RUWA JURAI: JURNAL KESEHATAN LINGKUNGAN
ISSN (p) 1978-6204 ISSN (e) 2723-6204
https://ejurnal.poltekkes-tjk.ac.id/index.php/JKESLING

CIPP-Based Evaluation of Occupational Health Services in Wijirejo Batik Industry, Pandak, Bantul, Indonesia

Haqifa Rosyida Putri[1*], Heru Subaris Kasjono[1], Ibnu Rois[1], Sugianto Sugianto[1]

[1] Departement of Environmental Health, Politeknik Kesehatan Yogyakarta, Yogyakarta, Indonesia

ARTICLE HISTORY

Received July 2, 2025
Accepted June 20, 2026
Published June 30, 2026

Keyword:

Occupational Health Services Post; CIPP Evaluation Model; Informal Sector Workers; Occupational Health Promotion; Batik Industry

Kata kunci:

Pos Pelayanan Kesehatan Kerja; Model Evaluasi CIPP; Pekerja Sektor Informal; Promosi Kesehatan Kerja; Industri Batik

A B S T R A C T

Batik workers are vulnerable to occupational health problems caused by chemical exposure, non-ergonomic working postures, and inadequate use of Personal Protective Equipment (PPE). At the Giriloyo Batik Center in Bantul, 57.9% of workers reported skin disorders, particularly dermatitis, associated with repetitive work activities. Occupational Health Services Posts (OHS Posts) have been introduced to improve the health status of informal-sector workers; however, comprehensive evaluations of their implementation in the batik industry remain scarce. This study evaluated the implementation of the OHS Post in Wijirejo, Pandak, Bantul, using the Context, Input, Process, and Product (CIPP) evaluation model. A mixed-methods evaluative study was conducted in two batik industries in Wijirejo Village, Bantul. Data were collected through observations, questionnaires, in-depth interviews, and documentation. Program performance was assessed using the CIPP framework. Quantitative data were analyzed descriptively, while qualitative data were processed through data reduction, data display, and conclusion drawing. The findings indicated that the work environment generally complied with occupational safety standards, although risks related to musculoskeletal disorders and chemical exposure persisted. Human resources met the requirements of Permenkes No. 100 of 2015; however, cadre training had not been implemented, and funding relied solely on the state budget. Program activities were conducted regularly, but administrative functions remained dependent on the OHS Post supervisor. Overall, the OHS Post was classified as Intermediate (Madya), with improvements in workers' behavior (43.8%) and occupational health knowledge (37.5%), while the reduction in occupational disease cases remained limited (18.8%). The OHS Post contributed positively to improving occupational health awareness and behavior among batik workers. Strengthening cadre competencies, administrative systems, promotive-preventive activities, and sustainable funding is essential to enhance long-term program effectiveness.

Pekerja batik rentan terhadap masalah kesehatan kerja yang disebabkan oleh paparan bahan kimia, postur kerja yang tidak ergonomis, dan penggunaan Alat Pelindung Diri (APD) yang tidak memadai. Di Pusat Batik Giriloyo di Bantul, 57,9% pekerja melaporkan gangguan kulit, khususnya dermatitis, yang terkait dengan aktivitas kerja berulang. Pos Pelayanan Kesehatan Kerja (Pos K3) telah diperkenalkan untuk meningkatkan status kesehatan pekerja sektor informal. Namun, evaluasi komprehensif tentang implementasinya di industri batik masih jarang dilakukan. Studi ini mengevaluasi implementasi Pos K3 di Wijirejo, Pandak, Bantul, menggunakan model evaluasi Context, Input, Process, dan Product (CIPP). Studi evaluatif metode campuran dilakukan di dua industri batik di Desa Wijirejo, Bantul. Data dikumpulkan melalui observasi, kuesioner, wawancara mendalam, dan dokumentasi. Kinerja program dinilai menggunakan kerangka kerja CIPP. Data kuantitatif dianalisis secara deskriptif, sedangkan data kualitatif diproses melalui reduksi data, penyajian data, dan penarikan kesimpulan. Temuan menunjukkan bahwa lingkungan kerja secara umum sesuai dengan standar keselamatan kerja, meskipun risiko terkait gangguan muskuloskeletal dan paparan bahan kimia masih ada. Sumber daya manusia memenuhi persyaratan Permenkes No. 100 Tahun 2015. Namun, pelatihan kader belum dilaksanakan dan pendanaan hanya bergantung pada anggaran negara. Kegiatan program dilakukan secara teratur, tetapi fungsi administrasi tetap bergantung pada pengawas Pos K3. Secara keseluruhan, Pos K3 diklasifikasikan sebagai Menengah (Madya), dengan peningkatan perilaku pekerja (43,8%) dan pengetahuan kesehatan kerja (37,5%), sementara pengurangan kasus penyakit akibat kerja masih terbatas (18,8%). Pos K3 memberikan kontribusi positif dalam meningkatkan kesadaran dan perilaku kesehatan kerja di kalangan pekerja batik. Penguatan kompetensi kader, sistem administrasi, kegiatan promotif-preventif, dan pendanaan berkelanjutan sangat penting untuk meningkatkan efektivitas program jangka panjang.

* Corresponding author: Haqifa Rosyida Putri
Departement of Environmental Health, Politeknik Kesehatan Yogyakarta, Yogyakarta, Indonesia
Email: haqiputri26@gmail.com

1. Introduction

Kapanewon Pandak is one of the kapanewon in Bantul Regency recognized by UNESCO as a batik center in Indonesia. There are 612 Small and Medium Industries (SMIs) with a total of 2,056 craftsmen (Warseno & Ediyono, 2022). Most of the residents of Kapanewon Pandak earn a living as factory laborers, commonly called artisans. Batik production in Kapanewon Pandak includes written, stamped, and printed batik, with sales reaching international markets (Mulyanto, 2022). Since 2006, the batik industry has continued to grow, often utilizing the residence of the industry owner as a production location; however, it is undeniable that the production process carried out at home and directly supervised by the industry owner still has the potential to cause health problems for the craftsmen (Lestari & Warseno, 2019).

