



SURVEY ON INTEGRATED OCCUPATIONAL HEALTH SERVICES AMONG TOURISM WORKERS

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Abstract

This survey aims to screen occupational disease, non-communicable disease, communicable disease, and preventive behavior among tourism workers at basic occupational health services. The population was 134 tourism workers at basic occupational health services of the Pinus Pengger, Puncak Becici, Lintang Sewu, and Pinus Asri. The sample consisted of 77 workers who came during a health screening conducted by Dlingo 2nd, a community health center in Bantul, on 25 and 30 December 2023, Data collection was done by accidental sampling. Data collection involved interviews, questionnaires, and analysis describing occupational diseases, general diseases, and healthy living behaviors. The study found respondents aged 25-48 years, who were generally low-educated. The health screening revealed that 45.45% were obese (BMI>18-25), 72.72% had hypertension or prehypertension, and common occupational complaints included lower back pain. One case of suspected tuberculosis and diabetes mellitus was identified. This study found poor preventive behaviors, reflecting a dual disease burden among tourism workers: occupational diseases, and communicable and non-communicable diseases. These findings are a small illustration of the double burden of disease in the tourism worker group: occupational diseases, infectious diseases, and non-infectious diseases. These conditions are preventable through healthy lifestyle changes and improved hazard and risk awareness, ensuring a safe physical and social environment. Enhancing occupational health literacy through information mobilization, surveillance, proper management, and effective behavior change programs is vital for disease prevention among workers.

Keywords: Basic Occupational Health, Occupational Disease, Preventive Behavior, Tourism Workers

Abstrak

Survei ini bertujuan untuk melakukan skrining penyakit akibat kerja, penyakit tidak menular, penyakit menular, dan perilaku pencegahan pada pekerja pariwisata di pelayanan kesehatan kerja dasar. Populasi penelitian ini adalah 134 pekerja pariwisata di pelayanan kesehatan kerja dasar di Pinus Pengger, Puncak Becici, Lintang Sewu, dan Pinus Asri. Sampel terdiri dari 77 pekerja yang datang pada saat pemeriksaan kesehatan yang dilakukan oleh Puskesmas Dlingo 2, sebuah puskesmas di Bantul, pada tanggal 25 dan 30 Desember 2023. Pengumpulan data dilakukan secara accidental sampling. Pengumpulan data dilakukan dengan wawancara, kuesioner, dan analisis yang menggambarkan penyakit akibat kerja, penyakit umum, dan perilaku hidup sehat. Studi ini menemukan responden berusia 25-48 tahun, yang umumnya berpendidikan rendah. Pemeriksaan kesehatan menunjukkan bahwa 45,45% mengalami obesitas (BMI>18-25), 72,72% mengalami hipertensi atau prehipertensi, dan keluhan pekerjaan yang umum termasuk nyeri punggung bawah. Satu kasus yang dicurigai tuberkulosis dan diabetes mellitus telah diidentifikasi. Penelitian ini menemukan perilaku pencegahan yang buruk, yang mencerminkan beban penyakit ganda di antara pekerja pariwisata: penyakit akibat kerja, dan penyakit menular dan tidak menular. Temuan ini merupakan gambaran kecil dari beban ganda penyakit pada kelompok pekerja pariwisata: penyakit akibat kerja, penyakit menular, dan penyakit tidak menular. Temuan ini merupakan gambaran kecil dari beban ganda penyakit pada kelompok pekerja pariwisata: penyakit akibat kerja, penyakit menular, dan penyakit tidak menular. Kondisi ini dapat dicegah melalui perubahan gaya hidup sehat dan peningkatan kesadaran akan bahaya dan risiko, serta memastikan lingkungan fisik dan sosial yang aman. Meningkatkan literasi kesehatan kerja melalui mobilisasi informasi, pengawasan, manajemen yang tepat, dan program perubahan perilaku yang efektif sangat penting untuk pencegahan penyakit di kalangan pekerja.

