HEALTH PROMOTION

Exploring Health Literacy Levels and Influencing Factors of Indonesian Migrant Workers in Hong Kong

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Keywords

Indonesian Migrant Workers • Health Literacy • Hong Kong • Health Interventions • Migrant Health • Health Equity

Summary

Introduction. *Immigration is increasingly recognized as a social determinant of health, shaping migrants' access to health information, preventive services, and appropriate care. For Indonesian Migrant Workers (IMWs) in Hong Kong, structural barriers including precarious employment conditions, language barriers, and limited social protection may constrain health literacy and health-seeking behavior. This study aimed to assess the health literacy levels of IMWs in Hong Kong and identify the sociodemographic and occupational factors associated with their health literacy.*

Methods. *A cross-sectional study was conducted with 62 IMWs in Hong Kong. Data were collected using the Health Literacy Survey Short Form (HLS-SF12) and analyzed using descriptive statistics and multiple linear regression with JASP software.*

Results. *The mean health literacy score was 33.9 (SD=6.45), with most respondents classified as having sufficient health literacy (72.6%), followed by excellent (19.4%) and problematic (8.1%), and none categorized as inadequate. The overall regression model was not statistically significant (F(13, 47)=1.742, p=0.083); however, occupation was the only significant predictor, with elderly homecare workers scoring significantly higher than domestic workers (B=7.064, p=0.018).*

Conclusion. *These findings suggest that health literacy among IMWs in Hong Kong is more strongly shaped by occupational context and structural determinants than by individual sociodemographic characteristics. Targeted, occupation-specific interventions and broader structural reforms, including language-accessible health resources and integration of health literacy into pre-departure training, are essential to reduce health inequities among IMWs in Hong Kong.*

Introduction

In the ever-evolving era of globalization, international migration has become an increasingly important public health issue. Compared with the past, international migration now has a broader impact on countries, communities, and everyday life [1]. As the number of migrants and refugees continues to rise, healthcare systems in host countries are required to respond to diverse and growing health needs [2]. However, migration is not only a matter of population movement or healthcare access. It is also closely related to social, economic, legal, occupational, and structural conditions that shape health risks, health behaviors, and health outcomes.

Immigration is increasingly recognized as a social determinant of health. A social determinants of health perspective emphasizes that health is shaped not only by individual behavior or medical care, but also by broader social and structural conditions, including employment, housing, legal status, language access, social protection, discrimination, and healthcare systems. In this sense, migration status can influence health by determining whether migrants are able to access reliable health information, preventive services, safe working and living conditions, and appropriate healthcare. Castañeda et al. [3] argue that immigration should be understood not merely as a background characteristic, but as a social determinant in its own right because it affects migrants' relationships with institutions, resources, rights, and everyday security. Similarly, Wickramage et al. [4] emphasize that migration and health research should adopt a social determinants approach and consider how different phases of migration shape health vulnerability and resilience.

This conceptual framing is particularly relevant for migrant workers, many of whom work in precarious and gendered employment sectors. Labour migration can bring economic benefits to both countries of origin and destination, yet these benefits are strongly dependent on safe, orderly, and humane migration practices. Migrant workers may experience limited access to health services, restrictive employment conditions, language barriers, social isolation, and limited protection within host societies [5-7]. These conditions can affect not only physical and mental health, but also health literacy, because the ability to access, understand, appraise, and use health information is shaped by the social and institutional environments in which migrants live and work.

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For years, Hong Kong has been a major destination for Indonesian migrant workers. Hong Kong is among the top destinations for Indonesian migrant workers, and Indonesian women constitute a large proportion of migrant domestic workers in the city [8]. Indonesian Migrant Workers (IMWs) or PMI (*Pekerja Migran Indonesia*) refers to any Indonesian citizen who will, is, or has worked for wages outside the territory of the Republic of Indonesia [9]. Placement data show that the number of Indonesian migrant workers remains substantial, with many working in informal sectors. From 2019 to 2021, the placement of Indonesian migrant workers in Hong Kong remained high, with 71,779 workers in 2019, 53,178 in 2020, and 52,278 in 2021 [8]. These figures indicate the continuing importance of Hong Kong as a destination for Indonesian migrant workers and highlight the need to understand their health needs in the host-country context.