Cases of occupational accidents and occupational diseases in the batik industry show a significant prevalence. According to the data, around 24,910 cases of occupational accidents occurred in Indonesia, with occupational diseases reaching 38,294 cases in 2014 (Lestari & Warseno, 2019). The main risks in the batik industry include respiratory disorders, skin irritation, eye muscle fatigue, and musculoskeletal disorders due to non-ergonomic work positions and chemical exposure (Dwirainaningsih & Dewi, 2023). Research in Yogyakarta showed that 36.04% of batik workers experienced occupational contact dermatitis, and that common work accidents included burns from contact with hot wax (Dwirainaningsih & Dewi, 2023; Febriana et al., 2023). Similarly, out of 38 batik makers in Giriloyo Batik Center, Bantul, 22 batik makers (57.9%) reported skin problems such as dermatitis, while 16 batik makers (42.1%) did not experience such complaints. These skin problems generally occur on certain parts of the body due to repetitive and continuous work activities (Istighfaroh et al., 2024).

Lestari's research (2019) shows that batik craftsmen are dominated by women aged above 45 years and with a working period of more than 10 years. These characteristics may increase the risk of occupational diseases and occupational accidents. Monotonous movements and non-ergonomic sitting positions can cause greater physical, physiological, and psychological workloads. A survey using the Nordic Body Map (NBM) questionnaire among batik workers in Wijirejo Village found that most workers experienced moderate to high musculoskeletal complaints (Yamtana et al., 2022). Similar findings have also been reported internationally, where informal-sector workers frequently experience musculoskeletal disorders, respiratory complaints, and skin diseases due to inadequate occupational health services and limited access to preventive programs (Dijk & Moti, 2023). These findings indicate that occupational health problems among informal workers remain a global concern and require sustainable community-based interventions.

The application of the concept of occupational safety and health (K3) with Post-Occupational Health Services (OHS) can help minimize potential hazards and risks of occupational diseases and accidents, as regulated in the Regulation of the Minister of Health of the Republic of Indonesia Number 100 of 2015. OHS Post aims to create a safe working environment and to protect the health of workers, especially those in the informal sector (Kasjono et al., 2024; Kemenkes RI, 2015; Warseno & Ediyono, 2022). Warseno's research (2022) shows the importance of health services for informal workers such as batik artisans, with the establishment of the OHS Post as a solution to facilitate access to basic health services.

The OHS Post has been implemented in the Batik Industry in Wijirejo, Pandak, Bantul, and has been running for 1 year, held every Friday and involving 2 batik industries, namely Batik Utami and Topo Industries. Activities carried out during the OHS Post, such as health screening, counseling related to occupational safety and health (K3), stretching/exercise, and direct consultations with doctors, are fostered and are routinely evaluated every six months by Pandak Health Center I as the OHS Post coach. OHS Post has great potential in

improving the health of batik workers, but its effectiveness needs to be evaluated comprehensively. Based on the description provided, the author is interested in conducting a CIPP-based evaluation of the implementation of Post-Occupational Health Services for the batik industry in Wijirejo, Pandak, Bantul.

Previous studies have primarily focused on identifying occupational hazards, work-related health complaints, and the implementation of occupational health programs among informal workers (Kasjono et al., 2024; Warseno & Ediyono, 2022). International studies have highlighted the importance of community-based occupational health programs in improving workers' health outcomes; however, evidence regarding the effectiveness and sustainability of such programs remains limited, particularly in informal sectors (Alanshori et al., 2025). Furthermore, although the Context, Input, Process, and Product (CIPP) model has been widely applied in public health program evaluations, its application in evaluating Occupational Health Services Posts (OHS Posts) within traditional batik industries has rarely been reported (Adeyemi, 2025). Therefore, a research gap exists regarding comprehensive evaluations that simultaneously assess program context, resources, implementation processes, and outcomes in informal occupational settings.

This study offers novelty by applying the CIPP evaluation model to comprehensively evaluate the implementation of the OHS Post program in the Wijirejo Batik Industry Center, which has been operating for one year but has not yet undergone a comprehensive evaluation. The findings are expected to provide scientific evidence to strengthen occupational health services for informal-sector workers and offer recommendations for policymakers to develop sustainable community-based occupational health programs.

Despite the implementation of the OHS Post program's one-year implementation, no comprehensive evaluation has been conducted to determine whether it has achieved its intended objectives, addressed occupational health risks, and provided sustainable benefits for batik workers. This gap highlights the need for a systematic evaluation using the CIPP framework.

2. Methods

This type of research is an evaluative study using a mixed-methods approach conducted at 2 Batik Industries, Utami and Topo Wijirejo, in Pandak, Bantul, in March - April 2025. Determination of the number of samples in this study using the saturated sampling technique, in which all workers participating in the Occupational Health Services Post (OHS Post) program were included as respondents (N = 16). There were two informants, namely, the OHS Post supervisor and the OHS Post cadre. This approach was selected because the study aimed to evaluate the implementation of the OHS Post program in a specific setting rather than generalize the findings to a broader population. Therefore, the results reflect the characteristics and conditions of all workers involved in the program and should be interpreted in the context of the batik industries evaluated.

