

## Meta-Analysis: Factors Reducing Health Workers' Willingness to Leave Work

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### ABSTRACT

**Background:** Employees are the most important human resource in a company because they have a direct influence on institutional operations in achieving organizational goals. The main problem in health service management is a shortage of health workers due to turnover or intention to leave work. This research aims to analyze the factors that reduce the desire to leave among health personnel.

**Subjects and Method:** This research uses a meta-analysis based on PICO as follows; population: health workers; intervention: satisfied autonomy, good working environment, length of service > 5 years, low workload; comparison: autonomy not satisfied, poor working environment, length of service < 5 years, high workload; outcome: intention to leave work. Data was obtained from the PubMed, Google Scholar, Science Direct databases published from 2013-2022. The keywords in the article search are "Autonomy", "Work Environment", "Work Experience", "Workload", "Intention to Out", "Turnover Intention". "Cross Sectional". Article selection used PRISMA Flowchart and results were analyzed using Review Manager 5.4 software.

**Results:** This study was conducted on 14 articles from Ethiopia, Ghana, California, Peru with a sample size of 9,555 professional health workers. Meta-analysis results concluded that satisfied work autonomy (aOR=0.22; CI 95%=0.06 to 0.85; p=0.030), low workload (aOR=0.60; CI 95%=0.46 to 0.78; p<0.001), had the desire out of work low. The meta-analysis results of the work environment were good (aOR=0.51; CI 95%=0.23 to 1.14; p=0.100), work experience >5 years (aOR=0.51; CI 95%=0.23 to 1.14; p=0.100) was not significantly influenced.

**Conclusion:** Satisfied job autonomy and low workload reduce the intention to leave work among health workers. Health workers' desire to leave work is not significantly influenced by work experience or work environment.

**Keywords:** intention to leave work, job autonomy, work experience, work load, work environment

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### BACKGROUND

Human resources are people in an organization who contribute ideas and carry out

various types of work in achieving organizational goals (Rahmalinda, 2024). Employees are the most important human resource in a company because their performance has a

direct influence on institutional operations, therefore institutions must manage and pay attention to employees as best as possible in order to contribute more to achieving goals (Handoko, 2015).

As demand for health services increases, the need for qualified and trained health workers also increases. However, the main problem facing the health sector is the shortage of qualified and trained health workers (Džakula, 2022). One of the factors that influences the shortage of health workers is the intention to stop working. Intention to stop working can affect the performance of health workers and the quality of health services provided. The high intention to quit work or move out of the institution where you currently work also reflects a decrease in employee productivity (Algazlan, et al 2022).

Intention to leave employment refers to an employee's voluntary intention to leave the organization. Intention to leave work is the strongest antecedent of actual turnover. This proves that before an employee actually leaves the organization, there is an intention to leave the organization. In the current era of globalization, employees are very vulnerable to problems within institutions that can cause stress. Work stress is pressure that arises when job demands cannot be met (Rohmah, 2022). Manullang et al (2023) state that workload is tasks given to workers or employees to be completed at a certain time using the skills and potential of the workforce. If a worker is able to complete and adapt to a number of tasks given, then this does not become a workload. In direct proportion, if the worker is unsuccessful then these tasks and activities become a workload. A person's capacity needed to carry out a task according to expectations is different from the capacity available at that time. Other factors that can influence the intention to leave work are gender, marital status, work environment, work experience, lack of

autonomy, emotional release from job satisfaction (Albougami, 2020).

Although human resource management is an important issue in health institutions to provide necessary services to the community, currently turnover of health workers is a critical problem (Ploog et al, 2022). Most research on the status of intention to leave work and factors related to health workers was conducted in only one regional category so there is a gap in the literature involving health workers across large geographic areas and various factor categories. Therefore, the author is interested in conducting this meta-analysis research. The novelty of this research compared to other research is that the author intends to compare the factors that reduce the intention to stop working in health workers with existing cross-sectional research analysis.

## SUBJECTS AND METHOD

### 1. Study Design

This was a systematic review and meta-analysis research. A systematic review was conducted to assess the appropriateness of the methods used in each study. This research uses meta-analysis based on pico as follows; population: health workers; intervention: satisfied autonomy, good working environment, length of service > 5 years, low workload; comparison: autonomy not satisfied, poor working environment, length of service < 5 years, high workload; outcome: intention to leave work. Data was obtained from the PubMed, Google Scholar, Science Direct databases published from 2013-2022. The keywords in the article search are "Autonomy", "Work Environment", "Work Experience", "Workload", "Intention to Out", "Turnover Intention", "Cross-Sectional".