Migrant domestic workers are a particularly important group within this context. A recent scoping review of migrant domestic worker health and well-being in the Western Pacific Region reported that Hong Kong hosted 339,451 migrant domestic workers in 2021, including 140,057 workers from Indonesia. The same review identified several key social determinants affecting migrant domestic worker health, including living and working conditions, personal and financial resources, health knowledge and behaviors, community resources, stigma and discrimination, healthcare access, exploitation within the migration employment industry, and governance [5]. These findings suggest that the health of Indonesian migrant workers in Hong Kong cannot be understood only through individual-level factors. Instead, their health and health literacy are embedded within broader structural and occupational conditions.

Migrants must be included in prevention and control strategies at global, national, and local levels to support the Sustainable Development Goals for Universal Health Coverage, the Global Compact for Safe, Orderly, and Regular Migration, and World Health Assembly Resolution 70.15 on promoting migrant health [1]. Despite growing attention to the relationship between population mobility and migrant health, access to reliable health information remains a major challenge, especially when language, political, social, and employment-related barriers are involved [10]. For Indonesian migrant workers in Hong Kong, these barriers may affect their ability to seek healthcare, understand health risks, follow preventive recommendations, and make informed health decisions.

The concept of health literacy is increasingly important in public health. Health literacy encompasses the ability to access, understand, appraise, and use health information for disease prevention, health promotion, and quality of life improvement. Sørensen et al. [11], define health literacy as the ability to comprehend health-related information and use it to make decisions concerning healthcare, disease prevention, and health promotion. Health literacy also enables individuals to manage their health-related actions across social, personal, and environmental domains and supports more effective use of healthcare services [12]. In other words, health literacy is closely associated with health promotion and prevention, and it has become increasingly important in contemporary society [13].

Low health literacy can have detrimental effects on public health. It has been associated with higher mortality, increased hospitalization, lower use of preventive health services, poor adherence to prescribed medications, difficulty communicating with healthcare professionals, and poorer knowledge of disease processes and self-management among people with chronic conditions such as diabetes, heart disease, and arthritis [14-19]. Low health literacy is also associated with higher healthcare costs, increased inpatient and emergency department use, and poorer health outcomes [20, 21]. For Indonesian migrant workers in Hong Kong, improving health literacy is crucial because they constitute a large migrant population with diverse employment roles, significant contributions to the labor force, and potential exposure to structural health inequities.

Existing evidence from Hong Kong further shows that health literacy among migrant domestic workers is closely related to health information behavior. Oktavianus et al. [22] examined Indonesian migrant domestic workers in Hong Kong during the COVID-19 pandemic and found that workers acquired, verified, shared, and acted upon health information through social networks, family members, community organizations, media outlets, and digital platforms. The study also showed that limited access to credible information in workers' native language, exposure to misinformation, and dependence on informal information sources could affect preventive behavior. These findings suggest that health literacy among Indonesian migrant workers in Hong Kong is not only an individual skill, but also a socially situated process shaped by language access, digital information environments, community networks, and trust in information sources.

Despite growing research on health literacy among migrants globally, specific evidence on Indonesian migrant workers in Hong Kong remains limited. Studies from developed countries, including Germany and Australia, have shown that ethnic minorities and migrants are at higher risk of low health literacy [23, 24]. However, these findings may not be directly transferable to the socio-cultural, occupational, and migration contexts of Indonesian migrant workers in Hong Kong. Studies by Cheong et al. [25] and Kosiyaporn et al. [26] further underscore the importance of cultural, linguistic, and socioeconomic factors in shaping health literacy among migrant workers. However, these studies have focused primarily on other migrant populations, such as Filipino domestic workers in Macao or general migrant health workers in Thailand, with limited emphasis on Indonesian migrant workers in Hong Kong.