OHS Post cadres were also involved by completing an open questionnaire to collect qualitative data; this research draws of Daniel L. Stufflebeam's evaluation theory, using the CIPP model (Context, Input, Process, and Product). The research instruments consisted of observation checklists, interview guides, OHS Post monitoring and evaluation forms, and questionnaires adapted from the Guidelines for Occupational Health Cadre Training (Hudoyo et al., 2011) and the Technical Guidelines for OHS Post Development and Assessment (Sukismanto et al., 2023). Since these instruments were derived from standardized guidelines routinely used in occupational health program implementation and evaluation, they were considered appropriate for assessing the context, input, process, and product components of the CIPP model. Prior to data collection, the instruments were reviewed and adjusted to the study context through consultation with OHS Post supervisors and public health practitioners.

According to Ibrahim (2018), there are five main steps in data processing. Quantitative data were analyzed descriptively using frequency distributions and percentages to describe each evaluation component. Considering the relatively small sample size and the primary objective of the study as a program evaluation, inferential statistical analysis was not performed. The analysis focused

on describing program implementation, identifying strengths and weaknesses, and assessing program outcomes based on the CIPP evaluation framework. Qualitative findings obtained from interviews, observations, and documentation were used to complement and strengthen the interpretation of quantitative results through data triangulation.

3. Results

Based on Table 1, the majority of respondents were male (75%), with the highest age range being≥71 years (37.5%). Most respondents had an elementary and high school education (37.5% each). The most common field of work was batik stamping (37.5%), and most respondents had a length of service of 6-15 years (31.3%).

3.1. Context stage

Observations in two batik industries, Batik Utami and Batik Topo, show that both have fairly good physical workplace conditions, with permanent buildings, adequate ventilation and lighting, and clean sanitation facilities. The production process generally involves manual techniques such as dicing and painting, without the use of machinery, vibration, or noise, so the risk of physical accidents is relatively low. The work tools used are simple, such as canting and stamping. However, there are some workplace risk factors, such as chemical exposures (synthetic dyes, soda ash, night), biological risks, and ergonomics, that can cause health problems.

Table 1. Respondent Characteristics

Respondent Characteristics	n	%
1. Gender		
Male	12	75
Female	4	25
2. Age (years)		
≤40	3	18
41-50	2	12.5
51-60	3	18.8
61-70	2	12.5
≥71	6	37.5
3. Education		
Not graduated	1	6.3
Elementary school	6	37.5
Junior high school	2	12.5
Senior high school	6	37.5
Bachelor	1	6.3
4. Field of work		
Batik painting	1	6.3
Batik stamping	6	37.5
Coloring	3	18.8
Highlighting	2	12.5
Packing	1	6.3
Warehouse	1	6.3
Office	1	6.3
Hygiene & consumption	1	6.3
5. Length of service (years)		
≤ 5	4	25
6-15	5	31.3
16-25	3	18.8
≥ 26	4	25
Total	16	100

Table 2. Distribution of health complaints felt by Utami and Topo Batik Industry workers

Field of work	Workers' health complaints during work in industry							
	Irritation Skin		Musculoskeletal Disorders		Shortness of breath		Not Sick	
	n	%	n	%	n	%	n	%
Batik Painting	0	0	1	6.25	0	0	0	0
Batik Stamping	0	0	5	31.25	1	6.25	0	0
Coloring	3	18.75	0	0	0	0	0	0
Highlighting	1	6.25	1	6.25	0	0	0	0
Packing	0	0	0	0	0	0	1	6.25
Warehouse	0	0	0	0	0	0	1	6.25
Office	0	0	0	0	0	0	1	6.25
Hygiene & Consumption	0	0	1	6.25	0	0	0	0
Total	4	25	8	50	1	6.25	3	18.75

Based on Table 2, 81.25% of workers reported experiencing health complaints, mainly musculoskeletal disorders (50%), skin irritation (25%), and shortness of breath (6.25%), with dyeing and coloring as the highest contributors.

Based on Table 3, 75% of workers are aware of workplace hazards, but compliance with the use of personal protective equipment (PPE) remains low. This is evident in Table 4, where only 37.5% of workers always use PPE during the production process.

Table 3. Distribution of respondents' awareness of risk factor

Risk Factor Characteristics	n	%
Not Dangerous	4	25
Dangerous	12	75

Table 4. Distribution of respondents based on base of Personal Protective Equipment

Field of work	Frequency of Use of Personal Protective Equipment					
	Not Wearing		Sometimes		Always Wearing	
	n	%	n	%	n	%
Batik Painting	1	6,25	0	0	0	0
Batik Stamping	4	25	1	6,25	1	6,25
Coloring	0	0	0	0	3	18,75
Highlighting	0	0	0	0	2	12,5
Packing	1	6,25	0	0	0	0
Warehouse	1	6,25	0	0	0	0
Office	1	6,25	0	0	0	0
Hygiene & Consumption	1	6,25	0	0	0	0
Total	9	56,25	1	6,25	6	37,5

The establishment of the Post Occupational Health Services (OHS) was motivated by the Pandak Health Center I program and instructions from the local government in accordance with Permenkes No. 100 of 2015. The OHS Post is focused on batik industry workers in Wijirejo Village, especially Utami and Topo Batik Industries, in accordance with the working area of Pandak Health Center I, as a batik center area with dominant health risks in the form of musculoskeletal complaints and chemical exposure. The main objective of OHS Post is to increase workers' knowledge of occupational health and reduce occupational disease cases through activities such as counseling, stretching exercises, and health screenings, thereby encouraging sustainable self-health management.

3.2. Input stage

The implementation of Post Occupational Health Services (OHS) has been supported by sufficient human resources, with the number of cadres in accordance with the ideal proportion of 2 out of 16 members. Collaboration between cadres, OHS Post programmers, and cross-sector health workers also works well in supporting the implementation of activities. In terms of funding, all OHS Post activities still rely on the State Budget (APBN) as stipulated in Permenkes No. 100/2015. In accordance with the provisions, to ensure the long-term sustainability of the program, diversification of additional funding sources is needed, such as village funds, cooperatives, the private sector, and independent funding, so that OHS Post can be more independent and sustainable.

