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# 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).

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# 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).

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# 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).

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# 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.

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# 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.

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# 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. |

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# 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<br>aOR (P-value) | 95% CI | Caddies<br>aOR (P-value) | 95% CI | Waste pickers<br>aOR (P-value) | 95% CI |
|---|---|---|---|---|---|---|
| CMD score | 1.06 (0.021) | 0.18 – 0.59 | 1.16 (0.001) | 1.06 – 1.27 | 0.96 (0.261) | 0.89 - 1.03 |
| Age (years) | | | | | | |
| <30 | Ref | | | | Ref | |
| 30-40 | 2.17 (0.012) | 1.18 – 3.97 | - | - | 1.92 (0.047) | 1.01 – 3.66 |
| 41-50 | 2.05 (0.060) | 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 | 2.25 (0.002) | 1.34 – 3.79 | 3.58 (0.002) | 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 | 0.20 (0.049) | 0.04 – 0.99 | 0.21 (0.237) | 0.02 – 2.82 | 0.91 (0.815) | |
| Type of informal work | | | | | | |
| Caddies | Ref | | | | | |
| Waste pickers | 0.33 (<0.001) | 0.20 – 0.70 | - | - | - | |

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# 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.

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# 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).

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# 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.

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# 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.

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# 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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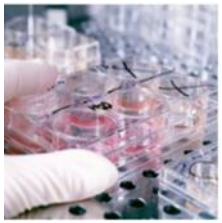

# Thank you!!!!