Kata kunci: Kesehatan Kerja Dasar, Penyakit Akibat Kerja, Perilaku Pencegahan, Pekerja Pariwisata

INTRODUCTION

Tourism plays a crucial role in Indonesia's economy, employing a significant portion of the workforce, particularly in the informal sector. As of 2020, over 41,000 tourism workers were involved in various subsectors, with trade, food, and transportation services forming the majority (BPS, 2020). However, these workers often face inadequate occupational health services and poor health outcomes, as shown by national surveys indicating common issues like respiratory infections, hypertension, and diabetes (Balitbangkes, 2018). Basic Occupational Health Services (BOHS) have been implemented in the tourism sector, but existing systems often lack funding, suffer from poor implementation, or fail to meet workers' needs (Wintrup, 2023).

According to the Directorate of Occupational Health and Sports, as of 2020, there were 8,553 BOHS posts across 34 provinces and 434 districts/cities (Kemenkes RI, 2021). In the Yogyakarta Special Region (DIY), 222 BOHS posts were established between 2004 and 2019, though most remain at the primary level and have not been evaluated since 2019. Bantul District has the highest number of BOHS posts (70), with 28 dedicated to tourism.

Research on integrated BOHS for informal tourism workers remains scarce. Existing studies primarily focus on implementation in informal sectors such as farming, fishing, and small industries (Hidayat et al., 2018; Subariyah et al., 2017; Tinggogoy et al., 2018; Suwanto, 2020). These studies highlight issues like inadequate funding, unclear roles of health workers, poor implementation, policy neglect, and unrealistic expectations (Wintrup,

2023), while BOHS performance evaluations have not significantly improved worker welfare [10]. No studies have specifically addressed the health issues and preventive behaviors of tourism workers in Bantul.

The data from the Provincial Health Office of Yogyakarta Special Region indicates that the development of BOHS development has stalled to be develop to haigher level, in fact five of them are no longer active are not yet optimal (Fitriyani & Wahyuningsih, 2020). Despite BOHS availability, little attention has been given to identifying specific occupational diseases among tourism workers or promoting preventive health behaviors. COVID-19 disruptions and slow post-pandemic recovery have further hindered surveillance and the development of a database for occupational and general health issues.

Tourism workers face risks of occupational diseases like lower back pain and dermatitis due to inadequate safety measures. Non-communicable diseases such as hypertension and obesity are also prevalent, complicating their health further. Previous efforts have focused more on curative approaches, limiting the effectiveness of interventions in improving worker health and safety (Fitri Qur'ani & Wahyuni, 2020). The lack of research into occupational and general health problems in the tourism sector underscores the need for targeted interventions.

Objective: This study aims to screen occupational and general diseases among tourism workers and survey their preventive behaviors in Bantul. By conducting health screenings and behavior surveys, it seeks to establish a comprehensive database to inform future BOHS interventions. The findings will guide the design of effective health programs tailored to identified health issues, promote participation in preventive measures, and enhance workers' health literacy. This research serves as a blueprint for developing disease prevention programs and motivating active participation in integrated BOHS.

METHODE

This research was descriptive quantitative research. It was carried out by utilizing health examinations and worker health behavior surveys. The study was conducted in the Dlingo 2 community health center. Based on data of an occupational health programmer at puskesmas Dlingo, the number of tourism workers at the Pinus Pengger, Puncak Becici, Lintang Sewu, and Pinus Asri tourist destinations population were 134 peoples. The sample consisted of 77 workers who came during health screening held by the public health center on 25 and 30 December, 2023. The sample was taken by accidental sampling. Inclusion criteria were those who were present at the time and were willing to be respondents. The instrument used for data collection was a questionnaire—interview data collection method. Data analysis uses descriptive analysis to describe occupational diseases and general illnesses tourism workers suffer. This research protocol was approved by the Health Research Ethics Committee of Ahmad Dahlan University, Indonesia, for research and publication purposes (Number: 012312315).