Moreover, systemic barriers such as discrimination, inadequate health insurance, precarious work arrangements, and limited access to health-protective

resources may contribute to health inequalities among migrant workers. Evidence from Indonesian workers in other host countries, such as South Korea, points to structural inequalities that may also be relevant in Hong Kong [27, 28]. However, detailed studies addressing how employment role, educational background, length of employment, and migration-related social conditions shape the health literacy of Indonesian migrant workers in Hong Kong remain scarce. This gap underscores the need for context-specific research that positions migrant health literacy within the broader framework of immigration as a social determinant of health.

To address this gap, the objectives of this study are twofold: (1) to evaluate the health literacy levels of Indonesian migrant workers in Hong Kong and (2) to identify the key factors influencing their health literacy. By focusing on this specific socio-cultural, occupational, and migration context, this study aims to provide a deeper understanding of Indonesian migrant workers as a critical yet understudied migrant population. Identifying determinants such as employment role, educational background, and length of employment may help inform targeted interventions to improve health literacy, reduce health inequities, and support better health outcomes among Indonesian migrant workers in Hong Kong.

Methods

Study Design and Setting

This study employed a quantitative method using a cross-sectional survey approach. The study aimed to measure the health literacy levels of Indonesian Migrant Workers (IMWs) in Hong Kong and to identify factors associated with their health literacy. Data were collected in late January 2024 during activities held at the Indonesian Consulate in Hong Kong. Data were collected in late January 2024 during community activities held at the Indonesian Consulate in Hong Kong. This setting was selected because consulate-based activities provided access to IMWs who may otherwise be difficult to reach due to their work schedules, mobility constraints, and employment arrangements.

Participants and recruitment

The target population comprised IMWs residing and working in Hong Kong. Participants were recruited using convenience sampling during activities at the Indonesian Consulate in Hong Kong. This sampling method was considered appropriate because IMWs represent a relatively hard-to-reach population, and recruitment was limited to participants who were accessible during the data collection period and willing to complete the questionnaire voluntarily.

A total of 62 respondents were included in the final analysis. The sample size was determined based on the number of eligible participants who completed the questionnaire during the study period. Although the sample size was relatively small, it was considered acceptable for an exploratory cross-sectional study involving a migrant worker population with practical recruitment constraints. However, due to the limited sample size, the findings should be interpreted cautiously, particularly for multivariable analysis. The small sample size was also acknowledged as a limitation of the study. A priori power calculation was not conducted before data collection because the study was exploratory and recruitment depended on participant availability during consulate-based activities. Nevertheless, the final sample size was considered sufficient to provide preliminary evidence regarding the distribution of health literacy and its potential associated factors among Indonesian migrant workers in Hong Kong.

Eligibility criteria

Participants were included if they met the following criteria: they were Indonesian migrant workers currently residing and working in Hong Kong, aged 18 years or older, able to understand Indonesian, and willing to participate in the study. Respondents were excluded if they did not provide informed consent, did not complete the questionnaire, or submitted incomplete responses for the main study variables required for analysis.

Data collection procedures

Data were collected using a structured self-administered questionnaire distributed through Google Forms. Before completing the questionnaire, participants were provided with information about the purpose of the study, the voluntary nature of participation, confidentiality of responses, and their right to withdraw from the study at any time. Participants who agreed to take part proceeded to complete the questionnaire.

Variables and Instruments

Sociodemographic Variables

Sociodemographic and employment-related data collected in this study included sex, marital status, number of children, educational background, occupation, insurance ownership, monthly income, and length of employment. These variables were used to describe the characteristics of the respondents and to examine their potential association with health literacy levels. Occupational categories included domestic worker, elderly homecare worker, babysitter or child caregiver, and private employee. Length of employment was recorded in months as a continuous variable.

