



Research article

Nurses' intention to leave their job in sub-Saharan Africa: A systematic review and meta-analysis

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ABSTRACT

Introduction: Nurses' intention to leave their job is a worldwide concern. Internal and external brain drain factors are the main reason for nurses' intention to leave their job. So far, in Sub Sahara Africa, several observational studies have been done on nurses' intention to leave their job. However, a comprehensive review that would have a lot of evidence for designing an intervention is lacking. Hence, this study aimed to the pooled status of nurses' intention to leave their job.

Methods: In the current meta-analysis, the target variables were searched from different electronic databases. These electronic databases are Pub Med, Google Scholar, Science Direct, African Index Medicus, African Journal Online, EMB ASE, and the Cochran Library. To determine the pooled proportion of intention to leave their job in Sub-Saharan Africa, all the necessary data was extracted by using a standardized data extraction format. We analyzed the data by using Stata 15 statistical software. Heterogeneity between the primary studies assessed by Cochran Q and I-square tests. A random-effect model computes to estimate the pooled nurses' intention to leave their job.

Result: We included fifteen full-text studies in the current meta-analysis. The findings of this meta-analysis revealed that the pooled proportion of nurses' intention to leave their job in sub-Saharan Africa was 50.74% (95% CI; 41.33, 60.14; I² = 95.80%). The subgroup analysis showed that the highest pooled proportion of intention to leave their job (58.03% (95% CI: 47.93, 68.12)) in East Africa. The lowest pooled estimation to leave their job among nurses showed that South Africa (33.04% (95%CI: 20.45, 45.63)).

Conclusion: In the current study, there was a high proportion of nurses indentation to leave their job. Nurses' intention to leave their job also varied from region to region in the study area. Therefore, health managers and stakeholders focus on design sufficient development and career opportunities, positive working atmosphere, and secure their autonomy.

1. Introduction

Intention to leave (ITL) is outlined as an individual predictable likelihood that they are in good going, the organization at some purpose within near the future or some nominal amount of time [1, 2]. ITL is a well-studied concept that researchers have explained in numerous ways. The reason for ITL is the connection of the current community or employer [3].

Nurses' ITL their profession is an alarming in that several caregivers have an intention to leave their job and may be indicative that nurses do not seem to be committed to their job [4]. Nurses' ITL their job is a

drawback worldwide, particularly in developing countries, notably in Africa. This problem usually brings losing of competent and qualified nurses [4, 5, 6]. As a result of such events, the shortage of nurses has created a health care crisis in developing countries and adversely affected the quality of nursing care provided to the patient [7, 8].

Nursing shortages are a worldwide concern, and the resignation of currently employed nurses left the jobs [9, 10]. Work dissatisfaction would result in burn out and staff turnover, which could exacerbate understaffed of health facilities [11]. In Hong Kong public hospitals, the overall nursing turnover rate is 4.5% and can exceed 5% in emergency wards [12]. The studies in Belgian reported that the prevalence rate of

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intention to leave the job is significantly higher among nurses [13]. The ITL negatively affects the healthcare industry and the need for more skilled professionals due to advanced medical technology and additional refined demand for patient care [14].

According to studies conducted in the United States, Tanzania, Ghana, and South Africa sectors reported that the health facilities faced increased structure value and dried-up patient outcomes due to high levels of nurses ITL their profession [15, 16, 17, 18]. The nursing profession is essential to the health care delivery system to satisfy the health-related sustainable development goal. However, shortages of nurses have an impact on the health care delivery system [19].

Research conducted in Northern Italy disclosed that nurses' dissatisfaction with pay, organizational policies, and age ≥ 40 years had caused higher intention to leave their job [20]. Similar studies in ten European countries revealed that fresh qualified and nurses nearing retirement were in the ITL their job [21]. Another study in Ethiopia indicated that nurses with a lack of transport and lower payment were at a high level of intention to leave than their counterparts [22, 23, 24, 25, 26, 27].

Another report from the Gambella region Southwest Ethiopia reported that the overall nurses' intention to leave their job was 59.1% [28]. Similar studies carried out in Tanzania (18.8%), Malawi (26.5%), and South Africa (41.4%) had the intention to leave their job to seek employment elsewhere [29]. Intention to leave did not always follow the action and vice versa that may crop up some day before (from two to three years) going (the unit, the hospital, or the nursing profession) or the ultimate call to remain [30].

