

Safety Practices and Level of Satisfaction among Small-Scale Miners in Itogon, Benguet, Philippines

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ABSTRACT

Occupational safety remains a major concern among small-scale miners due to their continuous exposure to workplace hazards that threaten their health, safety, and overall well-being. This study determined the safety practices and level of satisfaction among small-scale miners in Itogon, Benguet, Philippines, and examined the significant differences and relationship between these variables. A quantitative descriptive-correlational research design was employed involving 150 active small-scale miners selected through simple random sampling. Data were collected using a researcher-made, expert-validated questionnaire with established reliability. Descriptive statistics, weighted mean, standard deviation, one-way analysis of variance (ANOVA), and Pearson Product-Moment Correlation Coefficient were utilized to analyze the data at a 0.05 level of significance. The findings revealed that the respondents consistently practiced occupational safety measures in terms of sanitation, ventilation, safety guidelines, and emergency preparedness. Likewise, they were highly satisfied with themselves, their families, and their communities. Educational attainment and years of mining experience significantly influenced both safety practices and level of satisfaction, whereas age, civil status, and average monthly income did not show significant differences. Furthermore, a statistically significant moderate positive relationship was found between the overall level of safety practices and the overall level of satisfaction ($r = 0.648$, $p < .001$), indicating that improved safety practices were associated with higher levels of satisfaction among the respondents. The study concludes that strengthening occupational safety through continuous education, competency development, and workplace health promotion enhances both worker safety and overall well-being. An evidence-based occupational health intervention program is recommended to sustain safe mining practices and improve the quality of life of small-scale miners in Itogon, Benguet.

Keywords: Occupational health, occupational safety, small-scale miners, worker satisfaction, workplace health promotion

INTRODUCTION

Occupational health and safety (OHS) is essential in preventing work-related injuries and diseases while promoting workers' health and productivity. In 2022, the International Labor Organization (ILO) recognized a safe and healthy working environment as a fundamental principle and right at work. Despite this, occupational hazards remain a major global concern, with approximately 2.93 million work-related deaths and 395 million non-fatal occupational injuries occurring annually (International Labor Organization [ILO], 2024).

Small-scale mining is among the most hazardous occupations due to miners' exposure

to dust, poor ventilation, excessive noise, unstable working conditions, and physically demanding tasks. Although effective safety practices can reduce these risks (Afolabi et al., 2022; Kyeremateng-Amoah & Clarke, 2021), many miners continue to face unsafe working environments because of limited resources and inadequate occupational health services (ILO, 2023). This study assessed the safety practices and level of satisfaction among small-scale miners in Itogon, Benguet, examined the relationship between these variables, and developed an evidence-based occupational health intervention program to support nursing practice and occupational health initiatives.

Statement of the Problem

This study assessed the safety practices and level of satisfaction among small-scale miners in Itogon, Benguet.

Specifically, it sought to answer the following questions:

1. What is the demographic profile of the respondents in terms of age, sex, civil status, educational attainment, and length of experience?
2. What is the level of safety practices of the respondents in terms of sanitation, ventilation, safety guidelines, and emergency preparedness?
3. What is the level of satisfaction of the respondents in relation to self, family, and community?
4. Is there a significant difference between the safety practices of small-scale miners and their profile?
5. Is there a significant relationship between the level of satisfaction of being small-scale miners and their profile?
6. What is the proposed intervention or program to improve safety among small-scale miners?

Scope and Delimitations

The study focused on the safety practices and level of satisfaction of 150 small-scale miners in Itogon, Benguet using a quantitative descriptive-correlational design. It assessed sanitation, ventilation, safety guidelines, emergency preparedness, and satisfaction in relation to self, family, and community, with findings limited to the selected respondents during the study period.