Health Literacy

Health literacy was measured using the 12-item short-form Health Literacy Survey Questionnaire (HLS-SF12) developed by Duong et al. [29] which was derived from the 47-item European Health Literacy Survey Questionnaire (HLS-EU-Q47) developed by Sørensen et al. [30]. The HLS-SF12 has been validated in the general population across six Asian countries and assesses individuals' perceived ability to access, understand, appraise, and apply health-related information.

The questionnaire was administered in Indonesian, the participants' native language. Respondents were asked

to rate the perceived difficulty of each health-related task using a four-point Likert scale: very difficult, difficult, easy, and very easy. Higher scores indicated better perceived health literacy. The health literacy index was standardized to a unified metric ranging from 0 to 50 using the following formula:

$$Index = (mean - 1) \times \left(\frac{50}{3}\right)$$

In this formula, the index represents the calculated health literacy score, while the mean refers to the average score of all completed items for each respondent. The value 1 represents the minimum possible value of the mean, 3 represents the range of the mean, and 50 represents the maximum value of the standardized metric. Therefore, an index score of 0 indicates the lowest level of health literacy, while a score of 50 indicates the highest level of health literacy.

Statistical Analysis

Data were analyzed using descriptive and inferential statistics. Descriptive statistics were used to summarize respondents' sociodemographic and employment-related characteristics. Categorical variables, including sex, marital status, number of children, educational background, insurance ownership, occupation, and income, were presented as frequencies and percentages. Length of employment was treated as a continuous variable and presented as mean and standard deviation.

Multiple linear regression analysis was performed to identify factors associated with the health literacy index among IMWs. The health literacy index score was treated as the dependent variable. The independent variables included sex, marital status, number of children, educational background, insurance ownership, monthly income, occupation, and length of employment. Categorical variables with more than two categories were dummy-coded prior to analysis. Results were reported as unstandardized regression coefficients (B), standard errors (SE), 95% confidence intervals (CI), and p-values. A p-value of less than 0.05 was considered statistically significant. All statistical analyses were performed using JASP (version 0.97)

Ethical Approval

This study was approved by the Health Research Ethics Committee of the Faculty of Medicine and Health Sciences, Universitas Muhammadiyah Yogyakarta, Indonesia, under approval number 168/EC-KEPK FKIK UMY/IV/2024. All participants received information about the study before participation and provided informed consent electronically before completing the questionnaire. Participation was voluntary, and respondents could withdraw at any stage before submitting their responses. Confidentiality and anonymity were maintained throughout the study.

Results

Sociodemographic of Indonesian Migrant Workers (IMWs) in Hong Kong

A total of 62 IMWs participated in this study. The sociodemographic and employment-related characteristics of the respondents are presented in Table I. Overall, most respondents were female, married, had one child, and had completed either junior or senior high school. Insurance ownership was evenly distributed among respondents. Most respondents worked as domestic workers, followed by babysitters or child caregivers, elderly homecare workers, and private employees. The majority of respondents reported a monthly income of IDR 5-10 million.

Health Literacy Levels of Indonesian Migrant Workers (IMWs) in Hong Kong

The health literacy levels of IMWs are presented in Table II. The mean health literacy index score was

Tab. I. Sociodemographic Status of Indonesian Migrant Workers in Hong Kong.

Variable	Frequency (%)
Length of Employment (in month)	
Mean±SD	104.8±73.89
Sex	
Female	61 (98)
Male	1 (2)
Marital Status	
Single	11 (18)
Married	51 (82)
Number of Children	
No children	12 (19.4)
One child	39 (62.9)
Two or more children	11 (17.7)
Educational Background	
Primary School	6 (10)
Junior High School	26 (42)
Senior High School	26 (42)
Bachelor	4 (8)
Insurance Ownership	
Yes	31 (50)
No	31 (50)
Occupation	
Domestic Worker (DW)	47 (76)
Elderly Homecare (EH)	6 (10
Babysitter (BS)	8 (13)
Private Employee (PE)	1 (2)
Income (in Indonesia Rupiah)	
≤IDR 5 million	7 (11.3)
IDR 5-10 million	54 (87.1)
IDR 10-20 million	1 (1.6)
Total	**62 (100)**

Tab. II. Health Literacy Scores of IWMs in Hong Kong.