In Terms of facilities and infrastructure, OHS Post activities are carried out in their own building, which has adequate facilities, including personal protective equipment (PPE), OHS Post kits, tables, chairs, and communication, information, and education (IEC) media. However, there are still shortcomings in the administrative aspect, especially the unavailability of stationery and recording books, and the lack of special training for cadres on implementation and reporting. As a result, recording and reporting activities cannot be carried out independently by cadres and are still handled by the OHS Post supervisor.

Looking at the implementation method, OHS Post consists of two types of activities: routine

activities conducted every two weeks in the form of gymnastics and basic health checks, and non-routine activities every six months in the form of health counseling and screening. Although the program has been running quite well, the intensity of non-routine activities still needs to be increased so that the integrated promotive and preventive activities of OHS Post can be categorized as active according to the applicable indicators. All OHS Post activities have been evaluated monthly by Pandak Health Center I, and the results of the evaluation are reported to the Bantul District Health Office as a form of accountability and basis for future program improvements.

3.3. Process stage

The implementation of the Post Occupational Health Services (OHS) shows that the planning aspect has a written and dated policy. However, the policy is signed only by the Head of the Community Health Center, without involving other parties. In addition, the absence of an organizational structure at the OHS Post level means that all coordination and implementation of activities still rely heavily on the OHS Post supervisor, so the potential of cadres has not been optimally utilized.

In terms of organization, the flow of coordination and division of roles between parties, ranging from the Bantul District Health Office to cadres, is quite complete and reflects cross-sector synergy efforts. However, the overly hierarchical pattern of coordination makes the follow-up process in the field tend to be slow due to waiting for instructions from higher levels, hindering rapid response to needs at the community level.

On the implementation side, routine activities such as gymnastics and basic health checks are conducted every two weeks with the OHS Post Supervisor. At the same time, non-routine activities such as socialization and identification of occupational risks have also run according to plan, together with cross-sector health workers such as dentists with socialization and dental health counseling activities; general practitioners with health screening activities (blood sugar, cholesterol, uric acid, hypertension and others); environmental health workers with occupational safety and health (K3) socialization activities and so on. All activities have been carried out well.

Meanwhile, in terms of assessment, coaching from the Community Health Center still takes place routinely 1-2 times per month, while coaching from the institution and district remains relatively minimal, so it has not been sufficient to encourage capacity building among cadres. In addition, recording and reporting activities have not been carried out independently by cadres; they remain the responsibility of the OHS Post supervisor, indicating that cadre empowerment in activity management is not optimal.

3.4. Product stage

The product stage is the final stage of the evaluation, which focuses on the real results and benefits of the implementation of the Post Occupational Health Services (OHS) in the batik industry. Based on Table 5, it can be seen that the results of monitoring and evaluation, the OHS Post is considered active in terms of the availability of cadres who have met the minimum proportion (10% of the number of members) and the implementation of integrated health service activities that take place regularly every month. However, promotive and preventive activities have not been fully optimized as they are still limited to once every six months.

In terms of facilities and infrastructure, the OHS Post has provided the necessary equipment in accordance with the standard. Meanwhile, the recording and reporting of activities, as well as the collection of self-help funds from members, are still not running, which is a challenge to efforts to be independent and sustainable.

The assessment of the level of development places OHS Post in the intermediate category, as indicated by the frequency of counseling (4-6 times per year), the implementation of health interventions (2-3 times per year), and the use of personal protective equipment (PPE) by 30-60% of workers. Although not yet in the "full" or "independent" category, these achievements still reflect progress and commitment in the implementation of OHS Post.

Table 5. Monitoring and evaluation result of OHS Post

Component	Success Rate	Description
Cadres	Active	There are cadres at least 10% of the number of OHS Post members
Integrated Healthcare Activities	Active	There is an integrated health service activity at least once a month
Integrated Promotive and Preventive Activities	Less Active	There are integrated promotive and preventive activities at least up to every 6 months
OHS Post Facilities	Active	OHS Post facilities are available according to the needs/regulations of the law
Recording and Reporting	inactive	No recording and reporting
Self-Help Funds (fees)	inactive	No self-help funds (contributions)
OHS Post	Madya	Frequency of counseling conducted 4-6 times/year Number of cadres <10% of workers Intervention workshop conducted 2-3 times/year PPE use is 30-60% of the number of workers

Workers' responses to the OHS Post showed very positive results, with all respondents (100%) stating that the activity benefited them. Based on Table 6, three main success indicators were identified: a 43.8% change in workers' behavior, a 37.5% increase in workers' knowledge, and an 18.8% decrease in occupational disease cases. Although the percentage reduction in occupational diseases remains relatively low, this result reflects the program's positive impact. Thus, the implementation of OHS Post is considered to contribute to increased awareness and the shaping of healthy living behaviors among batik industry workers.

Table 6. Implementation of the OHS Post Indicators

Indicators of Assessment	n	%
Behavior change	7	43,8
Knowledge increase	6	37,5
Decrease in occupational disease cases	3	18,8
Total	16	100

The results (Table 6) showed that the OHS Post program was perceived positively by all workers. Improvements were observed in workers' behavior (43.8%) and knowledge (37.5%), while only 18.8% of respondents reported a reduction in occupational disease cases.

Although the proportion of workers reporting a decrease in occupational disease cases was relatively low (18.8%), this finding does not contradict the positive responses toward the OHS Post program. Improvements in knowledge and behavior are early outcomes of occupational health interventions, whereas reductions in occupational disease cases generally take longer to become evident.

Therefore, the increase in workers' knowledge and health-related behavior indicates that the program has begun to achieve its objectives. At the same time, the impact on occupational disease reduction may require sustained implementation and continuous monitoring.