RESULTS AND DISCUSSION

Basic occupational health is a community-based institution for primary prevention and essential occupational health services for informal sector workers (Kemenkes RI, 2020). The results of screening worker health problems that have been reported in the Integrated Information System for Occupational Health and Sports of the Bantul District Health Service, which are accessed by the occupational health and sports empowerment section staff, are shown in Graphs 1 and 2:

Fig. 1. Number of Occupational Diseases in 2021-2022
(source: SITKO Bantul District Health Services, 2023)

The most frequently complained of occupational diseases in 2021 are lower back pain due to work (1018 people), allergic contact dermatitis due to work, and Hernia Nucleus Pulposus (HNP) due to work. In 2022, Occupational disease of back pain will decrease sharply to 462, but an increase in work-related rhinitis and rhinosinusitis cases will accompany this. Occupational diseases that decreased from 2021 to 2022 were dermatitis, which in 2021 amounted to 194 cases, down to 93 cases in 2022.

Fig. 2. Number of suspected occupational diseases in 2021-2023 (source: SITKO Bantul District Health Services, 2023)

Types of suspected work-related illnesses often complained of are simple lower back pain, rhinitis and rhinosinusitis, and work-related acute laryngitis. The highest number of suspected workers' illness complaints in 2021 was simple lower back pain due to work (787 cases), increasing very sharply in 2022 to 2029 cases and decreasing in 2023 to 287 cases. In 2022, back pain suspected to be a worker's illness will decrease sharply to 462, but an increase in work-related rhinitis and rhinosinusitis cases will accompany this. An occupational disease that decreased from 2021 to 2022 was dermatitis, which 2021 numbered 194 cases, down to 93 cases in 2022. The most frequently referred cases of workers' illness in 2021 are carpal tunnel syndrome, COVID-19, acute laryngitis, and lower back pain. Table 1 shows the characteristics of the respondents from the Pinus Pengger, Puncak Becici, Lintang Sewu, and Pinus Asri tourism destination workers.

The results of the health screening at the BOHS under the guidance of the Dlingo 2 health center in December 2023-January 2024, 46.67% of people who underwent a health examination had a Body Mass Index (BMI) >18-25 (obese) and 72% of them had hypertension or pre-hypertension, one person had diabetes, and one person was suspected of having TB.

Table 1. Respondent characteristics

Variable	n	%
Age:		
19-24	5	6
25-36	26	34
37-48	26	34
49-60	13	17
61-70	5	6
>70	2	3
Sex:		
Male	49	64
Female	28	36
Marital Status:		
Married	70	91
Unmarried	6	8
Widow/widower	1	1
Level of education:		
Elementary school	14	18
Middle school	32	42
High school	30	39
University	1	1
Length of work:		
<=1 year	1	1
>1 years	76	99

Apart from being related to workplace hazards and occupational diseases, worker problems include general health problems such as infectious and non-communicable diseases. Table 2 shows the results of health screening at BOHS.

Table 2. Screening of infectious and non-infectious diseases for tourism workers groups at the BOHS in the working area of Dlingo 2 Health Center, 2024

Variable	Yes		No		Total	
	n	%	n	%	N	%
Obesity (BMI>25)	35	45	42	55	77	100
Diabetes Mellitus	1	1	76	98	77	100
Hypertension	56	72	21	27	77	100
Tuberculosis	1	1	76	98	77	100

Following the research objectives, the researchers also surveyed healthy living behavior among workers. The researchers found the results as shown in Table 3:

Table 3. Results of preventive behavior survey at the BOHS for tourism worker groups, Dlingo 2 Community Health Center working area, 2024