HL Index Category	Frequency (%)	Mean±SD
Inadequate	0 (0)	0±0
Problematic	5 (8)	21.94±3.01
Sufficient	45 (72.6)	32.47±2.49
Excellent	12 (19.4)	44.44±2.78
Total	**62 (100.0)**	**33.9±6.45**

33.9±6.45. Most respondents were categorized as having sufficient health literacy, followed by excellent and problematic health literacy. No respondent was categorized as having inadequate health literacy.

Factors Influencing the Health Literacy Index of Indonesian Migrant Workers (IWM)

Linear regression analysis was conducted to examine factors associated with the health literacy index among IMWs. The independent variables included in the model were insurance ownership, length of employment, marital status, number of children, educational background, income, and occupation. The overall linear regression model did not reach statistical significance, $F(13, 47)=1.742$, $p=0.083$. However, in the coefficient analysis, elderly homecare workers had significantly higher health literacy index scores than domestic workers as the reference category (B=7.064, SE=2.880, 95% CI: 1.270 to 12.86, t=2.453, $p=0.018$). Other occupational categories were not significantly associated with the health literacy index. Babysitters or child caregivers did not differ significantly from domestic workers (B=-0.140, SE=2.747, 95% CI: -5.666 to 5.385, t=-0.051, $p=0.959$). Private employees also did not differ significantly from domestic workers (B=10.19, SE=6.494, 95% CI: -2.879 to 23.25, t=1.568, $p=0.123$). Other variables, including insurance ownership, length of employment, marital status, number of children, educational background, and income, were not significantly associated with the health literacy index (Tab. III).

Discussion

Health literacy is a vital component in maintaining health and preventing disease, particularly for Indonesian Migrant Workers (IMWs). These findings may suggest that IMWs in Hong Kong demonstrate a generally adequate level of health literacy, with most respondents classified as having sufficient health literacy. This is broadly consistent with Milanti et al. [31], who found that migrant domestic workers (MDWs) in Hong Kong exhibited good levels of eHealth literacy during the COVID-19 pandemic, partly attributed to their engagement with social media for health information. These observations are also meaningful in light of broader evidence linking health literacy to health outcomes. Mo et al. [32] found that inadequate health literacy was associated with worse mental health outcomes among vulnerable populations, including higher rates of depression and anxiety. While the present study did not measure health outcomes directly, the relatively sufficient health literacy levels observed among IMWs may warrant further investigation into whether these levels are associated with better health-seeking behaviors and well-being in this population. However, these observations should be interpreted cautiously given the small sample size and cross-sectional design of the present study, which substantially constrain the strength of conclusions that can be drawn. One possible explanation for the relatively favorable health literacy levels observed is that IMWs in Hong Kong may benefit from a comparatively supportive peer and community environment relative to migrant workers in other host

Tab. III. Factors Influencing the Health Literacy of IWM .