Review of Related Literature

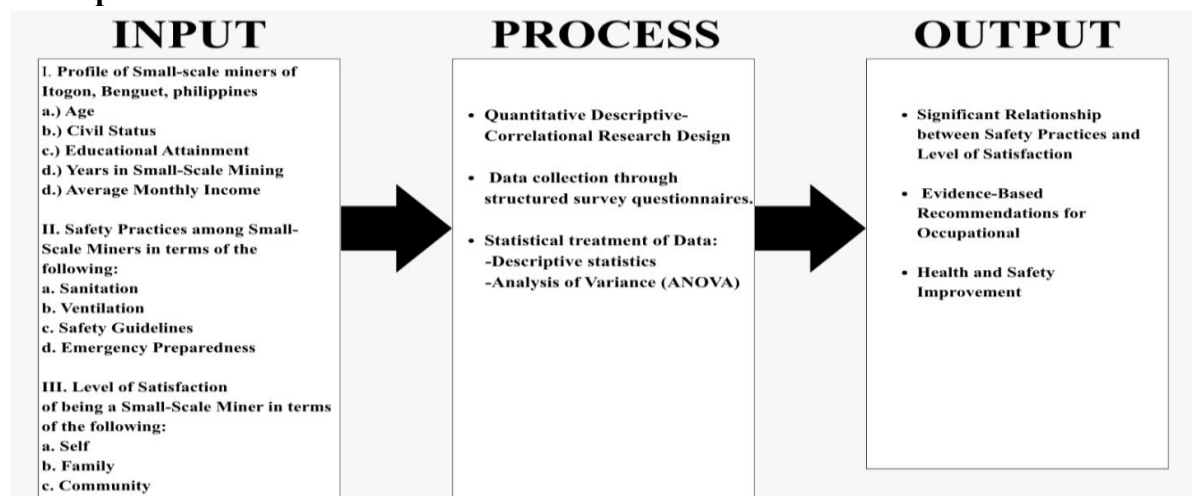
Occupational health and safety (OHS) is essential in preventing work-related injuries and promoting workers' overall well-being through effective safety programs, health education, and compliance with occupational safety standards (International Labor Organization [ILO], 2024; World Health Organization [WHO], 2022). Small-scale miners are particularly vulnerable to occupational hazards such as dust, poor ventilation, noise, and unsafe working conditions, which increase the risk of injuries and occupational diseases (ILO, 2023). Previous local and international studies have shown that consistent safety practices, proper use of personal protective equipment, and occupational health interventions improve workplace safety and workers' well-being (Afolabi et al., 2022; Lu & Lu, 2021; Capulong, 2024). However, limited research has examined the relationship between safety practices and the level

of satisfaction among small-scale miners in Itogon, Benguet, or used these findings to develop an evidence-based nursing occupational health intervention program, providing the rationale for the present study.

Theoretical Framework

The study is anchored on *Pender's Health Promotion Model (HPM)* and *Heinrich's Domino Theory of Accident Causation*. These theories explain how health-promoting behaviors and safe work practices influence the prevention of occupational hazards and improve workers' well-being. They provide the theoretical basis for examining the relationship between safety practices and the level of satisfaction among small-scale miners and for developing an evidence-based occupational health intervention program.

Conceptual Framework



METHODOLOGY

This study employed a quantitative descriptive-correlational research design involving 150 small-scale miners in Itogon, Benguet, selected through simple random sampling. Data were collected using a validated questionnaire and analyzed using descriptive and inferential statistics (frequency, percentage, weighted mean, standard deviation, t-test, ANOVA, and Pearson's correlation) at a 0.05 level of significance.

Research Design

This study employed a quantitative descriptive-correlational research design to assess the safety practices and level of satisfaction among small-scale miners in Itogon, Benguet. It also examined the significant relationship between these variables using statistical analysis.

Research Steps

A quantitative descriptive-correlational design was used to assess the safety practices and level of satisfaction of small-scale miners in Itogon, Benguet. After obtaining approvals, data were collected, analyzed, and used to develop an occupational health intervention program.

Data Collection and Sample Selection

Data were collected from 150 active small-scale miners selected through simple random sampling using a validated questionnaire. Participation was voluntary and based on the study's inclusion criteria.

Data Analysis Methods

The data were analyzed using SPSS. Frequency, percentage, weighted mean, standard deviation, t-test, ANOVA, and Pearson's correlation were used at a 0.05 level of significance.

Research Hypotheses and Validation

The study tested the null hypotheses on the differences and relationship between safety practices and level of satisfaction. The questionnaire underwent expert validation and pilot testing before data collection.

Study Limitations and Ethical Considerations

The study relied on self-reported responses from small-scale miners in Itogon, Benguet, which may limit the generalizability of the findings. Ethical approval was obtained before data collection, and participation was voluntary. Confidentiality, anonymity, informed consent, and the participants' right to withdraw at any time were strictly observed.

RESULTS AND DISCUSSION

The respondents consistently practiced occupational safety measures and reported high levels of satisfaction. Educational attainment and mining experience significantly influenced the variables, while safety practices showed a significant positive relationship with satisfaction.

SUMMARY

The study assessed the safety practices and level of satisfaction among 150 small-scale miners in Itogon, Benguet. Results showed consistently high safety practices and satisfaction levels, with educational attainment and mining experience significantly influencing both variables. A significant positive relationship between safety practices and satisfaction was also established.

CONCLUSIONS

Small-scale miners generally demonstrate positive occupational safety practices and high levels of satisfaction. Strengthening workplace safety through continuous education and occupational health promotion can further improve miners' well-being. The findings support the implementation of evidence-based occupational health interventions in mining communities.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are suggested:

Implement a sustainable occupational health intervention program focusing on safety education and workplace health promotion. Future studies may include larger populations and additional occupational health variables

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AI DECLARATION STATEMENT

AI-supported tools helped with grammar and structure in creating this article. No AI tools were used to collect, analyze, or interpret data; all authors are credited for their academic contributions.

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