No	Preventive behavior	Yes		No	
		n	(%)	n	(%)
1	Accessible information from various media	3	39.61	74	96.10
2	Hazard Identification	15	19.48	62	80.52
3	Using Personal Protective Equipment	13	16.88	64	83.12
4	Observe mosquito larvae in the workplace	35	45.45	42	54.55
5	Routine health checks	41	53.25	45	58.44
6	Measure weight/height regularly	19	24.68	58	75.32
7	Smoking	33	42.90	44	57.14
8	Heavy pressure at work	14	18.18	63	81.82
9	Lack of rest	18	23.38	59	76.62
10	Difficulty sleeping at night	23	29.87	54	70.13
11	Socialize with coworkers	53	68.83	24	31.17
12	Eat fried foods, coconut milk, and offal	13	16.88	64	83.12
13	Drink water (8 glasses/2 liters/day)	46	59.74	31	40.26
14	Often eat instant noodles	46	59.74	31	40.26

Discussion

The characteristics of the respondents show a fairly wide age range of workers, namely 19-73 years, with the majority being in the age range of 25-48 years. Generally, they have low education, are men, and are married. Most tourism human resources are in the small-scale businesses, informal sectors which are relatively high labor absorption (Sukana, 2017). This survey and health screening research was conducted on tourism workers who participated in early detection activities and follow-up monitoring of non-communicable disease risk factors integrated into basic occupational health service activities. Basic occupational health services in the tourism environment are facilitated by health workers at local health centers (Permenkes, 2015).

Workers illness is a disease caused by work and/or the work environment. Decent work and a healthy workforce are critical social determinants of health, productivity, and economic development. Systematic handling of occupational safety and health problems still seems an extra challenge for small-scale companies (Bergman Bruhn et al., 2023).

Occupational illness generally occurs for a long period after exposure to potential hazards. Occupational diseases are divided into four groups. First, diseases are caused by factors arising from work activities, including chemical, physical, and biological factors, as well as infectious/parasitic diseases. Second, diseases based on target organ systems include skin diseases, respiratory tract diseases, muscle and skeletal disorders, and mental and behavioral disorders. Third, cancer is caused by eight substances: asbestos, benzidine and its salts, bis-chloromethyl ether, chromium compounds, coal, vinyl chloride, beta-naphthyl amine, and benzene. Fourth, a specific relationship between exposure and work has been scientifically proven.

In this study, the most common occupational diseases found were low back pain and HNP, usually due to pressure on the spinal column, and dermatitis. In this study, tourism workers only work at tourism as a side job, generally, they have a main job as farmers or bamboo craftsmen. Farming is their main job, they work in tourism after planting until harvesting or work as craftsmen in the afternoon until night and in the morning and work in tourism at day until afternoon, also catering inside and outside cafétaria tourism object. Triggers for low back pain are improper and non-ergonomic sitting positions, which can cause muscle tension and lower back pain often occurring among farmers, craftsmen, or commercial kitchen workers (Shankar et al., 2015). Workers who always do a hunched position (head position is not upright, gaze down) without realizing it for a long time, in addition, monotonous work patterns are carried out while working, sitting habits, and abnormal spinal conditions, or certain diseases such as degenerative diseases are the causes of low back pain. Activities that can be done to prevent low back pain and HNP are maintaining correct posture while working and stretching after sitting for a long time. Doing regular exercise is also recommended, especially types of exercise that can train the back muscles such as walking and swimming (Almoallim et al., 2014). Walking and swimming are the simple phisycal exercises and cheap to implement a healthy life style.

The SITKO data also contains BOHS postal data throughout the Bantul district, so dermatitis is also found, often experienced by fishermen and animal skin artisans. This research is different from Zaman's research, which found that the occupational illnesses that are often encountered in the industry are respiratory system disorders and dermatitis (Zaman et al., 2022).