Variable	B	SE	95% CI	t	*p-value*
Intercept	33.62	3.711	26.15 to 41.08	9.059	<0.001
Insurance ownership: yes	0.141	1.754	-3.388 to 3.670	0.080	0.936
Length of employment	0.017	0.013	-0.009 to 0.043	1.304	0.199
Marital status: not married	2.838	2.490	-2.171 to 7.847	1.140	0.260
Number of children: one child	-1.129	2.556	-6.271 to 4.014	-0.441	0.661
Number of children: two or more children	2.448	2.855	-3.296 to 8.192	0.857	0.396
Educational background: junior high school	3.576	3.101	-2.662 to 9.814	1.153	0.255
Educational background: senior high school	-0.024	3.065	-6.190 to 6.141	-0.008	0.994
Educational background: bachelor's degree	5.230	4.052	-2.921 to 13.38	1.291	0.203
Income: IDR 5–10 million	-5.019	2.980	-11.01 to 0.976	-1.684	0.099
Income: IDR 10–20 million	-7.177	7.170	-21.60 to 7.247	-1.001	0.322
Occupation: babysitter/child caregiver	-0.140	2.747	-5.666 to 5.385	-0.051	0.959
Occupation: elderly homecare worker	**7.064**	**2.880**	**1.270 to 12.86**	**2.453**	**0.018**
Occupation: private employee	10.19	6.494	-2.879 to 23.25	1.568	0.123

B: unstandardized regression coefficient; SE: standard error; CI: confidence interval. The reference categories were no insurance ownership, married, no children, primary school education, income ≤IDR 5 million, and domestic worker. The dependent variable was the health literacy index.

countries, though this interpretation remains speculative and warrants verification in larger, more representative samples.

Rather than reflecting individual capability alone, it is likely that the health literacy patterns observed here are shaped by structural and social factors particular to the Hong Kong context. IMWs heavily rely on close-knit ethnic community networks for both emotional and informational support [33]. It is plausible that these networks facilitate the sharing of health information, particularly through digital platforms such as WhatsApp and Facebook groups. Anggaunitakiranantika [33] highlights how these workers utilize community groups to access a range of resources, including health information, emphasizing the centrality of community in navigating the challenges of living and working in a foreign country. Ethnic media and community organizations further strengthen this support by disseminating vital health information, and during crises such as pandemics, Bernadas et al [34] note that these organizations act as critical intermediaries, ensuring migrant workers receive accurate and timely information from government and health authorities. Critically, however, Oktavianus et al. [22] found that while MDWs in Hong Kong actively sought health information through social networks during the COVID-19 pandemic, this behavior produced both adaptive and maladaptive outcomes, the latter including reliance on unverified content and culturally rooted misconceptions. Ho and Smith [35] similarly cautioned that foreign domestic workers' reliance on informal networks during disease outbreaks may reinforce health misinformation if not supplemented by credible, culturally sensitive institutional communication. This important nuance suggests that community-mediated health information does not automatically translate into improved health literacy, and the quality and accuracy of peer-shared content warrants careful scrutiny in future research.

The widespread use of smartphones among IMWs has transformed how they communicate and access essential resources. Smartphones facilitate not only staying in touch with family but also accessing vital services such as health, education, and banking [36], and may provide a convenient platform for evaluating and utilizing health information. Garner et al. [37] demonstrated that mobile health applications can meaningfully improve health literacy related to hypertension and diabetes among Asian migrant workers in Hong Kong, suggesting that technology-based interventions hold real potential for this population. However, digital access alone does not guarantee meaningful health literacy gains. Zhang et al. [38] demonstrated that health literacy influences health behaviors through multiple pathways, with effects further moderated by gender, suggesting that future studies on IMWs would benefit from adopting multidimensional health literacy instruments capable of distinguishing between functional, communicative, and critical dimensions of health literacy, rather than relying solely on a composite index as in the present study. The capacity to critically appraise health information is further mediated by language proficiency in the host country's language and digital literacy skills, factors not captured in the present study and likely representing important confounders. Jia [39] found that language barriers significantly constrain migrants' access to health information and healthcare services, particularly for those with lower education levels, arguing that language-discordant health systems generate inequalities that are structurally produced rather than individually determined. This points to a broader theoretical concern: consistent with the social determinants of health framework, health literacy among migrant workers cannot be understood purely through the lens of individual attributes, but must be situated within the structural conditions in which workers live and work, including employment arrangements, legal protections, institutional access to healthcare, and the degree of social inclusion afforded in the host society [40, 41]. The largely non-significant associations between individual-level sociodemographic variables and health literacy scores in this study may reflect the overarching influence of these structural determinants, which individual-level instruments are typically ill-equipped to capture.