4. Discussion

4.1. Context stage

The physical environment of Batik Utami and Batik Topo Industries is considered good enough, with permanent buildings, adequate ventilation and lighting, and proper sanitation. The semi-open workspace maintains a comfortable temperature. The production process is done manually with simple tools such as stamping and canting, so the risk of physical accidents is low. This is in line with Mulyanto's (2022) research, which shows that Batik Sidomukti workers appreciate a good working environment because it can improve performance. The results of the study by Junaidi (2020) show that work accidents in the batik process are not solely caused by the use of hazardous dyes, risky work postures, and the lack of use of PPE such as boots, gloves, and aprons. Other major factors that play a significant role are unsafe working environment conditions and equipment. Good ventilation

reduces the risk of respiratory problems, and sufficient lighting prevents eye fatigue and work accidents. Overall, the working environment in both industries is in accordance with the standards of Permenaker No. 5 of 2018 related to cleanliness, ventilation, lighting, and risk control of work tools; however, there are health risks due to chemical exposure, biological factors, and ergonomics that need attention to prevent worker health problems (Permenaker, 2018).

Most workers (81.25%) experienced health complaints, especially musculoskeletal disorders, skin irritation, and shortness of breath, with the highest risk in the dyeing and coloring sections. Similarly, workers in Dirjo Batik, Topo Batik, and Ayu Batik Industries face the risk of occupational diseases such as respiratory, musculoskeletal, eye fatigue, and skin irritation, as well as the risk of accidents in the form of burns from contact with hot wax during batik making and cloth boiling. Studies in Yogyakarta reported that 36.04% of batik workers experienced contact dermatitis, indicating a significant health impact of the work environment (Dwirainaningsih & Dewi, 2023; Febriana et al., 2023; Lestari & Warseno, 2019).

Based on the results of research, 75% of workers are aware of workplace hazards; however, compliance with the use of personal protective equipment remains low, with only 37.5% consistently using it. The low use of PPE is the main cause of occupational diseases. As many as 67.5% of batik workers in Pekalongan City, with 30% of them experiencing dermatitis. To reduce these risks, the government has regulated through the Ministry of Manpower Regulation No. 5/2018 on Occupational Safety and Health, which recommends the use of Personal Protective Equipment (PPE). The use of PPE that meets standards and is worn correctly and consistently can protect the body from exposure to dust, chemicals, and other foreign objects (Apsari & Purnomo, 2020). Prakoeswa's research (2021) in the Batik Industry shows that the addition of PPE effectively controls risks, so that the potential hazards when making batik are very small after the application of PPE.

This study shows that although workers are aware of occupational risks, prevention efforts are still less than optimal. Therefore, education and strengthening of OHS posts are needed to improve occupational safety and health in the batik industry. OHS Post Batik was established under the Pandak Health Center I program and government policy, in line with the national Permenkes No. 100 Year 2015 program, to facilitate access to health services, increase knowledge, and reduce occupational diseases in the batik industry in Wijirejo Village. Activities carried out by OHS Post include counseling, stretching exercises, and health screening to support sustainable occupational health management.

4.2. Input stage

The implementation of OHS Post Batik is supported by the existence of adequate human resources, with 16 members of OHS Post equipped with 2 cadres, 1 OHS Post coach, and the collaboration of health workers across sectors that runs well. Funding sources remain fully dependent on the state budget, so diversifying them is necessary for the program to run sustainably. This is in contrast to Tinggogoy's research (2018), which found that the Gudang Pala OHS Post lacked a fixed source of funds, so activities at the OHS Post were hampered. In addition, cadres lacked financial management knowledge due to a lack of training from Tuminting Health Center. This limitation is also caused by a lack of efforts to find alternative sources of funding, so that community and private-sector participation is not optimal. Therefore, it is necessary to develop alternative funding sources through cross-sectoral cooperation and community empowerment to enable the OHS Post to operate independently and sustainably. These results are in line with research by Pradana (2023), which revealed that the optimal functioning of the OHS Post is influenced by the availability of funding sources, both from the APBN through the Health Operational Assistance and the independent participation of workers, and supported by the active role of cadres and health workers in the implementation of activities.

Looking at the availability of facilities and infrastructure at the OHS Batik Post, it is quite adequate, but administrative activities and cadre training are still lacking, so recording and reporting are not yet independent. This is in line with Faridah's research (2023), which emphasizes the importance of skilled and knowledgeable cadres in running the OHS Post effectively. Although the

number of cadres is in accordance with the standard and supported by sufficient members, special training for cadres has never been provided, so their competence does not fully meet the provisions of Permenkes No. 100 of 2015. Interviews with cadres and OHS Post programmers revealed that without training and assistance from health workers, cadres struggle to perform their duties independently. Therefore, capacity building of cadres through continuous training is needed so that they are not only sufficient in number but also competent in carrying out promotive and preventive tasks.

The implementation of OHS Post Batik is structured with routine and non-routine activities in accordance with Permenkes No. 100 of 2015, supported by cross-sector collaboration that strengthens occupational safety and facilitates monitoring and evaluation. In contrast, OHS Post Gudang Pala faced obstacles such as a lack of cadres, involvement of related parties, and activity plans, resulting in suboptimal promotive and preventive programs (Tinggogoy, 2018). The advantages of the OHS Post Batik method are the regularity of the schedule and cross-sector collaboration, which improve the quality of implementation. However, the implementation of monthly evaluations needs to involve cadres in terms of recording and reporting to comply with Permenkes No. 100 of 2015, and the results can be integrated for systematic program improvement.

4.3. Process stage

This finding shows that the existence of a written policy, in the form of a Monthly SME RPK approved by the head of the Health Center I and socialized to workers, is an important foundation for the implementation of the SME Post. Formal commitment and communication support the structured planning of activities. However, the absence of a clear organizational structure is still an obstacle in optimizing coordination and division of tasks, so planning has not been able to adapt to the needs and dynamics in the field fully.