### 2. Steps of Meta-Analysis

Meta-analysis was carried out through the following 5 steps:

- 1) Formulate research questions in PICO (Population, Intervention, Comparison, Results).
- 2) Search for articles from various databases including Google Scholar, Biomedcentral, Taylor & Francis and PLOS.
- 3) Conduct screening and critical appraisal of primary studies using the Critical Appraisal Checklist for cross-sectional studies
- 4) Extracting data and entering aOR from each primary study into the RevMan 5.3 application
- 5) Interpret the results of research analysis and draw conclusions

### 3. Inclusion Criteria

Inclusion criteria for articles included in meta-analysis research are: full text articles using a cross-sectional study design, research subjects are professional health workers, multivariate analysis including adjusted odds ratio (aOR) values to measure the estimated effect.

### 4. Exclusion Criteria

Exclusion criteria for this study include articles published not in English, statistical results reported in the form of bivariate analysis, articles published before 2013.

### 5. Operational Definition

**Intention to Leave:** The intention of healthcare professionals to leave the work they do. Data is measured using a questionnaire, the measurement scale uses a dichotomy.

**Autonomy Status:** Freedom for professional health workers to determine their work style. Data is measured using a questionnaire, the measurement scale uses a dichotomy.

**Work Environment:** The conditions in which healthcare professionals work. Data is measured using a questionnaire, the measurement scale uses a dichotomy.

**Length of Employment:** The length of time a health professional has worked. Data is measured using a questionnaire, the measurement scale uses a dichotomy.

**Workload:** The perceived workload of healthcare professionals. Data is measured using a questionnaire, the measurement scale uses a dichotomy.

### 6. Instrument

Assessing the quality of the main article in this research uses a cross-sectional critical appraisal checklist which has been published by Sebelas Maret University (UNS, 2023).

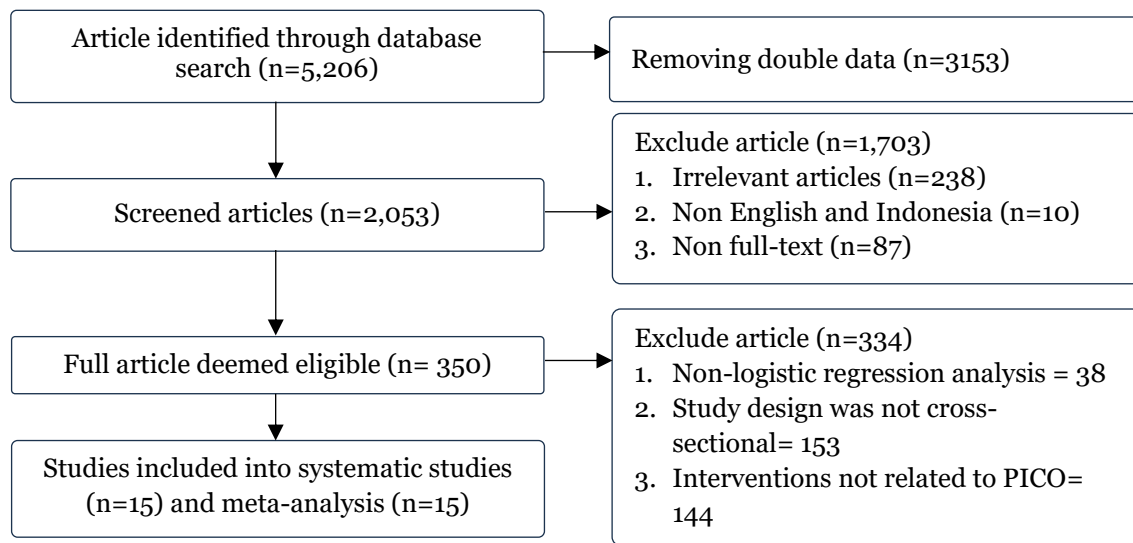
### 7. Data Analysis

The articles in this study were collected using PRISMA diagrams and analyzed using the Review Manager 5.3 application by calculating aOR and heterogeneity ( $I^2$ ) to determine the combined research model and form the final results of the meta-analysis. The results of data analysis are presented in the form of forest plots and funnel plots.

## RESULTS

The search process for primary articles related to the influence of gender, insurance, waiting time and visits on outpatient satisfaction. In this meta-analysis research, it was carried out on 4 online databases and the results obtained were 20 articles which can be seen in Figure 1 PRISMA diagram.