Occupation emerged as the only statistically significant predictor of health literacy in this study, with elderly homecare workers demonstrating higher scores compared to domestic workers as the reference group. One possible explanation is that homecare roles involve more frequent and direct exposure to healthcare environments, medical terminology, and interactions with health professionals, which may cumulatively enhance workers' capacity to access, understand, and critically evaluate health-related information. This is broadly consistent with prior research linking occupational context to health knowledge across different settings [42–45], and with Güner and Ekmekci [46] who reported better health literacy outcomes among workers in healthcare-adjacent roles. Li et al. [47] further demonstrated that occupational type and employment conditions are among the key factors shaping healthcare utilization among migrant older adults, reinforcing the view that the nature of one's work environment plays a structurally important role in determining health literacy and health-seeking behavior. However, this finding should be interpreted with considerable caution. This may be because the overall regression model was not statistically significant, the elderly homecare subsample was very small (n=6), and the result may be partially confounded by unmeasured variables such as language proficiency, length of stay in Hong Kong, and the degree of autonomy afforded by different occupational roles. Liu et al. [40] demonstrated that among migrants in Hong Kong, socioeconomic disadvantage and limited language proficiency jointly constrain healthcare utilization, factors that likely interact with occupational type in ways this study's sample size could not adequately disentangle. Replication in larger and more diverse samples is therefore necessary before firm conclusions regarding the role of occupation in shaping health literacy among IMWs can be drawn.

The absence of significant associations between

health literacy and variables such as educational background, insurance ownership, income, and length of employment may suggest that, for this population, individual sociodemographic characteristics are less determinative than structural and contextual factors. This finding could partly be explained by the relatively homogeneous sociodemographic profile of the sample, which may have limited the variance needed to detect associations. Notably, the non-significant association between insurance ownership and health literacy may reflect the possibility that formal insurance coverage alone does not guarantee meaningful engagement with health information, particularly when broader structural barriers, such as language-discordant services, limited rest time, and restricted autonomy, remain unaddressed [40,41]. Novrinda and Han [48] similarly found that health insurance alone was insufficient to eliminate health inequalities among Indonesian migrant workers, with discrimination and socioeconomic marginalization remaining significant barriers to equitable health outcomes. From a broader policy perspective, this challenges approaches that focus narrowly on individual-level health education without addressing systemic barriers. Wong et al. [41] proposed a comprehensive health service model for migrants in Hong Kong that integrates culturally sensitive care, language support, and community health engagement, arguing that fragmented, individually focused approaches are insufficient for populations navigating structural disadvantage. Wang et al. [49] further found that social integration, including participation in community activities and engagement with health records, was positively associated with primary healthcare utilization among migrants, suggesting that improving health literacy outcomes may require fostering broader social inclusion rather than delivering standalone educational content. Employment conditions, including long working hours, restricted rest day entitlements, and employer control over daily routines, may substantially limit the time and opportunity IMWs have to engage with health resources, regardless of their underlying literacy capacity. Addressing such multi-layered barriers requires comprehensive, systemic strategies, Mancuso [50] proposed a model for overcoming health literacy barriers that integrates cultural competence, patient-centered communication, and institutional-level reform, emphasizing that sustainable improvements in health literacy cannot be achieved through education alone but require coordinated action across health systems, community organizations, and policymakers. Workers in roles associated with lower health literacy, such as domestic helpers and babysitters, would likely benefit from targeted support informed by this model. Silitonga et al. [51] demonstrated that structured, culturally tailored health education programs can produce meaningful improvements in knowledge among Indonesian women migrant workers, offering a promising evidence base that could be adapted and scaled for health literacy promotion more broadly.