In accordance with Permenkes No. 100 of 2015, planning for the OHS program requires clear policies and a defined organizational structure to support effective implementation. Tinggogoy's research (2018) showed that the absence of a work plan and an occupational health team at Tuminting Health Center hampered program implementation. In this study, planning excellence was evident in the presence of written policies and effective socialization. However, the absence of an organizational structure remained an obstacle to coordination and the division of tasks. Based on Suwarto's (2020) research findings, limited human resources are the main obstacle to effectively managing the organizational structure of the UKK Post, so the implementation of occupational health programs and activities in the Community Health Center work area cannot be carried out optimally. Therefore, it is recommended to establish a clear organizational structure between the Pandak Health Center I and OHS Post cadres to clarify roles, strengthen coordination, and improve the effectiveness of planning to meet workers' needs.

The results showed that the coordination flow of OHS Post Batik involves the Bantul District Health Office as the policy advisor and director, with the Head of Pandak Health Center I as the technical implementer who oversees the OHS Post Programmer. The programmer acts as a coach and facilitator, coordinating with cross-sectoral health workers and the Head of Wijirejo Village to support local policies, and this is then continued by the OHS Post Batik cadres as implementers of activities in the field.

The hierarchical coordination structure of OHS Post Batik is in accordance with Article 4 of Permenkes No. 100 of 2015 and is supported by policies at the district and village levels. The division of tasks between the OHS Post Programmer as facilitator and the cadres as field implementers shows a systematic organization. However, reliance on vertical coordination can slow decision-making if communication between levels is ineffective. Tinggogoy (2018) asserts that a clear coordination structure improves program accountability and sustainability. Therefore, strengthening communication between stakeholders is necessary to maintain the effectiveness and sustainability of coordination.

The results showed that the implementation of the OHS Batik Post is in accordance with Permenkes No. 100 of 2015, with routine activities every two weeks, including registration, basic health checks, complaint consultations, early detection of occupational diseases, and stretching exercises. In addition, non-routine activities are

conducted every six months, including health checks, counseling, and promotion of clean and healthy living behaviors. This scheduled and systematic implementation reflects the readiness and responsiveness of the OHS Post to the needs of workers. In contrast, Tinggogoy's study (2018) showed that program implementation at the Tuminting OHS Post has not been optimal, especially in terms of the continuity of promotive activities and the absence of curative and rehabilitative programs. Research by Pradana (2023) shows that the implementation of promotive and preventive activities at the OHS Post remains very limited. This is in line with the findings of Agustin's (2024) study, which states that promotive and preventive efforts have not been optimal due to a lack of worker socialization. As a result, the services provided are more curative and limited, and do not include guidance on the work environment, education on occupational health safety, or surveillance activities. Therefore, strengthening the capacity of cadres in time management and activity implementation is needed to support effective program implementation in the batik industry.

The coaching of OHS Post Batik implementation is in accordance with Article 14 of Permenkes No. 100 of 2015, with program and institutional coaching at least once a month. However, recording and reporting are still carried out entirely by the OHS Post Programmer, while cadres have not been involved in administration independently. This was confirmed by cadres, who stated they had not received technical guidance on recording and reporting. Similar conditions were also found in Tinggogoy's (2018) study in OHS Post Tuminting village, where the lack of cadre activity caused the program administration not to run optimally. According to Pradana (2023), the recording and reporting processes are still performed manually. It has not been effective due to the lack of guidance from the Community Health Center and the health office. Similar conditions were also found in Helfi's (2024) study, which revealed that cadres were not yet able to record and report independently due to limited understanding and a lack of socialization from coaches to cadres and members of the OHS Post. In addition, findings from Suwarto's (2020) study reinforce this by showing that guidance from the Community Health Center is still not optimal, so the implementation of OHS Post is not running optimally and is not experiencing sustainable development due to the low understanding of cadres and limited assistance from coaches. The strength of OHS Post Batik lies in its active coaching and communication forum. However, training and technical assistance are needed to ensure consistent recording and reporting, which are a basis for more effective program evaluation and planning.

4.4. Product stage

Based on the results of the study, OHS Post Batik showed significant development, classified of "Intermediate" according to the results of monitoring and evaluation. This achievement reflects a commitment to coaching, the presence of active cadres, integrated health services, and the availability of facilities that meet standards. Conceptually, this is in line with the objectives of Permenkes No. 100 of 2015, which is to increase access to occupational health services for informal sector workers through cross-sector and program synergies.

The positive contribution of cadres in providing routine health services is evident from the responses of all workers, who stated that the OHS Post was beneficial, with 43.8% reporting positive behavioral changes, 37.5% reporting increased occupational health knowledge, and 18.8% reporting a decrease in occupational disease cases. Although the OHS Post program showed positive outcomes in improving workers' knowledge and behavior, the reduction in occupational disease cases was still relatively limited (18.8%). This finding may be related to the relatively short duration of the program's implementation, as the OHS Post had been operating for only approximately one year at the time of the study. Changes in occupational disease incidence generally take longer to become apparent because they are influenced not only by individual behavior but also by workplace conditions, exposure duration, compliance with personal protective equipment (PPE) use, and the continuity of preventive interventions. In addition, promotive and preventive activities were conducted only once every six months, which may not have been sufficient to produce substantial changes in occupational health outcomes.

Therefore, the positive changes in knowledge and behavior observed in this study constitute an important initial achievement that may contribute to a further reduction in occupational disease cases if the program is implemented consistently and sustainably over a longer period. Similar findings were also seen in Prasetyo's (2024) study, which showed a significant increase in the level of knowledge after the implementation of the program to optimize the role of OHS Post in Kudus District. Before the training, the percentage of cadres with knowledge in the good category was 62.3%, and increased to 84.4% after the training. This increase reflects that training plays an important role in improving the quality of cadres' understanding, so that they are better prepared and able to carry out OHS Post activities optimally.