The results of the articles that met the qualitative requirements were reviewed again and there were 14 articles that met the quantitative requirements and the independent variables Autonomy, Work Environment, Work Experience and Workload totaling 15 articles. The search review process can be seen in the PRISMA Flow Diagram in Figure 1. Figure 2 summarizes the distribution of studies included in the meta-analysis. The following are the results of the CASP assessment for a cross sectional study.



**Figure 1. PRISMA Flowchart**



**Figure 2. Map of the distribution of meta-analysis research articles**

**Table 1. Quality Assessment of Meta-Analysis Article Studies**

Primary Study	Criteria													Total
	1a	1b	1c	1d	2a	2b	3a	3b	4	5	6a	6b	7	
Asegid et al. (2014)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Worku et al. (2019)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Tadesse et al. (2023)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Beramendi et al. (2019)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Mekonnen et al. (2022)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Ayalew & workineh (2020)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Wubetie et al. (2020)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Bonenberger et al. (2014)	2	2	2	2	2	2	2	2	2	2	2	2	2	26

Primary Study	Criteria													Total
	1a	1b	1c	1d	2a	2b	3a	3b	4	5	6a	6b	7	
Grace et al. (2019)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Getie et al. (2015)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Girma et al. (2021)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Dellie et al. (2019)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Ferede et al. (2018)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Gebregziabher et al. (2019)	2	2	2	2	2	2	2	2	2	2	2	2	2	26

**Description of the answer score:**

0= No

1= Hesitant

2= Yes

**Question criteria descriptions:****1. Formulation of research questions in the acronym PICO**

- Is the population in the primary study the same as the population in the PICO meta-analysis?
- Is the operational definition of intervention, namely the exposed status in the primary study the same as the definition intended in the meta-analysis?
- Is the comparison or the unexposed status used by the primary study, the same as the definition intended in the meta-analysis?
- Are the outcome variables examined in the primary study the same as the definition intended in the meta-analysis?

**2. Methods for selecting research subjects**

- In analytical cross-sectional studies, does the researcher select samples from the population randomly?
- As an alternative, if in a cross-sectional analytical study the sample is not selected randomly, does the researcher select the sample based on outcome status or based on intervention status?

**3. Methods for measuring exposure (intervention) and outcome**

- Are the exposure and outcome variables measured with the same instruments (measuring tools) in all primary studies?

- If the variable is measured on a categorical scale, are the cutoffs or categories used the same across primary studies?

**4. Design-related bias**

If the sample was not chosen randomly, has the researcher made efforts to prevent bias in selecting research subjects? For example, in selecting subjects based on outcome status it is not affected by exposure status (intervention), or in selecting subjects based on exposure status (intervention) it is not affected by outcome status?.

**5. Methods for controlling confusion**

Have primary study investigators made efforts to control the influence of confounding (for example, conducting multivariate analysis to control for the influence of a number of confounding factors)?

**6. Statistical analysis methods**

- Did the researcher analyze the data in this primary study using a multivariate analysis model (for example, multiple linear regression analysis, multiple logistic regression analysis)?
- Does the primary study report effect sizes or relationships resulting from multivariate analysis (eg, adjusted OR, adjusted regression coefficient)?

**7. Conflict of interest**

Is there no possibility of a conflict of interest with the research sponsor, which could cause bias in concluding the research results?