Apart from being at risk of experiencing work-related diseases, workers are also at risk of non-communicable diseases and infectious diseases due to work environment factors and workers' lifestyles both at work and outside working hours. This research found that cases of non-communicable diseases were relatively high, namely hypertension and obesity. It may be related to the respondent's age and the lack of preventive behavior implemented by the respondent. Hasugian's findings state that occupational disease and prevention behavior only work partially due to lack of awareness, lack of care, negligence, carelessness, and lack of intention on the part of the individual to behave in a healthy lifestyle. On the other hand, there are no sanctions for health workers, communication problems with health workers, and lack of company support (Suthakorn et al., 2020).

The term "occupational health literacy" (OHL) describes the level at which workers can acquire, convey, analyze, and comprehend occupational health and safety information and services to make informed health choices in their workplaces (Kemenkes RI, 2013). This research has discovered that individuals with low occupational health literacy and their answer about prevention behavior are at a high risk. For example, they don't make hazard Identification in the workplace, they do not use PPE, and they get heavy pressure at work. BOHS can be a means for workers to engage in information and education activities, a place to consult with occupational health workers, do physical activities

regularly, get treatment and get information about what rights they can receive as workers such as personal protective equipment and insurance. So increasing health literacy is very important to raise awareness and willingness to implement healthy behavior.

BOHS program managers in health centers, village governments, tourism business owners, and their stakeholders are required to mobilize the tourism workers to actively participate by raising awareness and providing motivation. Local governments at the sub-district, district/city levels are expected to integrate BOHS with other community-based activities. BOHS program managers in health centers can coordinate and integrate with cross-programs and cross-sectors to improve health literacy, mentoring and empowering communities with BOHS such as integrated health care for the elderly, family health programs, environmental health programs, non-communicable disease eradication programs, to overcome limited funds, coordinate with village governments and business owners to provide financing, transparency of costs and activities that have been carried out with cadres who carried out the Self-Awareness Survey (SAS), Village Community Deliberation (SMD) and participatory planning. Health centers and health offices must also provide cadre training, training for officers managing the health UKK post program. The Sub-district and Village/Sub-district play a role in facilitating Village Regulations on the establishment of BOHS, facilitating the provision of space, management staff, equipment and financing, involving the role of Family Welfare Empowerment as one of the BOHS cadres, facilitating the calibration of medical devices at BOHS if the local health center has not yet budgeted for it.

CONCLUSION

Occupational diseases identified in Bantul include lower back pain, dermatitis, HNP, rhinitis, and rhinosinusitis. Non-communicable diseases such as obesity and hypertension, and communicable diseases like tuberculosis, are also prevalent. All these diseases are preventable. Workers require continuous communication and health information to improve OHL, while health workers must remain proactive in prevention programs. Policymakers should prioritize effective behavior change programs, optimize resources, and implement robust surveillance-based planning to enhance occupational health and prevent diseases

REFERENCES

- Almoallim, H., Alwafi, S., Albazli, K., Alotaibi, M., & Bazuhair, T. (2014). A Simple Approach of Low Back Pain. *International Journal of Clinical Medicine*, 05(17), 1087–1098. <https://doi.org/10.4236/ijcm.2014.517139>
- Badan Pusat Statistik: Hasil Survei Sosial Demografi Dampak Covid-19 2020. BPS RI, Jakarta (2020)
- Balitbangkes-Kemenkes RI: *Risikedas 2018*. Presented at the (2018)
- Bergman Bruhn, Lindahl, C., Andersson, I. M., & Rosén, G. (2023). Motivational factors for occupational safety and health improvements: A mixed-method study within the Swedish equine sector. *Safety Science*, 159. <https://doi.org/10.1016/j.ssci.2022.106035>
- Fitri Qur'ani, N., & Wahyuni. (2020). Program Upaya Kesehatan Kerja pada Sektor Informal. *Higeia Journal Of Public Health Research And Development*, 4(1), 101–111. <https://doi.org/10.15294/higeia.v4iSpecial%201/35737>
- Fitriyani, R. U., & Wahyuningsih, A. S. (2020). Penilaian Kinerja Pos Upaya Kesehatan Kerja di Wilayah Kerja Puskesmas. *Higeia Journal Of Public Health Research And Development*, 4(1), 112–121. <https://doi.org/10.15294/higeia/v4i1/34022>