These findings corroborate the health promotion model, which emphasizes the importance of the active involvement of individuals and the environment in shaping positive health behavior (Sunarsih et al., 2020). This is in line with the statement of one of the workers who is routinely exposed to heat and always uses personal protective equipment, who reports feeling an improvement in his physical condition, providing empirical evidence that the intervention has begun to impact individual awareness of managing work risks independently. However, it should be critically highlighted that the limited frequency of promotive-preventive activities that only take place once every six months, as well as the suboptimal system of recording, reporting, and management of self-help funds, can be an obstacle in strengthening the long-term quality of the program. In fact, systematic data recording is an important foundation for the process of continuous evaluation and evidence-based practice decision-making as mandated in the public health program management system (Wulandari et al., 2022).

A comparison with Tinggogoy's (2018) study further emphasizes the importance of strengthening cadre capacity. The lack of cadre training and low worker participation of OHS in Post Tuminting Village resulted in program unsustainability, weak administration, and the cessation of occupational health services. This shows that the strengthening of human resources, administrative support, and continuous coaching from the supervising agency strongly influences the success of community-based occupational health programs.

Thus, the initial success of OHS Post Batik needs to be followed up by developing a more effective data management system, increasing the frequency of specific risk-based preventive-promotive activities, and strengthening the role of cadres through structured technical and administrative training. These strategic steps will strengthen the effectiveness of the program, improve accountability, and ensure the long-term sustainability of benefits for informal sector workers in the batik industry.

5. Conclusions

The implementation of the Batik Occupational Health Post (OHS) in Wijirejo Village has shown positive outcomes, including increased health behaviors and worker knowledge, and a decrease in the incidence of occupational diseases. The program has been implemented in accordance with the provisions of Permenkes No. 100 of 2015, with policy support, cross-sector collaboration, and regular coaching and monitoring. However, efforts are still needed to strengthen the capacity of cadres, optimize the recording and reporting system, and develop alternative funding sources to support the sustainability of the program independently. With such strengthening, it is expected that OHS Post Batik will be able to contribute optimally in improving the occupational health status of informal sector workers in a sustainable manner.

This study contributes to the scientific literature by providing a comprehensive evaluation of the implementation of the Occupational Health Services Post (OHS Post) in the informal batik industry using the CIPP evaluation model. The findings indicate that improvements in workers' knowledge and occupational health behaviors can be achieved through community-based occupational health interventions. However, longer implementation periods are required to produce a more substantial reduction in occupational disease cases. In practice, the results may serve as a reference for community health centers, local governments, and policymakers to strengthen occupational health programs through cadre capacity building, enhancement of recording and

reporting systems, increased promotive and preventive activities, and the development of sustainable funding mechanisms.

References

A Adeyemi, C. (2025). Rehabilitation Outcomes of Community-Based Occupational Health Programs For Informal Sector Workers. Journal of Pshyiotherapy and Occupational Rehabilitation, 1(2), 1–7. https://www.Occupationaljournal.Com

Agustin, H., Arianto, M. E., & Rifai, M. (2024). Implementation of An Integrated Occupational Health Post In Kasongan Tourism Village, Bantul - D.I. Yogyakarta. Journal of Community Health, 9(3), 637–647. https://doi.org/10.25311/Keskom.Vol9.Iss3.1454

Alanshori, M. Z., Maulidi, A., Muhlisin, A., Kusaeri, & Suparto. (2025). 3the Application of the CIPP Evaluation Model In Educational Programs In Indonesia. Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme, 7(2), 103–122. https://doi.org/10.37680/Scaffolding.V7i2.7390

Apsari, A. E., & Purnomo, H. (2020). An Occupational Safety And Health (OSH) Factors Identified In Indonesian Batik Textile Small/Medium Enterprises. International Research Journal Of Engineering, IT & Scientific Research, 6(2), 55–64. https://doi.org/10.21744/Irjeis.V6n2.877

Cita Rosita Sigit Prakoeswa, Damayanti, Sylvia Anggraeni, Menul Ayu Umborowati, & Sri Awalia Febriana. (2021). The Gloves As Effective Personal Protective Equipment (PPE) Of Indonesian Batik Workers. Indian Journal Of Forensic Medicine & Toxicology, 15(4), 959–966. https://doi.org/10.37506/Ijfmt.V15i4.16832

Dijk, F. J. Van, & Moti, S. (2023). A Repository For Publications On Basic Occupational Health Services And Similar Health Care Innovations. Safety And Health At Work, 14(1), 50–58. https://doi.org/10.1016/J.Shaw.2023.01.003

Dwirainaningsih, Y., & Dewi, S. (2023). Risk Analysis Of Occupational Diseases And Accidents Using The Occupational Health Effort Model In Pekalongan Batik Home Industry. Scientific Journal Of Batanghari University Jambi, 23(3), 2959. https://hoi.org/10.33087/Jiubj.V23i3.4307

Faridah, F., Hasmar, W., & Fatmawati, T. Y. (2023). Innovation of Pos Ukk Program with Musculoskeletal Disorders in Batik Workers. JMM, 7(6), 5989. https://doi.org/10.31764/Jmm.V7i6.19417

Febriana, S. A., Erdina, Dewi, K., Ridora, Y., Anggraeni, A., Indrastuti, N., Waskito, F., Oginawati, K., Tanziha, I., & Prakoeswa, C. R. S. (2023). Risk Factors Of Occupational Skin Diseases Among Traditional Batik Manufacturing Workers In Yogyakarta, Indonesia. BMC Research Notes, 16(1), 1–6. https://doi.org/10.1186/S13104-022-06105-0