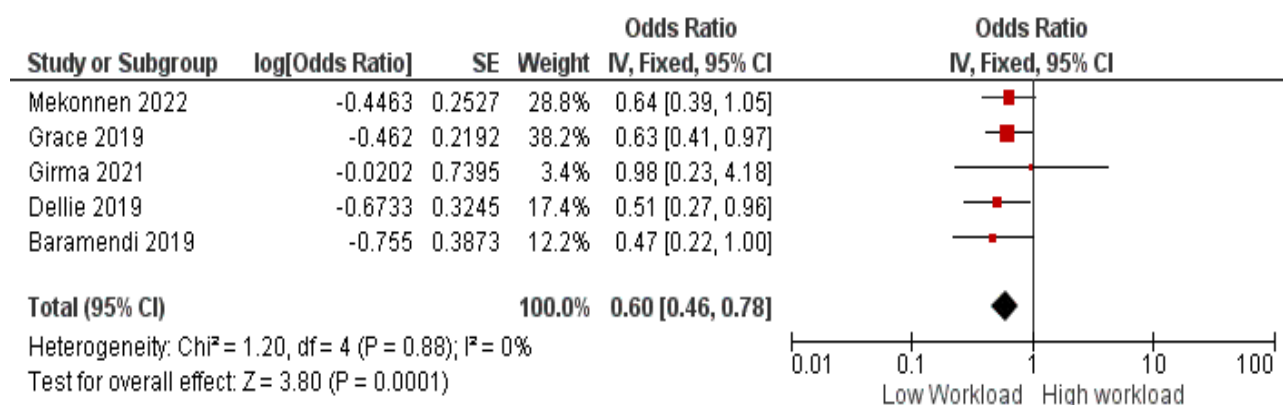
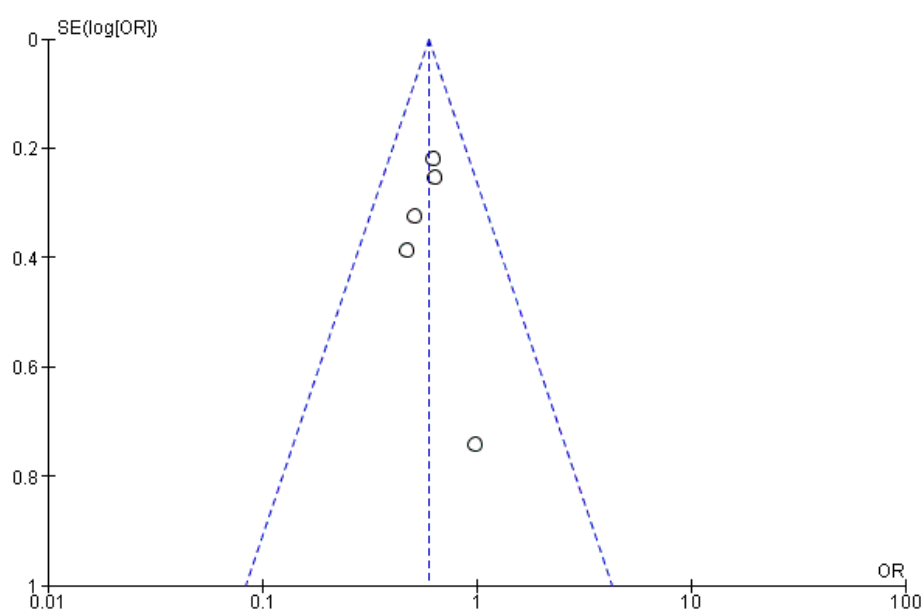


**Table 2. Table PICO summary of cross-sectional source articles on the influence of gender on outpatient satisfaction with sample size (n=2,002,794)**

Author	Country	Sample	P	I	C	O
Asegid, et al (2014)	Ethiopia	242	Nurses	Autonomy satisfied	Autonomy dissatisfied	Intention to leave
Chandra et al. (2019)	Portugal	410	Outpatients	≥10 Years experience	<10 Years experience	Satisfaction with Health Services
Worku, et al (2019)	Ethiopia	382	Health Workers	Living with Family	Living out of family	Intention to leave
Goben et al. (2020)	Ethiopia	589	Outpatients	≥6 Years experience	<6 Years experience	Satisfaction with Health Services
Tadesse, et al (2023)	Ethiopia	393	Nurse Professions	8-11 Years experience	<8 Years experience	Intention of nurses to leave
Ke et al. (2020)	China	1,990,000	Outpatients	Yes, safety of the working environment	No safety of the working environment	Satisfaction with Health Services
Beramendi, et al (2019)	Peru	5062	Peruvian Health-care workers	Yes, Burnout workload	No Burnout workload	Intention to emigrate
Mekonnen, et al (2022)	Ethiopia	427	Health Professionals	Job Satisfied	Job not satisfied	Intention to leave
Quyen et al. (2021)	Vietnam	4,327	Outpatients	Workload Not loaded	workload Loaded	Satisfaction with Health Services
Sagaro et al. (2015)	Ethiopia	421	Outpatients	Autonomous	Not autonomous	Satisfaction with Health Services
Ayalew and workineh (2020)	Ethiopia	210	Nurses	Agree Working Condition	Disagree working Condition	Intention to leave
Wubetie, et al (2020)	Ethiopia	102	Nurses working in emergency	5-9 Years experience Satisfied	<5 Years experience Unsatisfied	Turnover Intention
Bonenberger, et al (2014)	Ghana	256	Health Workers	Autonomy Good work environment	Autonomy Bad work environment	Turnover Intention
Grace, et al (2019)	Amerika	244	Clinicians	Burnout	not burnout	Workforce turnover
Getie, et al (2015)	Ethiopia	372	Nurses	live with	live far	Turnover Intention
Girma, et al (2021)	Ethiopia	402	Health Professionals working at primary health care	Autonomy High 6-15 years experience	Autonomy Low <6 Years experience	Turnover Intention
Dellie et al (2019)	Ethiopia	336	laborant	Low satisfied workload High satisfied work environment High workload	High satisfied workload low satisfied work environment Low workload	Intention to leave
Gebregziabher, et al (2020)	Ethiopia	148	Nurses	Satisfied work environment Satisfied Autonomy	dissatisfied work environment dissatisfied autonomy	Turnover Intention

