-	-	



# Discussion

- This study aimed to describe problematic alcohol use and risk factors among two groups of informal workers in South Africa.
- Our analysis consisted of male informal workers who worked as caddies or waste pickers in Johannesburg, South Africa.
- Over half of the informal workers in the study were alcohol consumers (54%).
- The relatively smaller percentage of the population that consumes alcohol (31%), are mostly binge drinkers (14).
- Smoking was very common amongst both groups of informal.
- Difficult working conditions and financial stress they are subjected to (15).
- **Problematic alcohol use** was linked to caddying, mental distress, age, and smoking among informal workers.
- We also found that the average income of the informal workers was a possible confounder for the type of water source they had in their households.



# Discussion

- Coping motives have been associated with problem drinking and drug abuse across diverse populations (16–19).
- To cope with stresses, caddies were more likely to turn to drinking while most waste pickers turned to binge drinking, smoking, and the use of other illicit drugs.
- These different coping mechanisms can be attributed to the difference in age, as there was no significant difference in the proportion of caddies and waste pickers with mental distress.
- Informal workers with higher AUDIT scores showed more symptoms for **mental distress**, these included shaking hands, feeling nervous, feeling unhappy, difficulty in making decisions, and loss of interest in day-to-day activities.
- Lack of security of employment, as well as less control of salaries, may contribute towards the risk of problematic drinking, substance use, and mental distress in informal workers (20,21).

# Study Limitation

- Self-reported alcohol consumption and risk factors may well be subject to information bias.
- The absence of a clear alcohol-consumption use question in the waste pickers study could have led to lower responses to alcohol-related questions in the AUDIT questionnaire.
- Also, comparison of work stress between golf caddies and waste pickers may not be accurate due to the different definitions used in each respective study.

# Recommendations

- Policy interventions, health education/awareness, and support targeted at informal workers and those of lower socioeconomic status should be implemented to curb problematic alcohol use and smoking in these communities.
- Interventions to reduce and support mental distress may have an impact on substance abuse.

# Conclusion

- Common mental disorders, type of informal work (caddying), age, and smoking were associated with a probable alcohol problem amongst two groups of male informal workers in Johannesburg.
- However, when stratified by type of job, we reported differences in risk factors for problematic drinking between caddies and waste pickers.
- Informal workers of different ages might use different coping mechanisms for dealing with problems.
- Overall, working outside the protection of employment legislation is common in low- and middle-income countries and subsequently leads to socioeconomic inequalities, which may result in problematic alcohol use and mental health problems.





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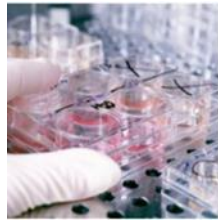
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Thank you!!!!