- Hasugian, A.R.: Perilaku Pencegahan Penyakit Akibat Kerja Tenaga Kerja Indonesia di Kansashi, Zambia: Analisis Kualitatif. *Media Penelit. dan Pengemb. Kesehat.* 27, 111–124 (2017). <https://doi.org/10.22435/mpk.v27i2.5805.111-124>
- Hidayat, im, Tri Martiana, M., & Putri Ayuni Alayyannur, M. (2018). Optimalisasi Pos Upaya Kesehatan Kerja Pada Tenaga Kerja Sektor Informal Di Wilayah Kerja Puskesmas Waru, Kabupaten Sidoarjo. <http://dinkes.sidoarjo.kab.go.id/profil-puskesmas-waru/>
- Kementerian Kesehatan Republik Indonesia.: Petunjuk teknis pembinaan dan penilaian pos upaya kesehatan kerja, (2021)
- Permenkes RI nomor 100: Peraturan Menteri Kesehatan Republik Indonesia Nomor 100 Tahun 2015 Tentang Pos Upaya Kesehatan Kerja Terintegrasi, (2015)
- Presidential regulation of Republic Indonesia number 7 years 2019 about occupational disease
- Shankar, S., Shanmugam, M., & Srinivasan, J. (2015). Workplace factors and prevalence of low back pain among male commercial kitchen workers. *Journal of Back and Musculoskeletal Rehabilitation*, 28(3), 481–488. <https://doi.org/10.3233/BMR-140544>
- Subariyah, R., Handayani, , Putri, Situngkir, , Decy, & Heryana, A. (2017). Kajian Implementasi Program Pos Upaya Kesehatan Kerja Di Wilayah Kerja Puskesmas Kecamatan Kebon Jeruk Kota Jakarta Barat Tahun 2017.
- Sukana, M.: Sekilas tentang tenaga kerja pada sektor pariwisata, (2017)
- Suthakorn, W., Songkham, W., Tantranont, K., Srisuphan, W., Sakarinkhul, P., & Dhatsuwan, J. (2020). Scale Development and Validation to Measure Occupational Health Literacy Among Thai Informal Workers. *Safety and Health at Work*, 11(4), 526–532. <https://doi.org/10.1016/j.shaw.2020.06.003>
- Suwarto, S., Aini, N., Sukismanto, S.: Gambaran Pelaksanaan Kesehatan Kerja Sektor Informal Melalui Pos Upaya Kesehatan Kerja (Ukk) Di Daerah Istimewa Yogyakarta. *J. Formil (Forum Ilmiah) Kesmas Respati.* 5, 36 (2020). <https://doi.org/10.35842/formil.v5i1.300>
- Tinggogoy, B. L. T., Kawatu, P. A. T., & Tucunan, A. A. T. (2018). Analisis Pelaksanaan Program Upaya Kesehatan Kerja Pada Pos Upaya Kesehatan Kerja Gudang P Ala Di Wilayah Kerja Puskesmas Tuminting Kota Manado.
- Wintrup, J. (2023). Health by the people, again? The lost lessons of Alma-Ata in a community health worker programme in Zambia. *Social Science and Medicine*, 319. <https://doi.org/10.1016/j.socscimed.2022.115257>
- Zaman, M. Z., Syafiuddin, A., Hakim, A., Fasya, Z., & Adriansyah, A. A. (2022). Literature Review: Jenis Penyakit Akibat Kerja, Penyebabnya Dan Mekanisme Penyebaran Dalam Industri. *Raya Jemursari No, 10(57)*, 60237. <https://doi.org/10.14710/jkm.v10i4.35275>