**Table 3. Data adjusted Odd Ratio (aOR) Effect of workload on desire to leave work (n= 6,471)**

Author (Year)	aOR	CI 95%	
		Lower Limit	Upper Limit
Baramendi 2019	0.47	0.22	0.95
Mekonnen 2022	0.64	0.39	1.04
Grace 2019	0.63	0.41	0.98
Girma 2021	0.98	0.23	5.00
Dellie 2019	0.51	0.27	0.96

**Figure 3. Forest plot of the influence of workload on the desire to leave****Figure 4. Funnel plot of the influence of workload on the desire to leave**

The forest plot in Figure 3 shows that there is an influence of workload on the desire to leave among health workers. Health workers who have a low workload have a desire to leave work 0.60 times compared to health workers who have a high workload and this

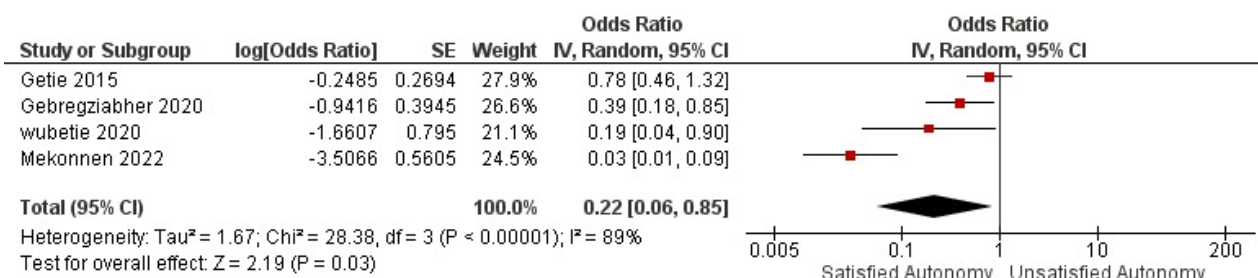
is statistically significant (aOR=0.60; CI 95%= 0.46 to 0.78;  $p < 0.001$ ). The funnel plot in Figure 4 shows the distribution of effect estimates between studies balanced between the right and left of the vertical line of mean estimates. The forest plot in Figure

3 shows low variation in effect estimates between studies ( $I^2=0\%$ ;  $p<0.001$ ). Thus, the

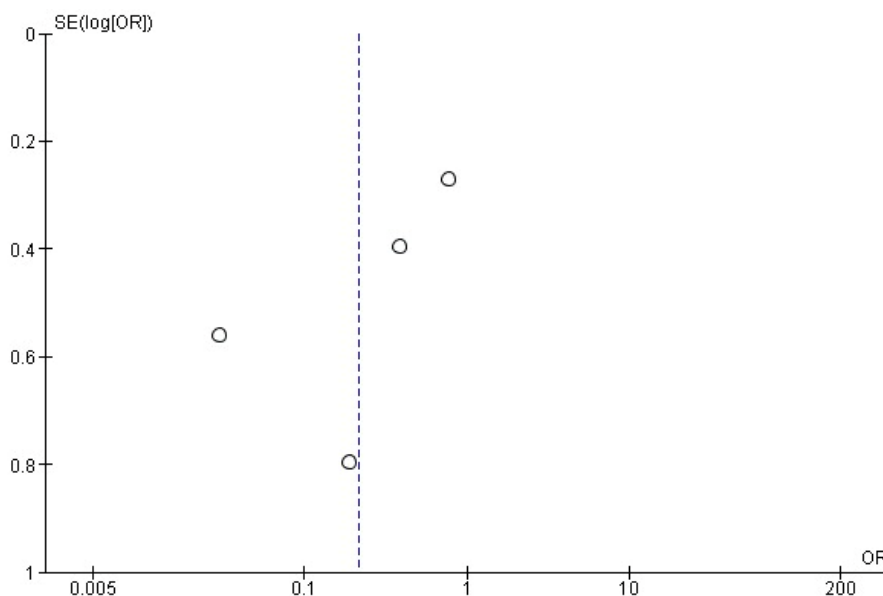
calculation of the average estimated effect uses a fixed effect model approach.