Hudoyo, Kuwat Sri, Azwar, R., Natalia, J. M., Dariana, D., Tobing, E. L., Sarjana, I. G. B., Sunarja, Sarwastuti, T., Restiaty, I., Sari, L. T., & Wachyuni. (2011). Occupational Health Services-Education (Kuwat Sri Hudoyo, R. Azwar, J. M. Natalia, D. Dariana, E. L. Tobing, I. G. B. Sarjana, Sunarja, T. Sarwastuti, I. Restiaty, L. T. Sari, & Wachyuni (Eds.); 1st Ed.). Kementeriankesehatanri. https://doi.org/613.62 Ind P

Istighfaroh, A. S., Kasjono, H. S., & Rois, I. (2024). Counseling And Implementation Of Standard Sanitation Operational Procedure In Skin Disease Prevention Among Batik Workers In Bantul, Yogyakarta. Public Environmental Health Bulletin, 43(3), 143–150. https://doi.org/10.31983/Keslingmas.V43i3.11472

Junaidi, M. S., Fatoni, R., & Fatimah, S. (2020). The Analysis of Occupational Safety and Health of The Batik Industry. Advance Sustainable Sciencoe, Engineering And Technology, 2(1). https://doi.org/10.26877/Asset.V2i1.6016

Kasjono, Subaris Heru, Mahendika, D., Christiandari, H., Yamtana, Yani, A., & Rahayu, Purnawati Endang Irjayanti, A. (2024). Occupational Health and Safety (Subaris Heru Kasjono, D. Mahendika, H. Christiandari, & Et Al Yamtana (Eds.)). Ganesha Kreasi Semesta.

Lestari, R., & Warseno, A. (2019). Risk Analysis of Occupational Illness and Workplace Accident Using The Model of Occupational Health In Home Batik Industry. *Journal of Health Discourse*, *3*(2), 315. https://doi.org/10.52822/Jwk.V3i2.78

Malik Ibrahim, M. (2018). Evaluation Research In Education (Qualitative Approach). In S. Mania (Ed.), *Alauddin University Press, Makassar* (1st Ed.). Alauddin University Press.

Minister Of Manpower Regulation No. 5 Of 2018 On Occupational Safety and Health Work Environment, Pub. L. No. 567, 1 (2018).

Mulyanto, M. (2022). Establishing A Business Production For Written and Stamped Batik Crafts. *Mudra Jurnal Seni Budaya*, *37*(2), 108–118. dttps://hoi.org/10.31091/Mudra.V37i2.1868

Pradana, B., Tongko, M., & Dwicahya, B. (2023). An Overview of The Implementation of The Occupational Health Post Program Among

Informal Sector Workers In Banggai District. *Student Health Bulletin*, *1*(3), 101–109. https://hoi.org/10.51888/Jpmeo.V1i3.172

Prasetyo, E., Ulfa, M., & Mubaroq, M. H. (2024). Optimizing The Role Of OHS Post (Occupational Health Service) In Informal Sector Workers In Kudus District. *Journal Of Health Service And Empowerment*, *1*(1), 78–84. https://doi.org/10.70109/Jupenkes.V1i1.11

Regulation Of The Minister Of Health Of The Republic of Indonesia Number 100 Of 2015 Concerning Integrated Occupational Health Service, 36 (2015).

Sukismanto, S., Suwarto, S., Kadaryati, S., & Prasetyaningrum, Y. I. (2023). The Need For Occupational Safety And Health (OSH) Coaching At The Post Occupational Health Services (OHS) For Workers In Informal Sector Jobs. *Journal Of Health Sciences*, *13*(1), 12–23. https://hoi.org/10.52643/Jbik.V13i1.2948

Sunarsih, T., Astuti, E. P., Ari Shanti, E. F., & Ambarwati, E. R. (2020). Health Promotion Model For Adolescent Reproductive Health. *Electronic Journal Of General Medicine*, *17*(3), Em212. https://doi.org/10.29333/Ejgm/7873

Suwarto, S., Aini, N., & Sukismanto, S. (2020). An Overview Of The Implementation Of Occupational Health In The Informal Sector Through Occupational Health Posts In Yogyakarta Special Region. *Jurnal Formil (Scientific Forum) Kesmas Respati*, *5*(1), 36. https://doi.org/10.35842/Formil.V5i1.300

Tinggogoy, Dkk. (2018). Analysis of The Implementation of The Occupational Health Efforts Program At The Pala Warehouse Occupational Health Efforts Post In The Tuminting Puskesmas Work Area, Manado City. *Faculty Of Public Health, Sam Ratulangi University*, *7*(3), 9. https://Ejournal.Unsrat.Ac.Id/V3/Index.Php/Kesmas/Article/View/22949

Warseno, A., & Ediyono, S. (2022). Analysis of Fulfillment of Health Services For Batik Crafters Through Occupational Health Efforts Post. *Healthy Indonesia Journal*, *1*(3), 250–255. https://doi.org/2828-4631

Wulandari, W. T., Gustaman, F., Nurdianti, L., Wasana, A. P., Yuniarti, E., Kurniadi, F., Widyastuti, L. R., Izzah, Z. N., & Pratama, F. (2022). Health Promotion: Clean And Healthy Living Behavior. *Journal Of Community Service Creativity (Pkm)*, *5*(10), 3363–3372. https://doi.org/10.33024/Jkpm.V5i10.7251

Yamtana, Herman S., Narto, & Achmad Husein. (2022). Evaluation Of Skeletal Muscle Disorders In Batik Makers In Wijirejo Village, Pandak, Bantul, Yogyakarta. *Journal Of Community Service*, *1*(11), 3133–3140. Https://Doi.org/10.53625/Jabdi.V1i11.1891