Strengths and Limitations

This study contributes to the limited but growing body of evidence on health literacy among Indonesian migrant workers in Hong Kong, a population that remains underrepresented in health research despite its considerable size and vulnerability. The use of a validated health literacy instrument provides a standardized basis for comparison with other populations and settings, strengthening the interpretability of findings.

However, several limitations must be acknowledged. First, the relatively small sample size (n=62) limits the statistical power of the analysis and reduces the generalizability of findings. The non-significance of the overall regression model may in part reflect insufficient power to detect modest but meaningful associations. Second, recruitment through community networks and convenience sampling may have introduced selection bias, as individuals who were more socially connected and digitally active may have been overrepresented. Consequently, health literacy levels in the broader population of Indonesian migrant workers may differ from those observed in this study. Third, the reliance on self-reported data may be affected by social desirability bias and recall inaccuracies, potentially leading to overestimation of health literacy scores. Fourth, the single geographic setting limits the transferability of the findings to Indonesian migrant workers in other host countries with different healthcare systems, regulatory environments, and levels of community support. Fifth, the cross-sectional design precludes causal inference regarding the relationships between sociodemographic or occupational factors and health literacy outcomes. Longitudinal studies are therefore needed to examine how health literacy develops over time among migrant workers. Finally, several important potential confounders were not assessed, including Cantonese or English language proficiency, length of stay in Hong Kong, degree of social integration, and quality of pre-migration education. As Gao et al. [52] and Jia [39] have shown, these factors may meaningfully influence health outcomes and healthcare access among migrant populations. Therefore, their omission should be considered an important limitation that future research should address.

Conclusion

This study provides preliminary evidence on health literacy among Indonesian migrant workers in Hong Kong and highlights the relevance of occupational context in shaping workers' ability to access, understand, appraise, and apply health information. Most respondents demonstrated sufficient health literacy, and no participants were categorized as having inadequate health literacy. However, the presence of a minority with problematic health literacy indicates that important gaps remain and that the overall findings should not be interpreted as uniformly positive.

Occupation emerged as the only statistically significant

predictor of health literacy, with elderly homecare workers reporting higher scores than domestic workers. This finding suggests that workers whose roles involve greater exposure to caregiving tasks, health-related communication, and interactions with healthcare environments may develop stronger health literacy than those in more general domestic work roles. At the same time, the absence of significant associations with education, income, insurance ownership, and length of employment suggests that health literacy among Indonesian migrant workers may not be determined solely by individual characteristics. Rather, it is likely shaped by broader social and structural factors, including employment conditions, language accessibility, healthcare navigation, and community-based information networks.

These findings have several implications for policy and practice. Health literacy interventions for Indonesian migrant workers should be occupationally targeted, particularly for domestic workers and babysitters who may have fewer opportunities for direct exposure to health-related information. Consular services, migrant worker organizations, healthcare providers, and employers should collaborate to provide Indonesian-language, culturally appropriate, and easily accessible health information. Health literacy promotion could also be integrated into pre-departure training, in-service migrant worker education, community outreach programs, and peer-based support networks. In addition, improving health literacy requires attention to structural barriers, including limited rest days, long working hours, language barriers, and difficulties navigating the host-country healthcare system.

The findings should be interpreted in light of the study's limitations, including the small sample size, non-probability sampling, reliance on self-reported data, single-country setting, cross-sectional design, and unmeasured confounders. Future research should involve larger and more representative samples, include longitudinal or mixed-methods designs, and examine additional determinants such as language proficiency, digital health literacy, social integration, employer support, and healthcare-seeking experiences. Comparative studies across different host countries would also help clarify how migration contexts and healthcare systems shape health literacy among Indonesian migrant workers.

In conclusion, this study suggests that health literacy among Indonesian migrant workers is not merely an individual attribute but a socially and occupationally shaped capability. Addressing health literacy gaps in this population requires both targeted education and broader structural support to ensure that migrant workers can access, understand, and use health information effectively.

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Conflict of interest statement

All authors declare no conflict of interest.

Authors' contributions

All authors have the equal contribution.

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