**Table 4. Data adjusted Odd Ratio (aOR) Autonomy satisfaction on desire to leave work (n=1,049)**

Author (Year)	aOR	CI 95%	
		Lower Limit	Upper Limit
Mekonnen 2022	0.03	0.01	0.09
Wubetie 2020	0.19	0.04	0.90
Getie 2015	0.78	0.46	1.33
Gebregziabher 2020	0.39	0.18	0.52



**Figure 5. Forest plot of the influence of autonomy satisfaction on the desire to leave**



**Figure 6. Funnel plot of the influence of insurance on patient satisfaction with health services**

The forest plot in Figure 5 shows that there is an influence of autonomy satisfaction on the desire to leave among health workers. Health workers who have high autonomy satisfaction have a desire to leave work 0.22 times compared to health workers

who have low autonomy satisfaction and this is statistically significant (aOR= 0.22; 95% CI=0.06 to 0.85;  $p=0.030$ ). The funnel plot in Figure 6 shows the distribution of effect estimates between studies balanced between the right and left of the vertical line

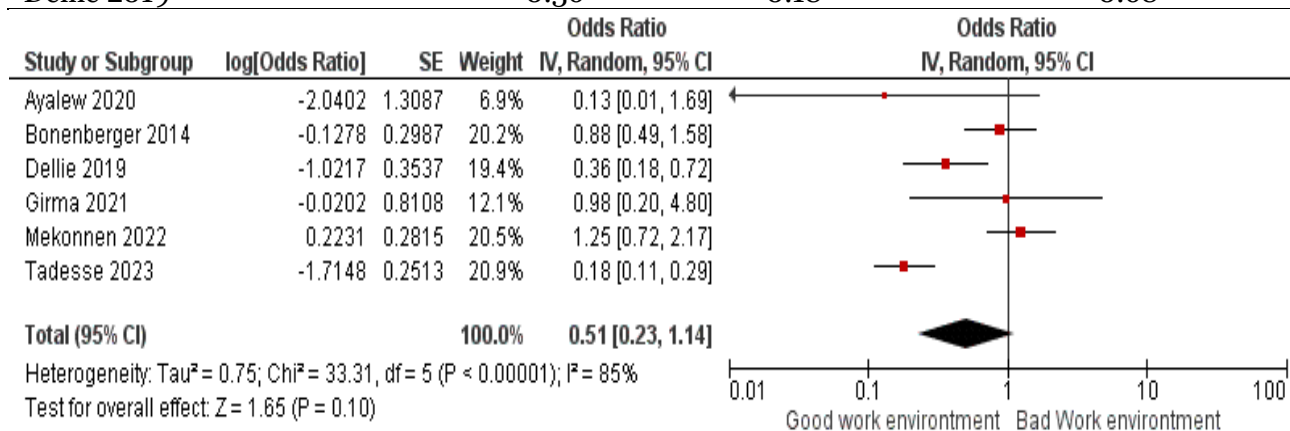


of mean estimates. Figure 6 shows that there is no bias in the study. The forest plot in Figure 5 shows the variation in estimated effect height between studies ( $I^2 = 84\%$ ;

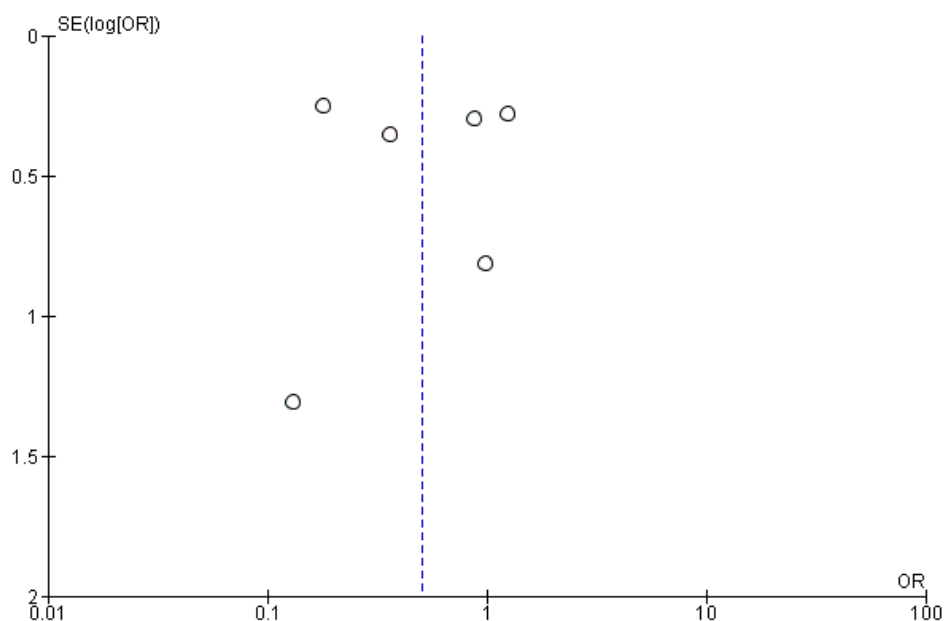
$p=0.030$ ). Thus, the calculation of the average estimated effect uses a random effect model approach.

**Table 5. Data adjusted Odd Ratio (aOR) Influence of work environment on desire to leave work (n=2,024)**

Author (Year)	aOR	CI 95%	
		Lower Limit	Upper Limit
Tadesse 2023	0.18	0.11	0.32
Mekonnen 2022	1.25	0.72	2.13
Ayalew 2020	0.13	0.01	1.39
Bonenberger 2014	0.88	0.49	1.59
Girma 2021	0.98	0.20	5.00
Dellie 2019	0.36	0.18	0.68



**Figure 7. Forest plot of the influence of the work environment on the desire to leave**



**Figure 8. Funnel plot of the influence of the work environment on the desire to leave**

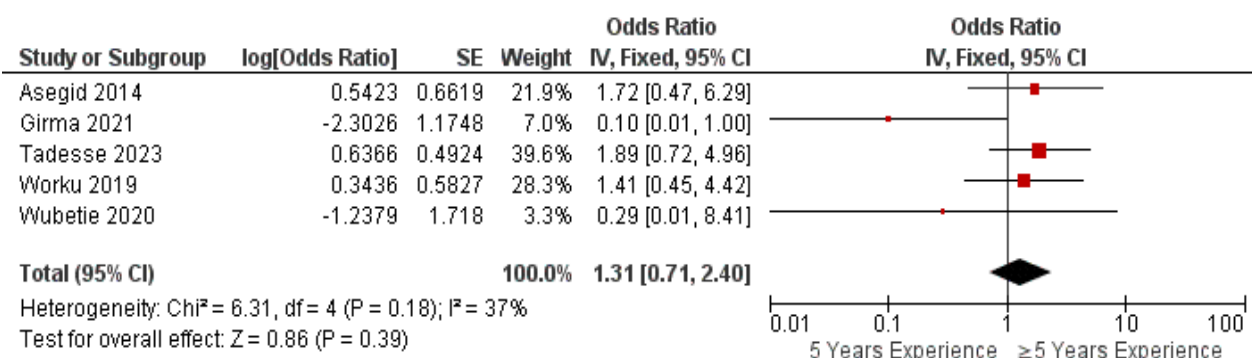
The forest plot in Figure 7 shows that there is an influence of the work environment on the desire to leave among health workers. Health workers who have a good work environment have a desire to leave work 0.51 times compared to health workers who have a bad work environment, but this is not statistically significant (aOR=0.51; 95% CI=0.23 to 1.14; p=0.100). The funnel plot in Figure 8 shows the distribution of effect

estimates between studies balanced to the right and left of the vertical line of the mean estimate. Figure 8 shows that there is no bias in the study.

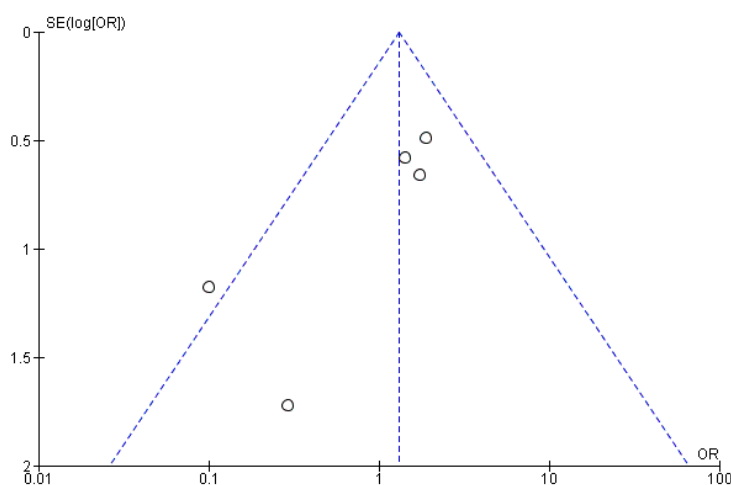
The forest plot in Figure 7 shows the variation in estimated effect height between studies ( $I^2=85\%$ ;  $p=0.100$ ). Thus, the calculation of the average estimated effect uses a random effect model approach.

**Table 8. Data adjusted Odd Ratio (aOR) Effect of work experience on desire to leave (n=1,521)**

Author (Year)	aOR	CI 95%	
		Lower Limit	Upper Limit
Tadesse 2023	1.89	0.72	4.98
Asegid 2014	1.72	0.47	6.25
Worku 2019	1.41	0.45	4.43
Girma 2021	0.10	0.01	0.30
Wubetie 2020≥	0.29	0.01	5.88



**Figure 9. Forest plot of the influence of work experience on the desire to leave**



**Figure 10. Funnel plot of the influence of work experience on the desire to leave**

The forest plot in Figure 8 shows that there is an influence of work experience on the desire to leave for health workers. Health workers with  $\geq 5$  years of experience have a desire to leave work 1.31 times compared to health workers who have  $< 5$  years of work experience, which is not statistically significant (aOR=1.31; 95% CI=0.71 to 2.40; The funnel plot in Figure 10 shows the distribution of effect estimates between studies balanced between the right and left of the vertical line of mean estimates. Figure 10 shows that there is a bias in research with underestimate bias due to 2 studies with 2 points that tend to the left of the vertical line. The forest plot in Figure 9 shows low variation in effect estimates between studies ( $I^2=37\%$ ;  $p=0.390$ ). Thus, the calculation of the average estimated effect uses a fixed effect model approach.

## DISCUSSION

### 1. The Influence of Workload on the Desire to Leave

In this study, it was found that there was an influence of workload on the desire to leave among health workers. Health workers who have the desire to go out to health workers. Health workers who have a low workload have a desire to leave work 0.60 times compared to health workers who have a high workload and this is statistically significant (aOR=0.60; 95% CI= 0.46 to 0.78;  $p<0.001$ ).

This research is in line with research stated by Dousin et al (2020) that nurses tend to have a great desire to leave work due to the very high workload carried out by them while they work. It was further explained that nurses who stay on the job longer tend to have a clear workload and are not in the high workload group.

According to researchers, high workloads cause great fatigue experienced by health workers, continuous fatigue will make health workers feel unable to continue

working and ultimately have the desire to leave their jobs.

### 2. The Influence of Autonomy Satisfaction on the Desire to Leave

The results of this study showed that there was an influence of autonomy satisfaction on the desire to leave among health workers. Health workers who have high autonomy satisfaction have a desire to leave work 0.61 times compared to health workers who have low autonomy satisfaction and this is statistically significant (aOR=0.61; 95% CI=0.17 to 2.12;  $p=0.440$ ).

This research is in line with research conducted by Worth, et al (2020) which states that satisfaction with autonomy in workers greatly influences their perception of job satisfaction. Workers who are given greater autonomy rights are less likely to feel that they are given a large workload than someone who is given low autonomy rights even with the same portion of work.

### 3. The Influence of the Work Environment on the Desire to Leave

The results of this research show that there is an influence of the work environment on the desire to leave among health workers. Health workers who have a good work environment have a desire to leave work 0.51 times compared to health workers who have a bad work environment, but this is not statistically significant (aOR=0.51; 95% CI=0.23 to 1.14;  $p=0.100$ ).

According to Alharbi et al (2020), a good work environment, such as supportive coworkers and good work bosses, tends to eliminate nurses' desire to leave work. A good work environment will produce good emotions in workers so that workers can carry out their duties well without any problems that involve their emotions.

### 4. The Influence of Work Experience on the Desire to Leave

The results of this research showed that there was an influence of work experience on the

desire to leave among health workers. Health workers with  $\geq 5$  years of experience have a desire to leave work 1.31 times compared to health workers who have  $< 5$  years of work experience but this is not statistically significant (aOR=1.31; 95% CI=0.71 to 2.40;  $p=0.390$ ).

The results of this research are in line with research conducted by Dorigan et al (2020) which states that professional workers who work longer in a place feel bored and uncomfortable with the climate or atmosphere in the workplace so they tend to have a greater possibility of having the intention to quit a job.

#### AUTHOR CONTRIBUTION

Fany Nurul Fawzi is a researcher who chooses topics, searches for and collects research data. Setyo Sri Raharjo and Burhannudin Ichsan analyzed the data and reviewed research documents.

#### CONFLICT OF INTEREST

There was no conflict of interest in the study.

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