Nurses intended to leave their job have an impact on the performance of medical care systems. Different health care institutions are facing a lack of trained and committed nursing employees. Many studies conducted the level and associated factors of nurses' ITL jobs in sub-Saharan Africa. However, there are discrepancies among studies observed, and that did not show a clear picture of the issue in sub-Saharan Africa. Therefore, this study aimed to determine the pooled level of nurses' ITL in their job and its predictors in Sub Sahara Africa using systematic review and meta-analysis.

2. Method

2.1. Protocol and registration

The results of this review were reported based on the Preferred Reporting Items for Systematic Review and Meta-Analysis statement (PRISMA) guideline (supplementary file-PRISMA checklist) [31].

2.2. Eligibility criteria

The inclusion criteria were: 1) cross-sectional studies reported on the level of nurses' intention to leave their job, 2) studies conducted in Sub Sahara African countries, 3) studies published in English, and 4) studies available in the electronic source before February 2019. We excluded citations without abstract, full-text, anonymous reports, editorials, and qualitative studies from the analysis.

2.3. Information sources

The authors implemented the electronic search in the following electronic databases: PubMed, Google Scholar, Science Direct, African Index Medics, African Journal Online, Embase, and Cochran Library. Articles with incomplete reported data were handled by contacting corresponding authors.

2.4. Searching strategy

The core search terms and phrases were "intention", "leave", "nurses", "job", "profession", and "Angola", "Benin", "Botswana", "Burkina Faso", "Burundi", "Cameroon", "Cape Verde", "Central African Republic",

"Chad", "Comoros", "Congo Brazzaville", "Democratic Republic Congo", "Côte d'Ivoire", "Djibouti", "Equatorial Guinea", "Eritrea", "Ethiopia", "Gabon", "Gambia", "Ghana", "Guinea", "Guinea-Bissau", "Kenya", "Lesotho", "Liberia", "Madagascar", "Malawi", "Mali", "Mauritania", "Mauritius", "Mozambique", "Namibia", "Niger", "Nigeria", "Rwanda", "Sao Tome and Principe", "Senegal", "Seychelles", "Sierra Leone", "Somalia", "South Africa", "Sudan", "Swaziland", "Tanzania", "Togo", "Uganda", "Zambia" and "Zimbabwe" were the main key searching terms used to search from November 9, 2019, to February 12, 2020. "OR" or "AND" were used separately and in combination as Boolean operators.

2.5. Study selection and quality assessment

All citation identified by our search strategy, which was potentially eligible for inclusion, was exported to reference manager software, Endnote version 7, to remove duplicate studies. Four (EA, YW, AS, and TW) independent reviewers screened titles and abstracts for each paper. Three authors (BZ, HG, and SK) assessed the standard of the studies by using Joanna Briggs Institute quality appraisal criteria (JBI) and Newcastle-Ottawa [32, 33] data extraction format to extract the data. We considered the following inclusion criteria for the selected studies [34]. Such as [35] description of the study subject and setting; [III] valid and reliable measure of exposure; [IV] focused the objective of the study; [V] identification of cofounder; [VI] methods to handle cofounder; [VII] outcome measurement; and [VIII] appropriate applied mathematical analysis. We resolved the disagreements between the authors by a consensus. Studies got 50% and higher than the standard scale were thought-about low risk.

2.6. Data extraction

Four authors (EA, YW, TW, and AS) independently searched the studies, articles, and reports and extracted all necessary knowledge employing a standardized knowledge extraction format using Microsoft Excel. The data extraction format included primary author, publication year, country, region, measuring tool, study design, response rate, sample size, and prevalence. Then, three independent authors (HG, BZ, and SK) independent authors conducted the abstract and full-text review. Finally, all authors participated in a breakdown of the disagreement.

2.7. Statistical analysis

We checked publication bias by funnel plot and more objectively through Begg's and Egger's regression test [36]. The heterogeneity of the observational studies identified using the I-squared statistic, in which low (25%), moderate (50%), and high (75%) [37, 38].

Pooled analysis was conducted by using a weighted inverse variance random-effects model [39]. Subgroup analysis conduct using the study variable like region and intention to leave measuring tools. Sensitivity analysis was employed to see the effect of a single study on the overall estimation. To conduct a meta-analysis, we use STAT version 15 statistical software.

The point prevalence with its corresponding 95% confidence interval confirms by using a forest plot. During this forest plot, the dimensions of every individual box discovered the burden of the study, whereas every crossed line refers to a 95% confidence interval.

3. Results

3.1. Characteristics of reviewing studies

Initially, identified 1650 studies concerning nurses' intention to leave their job through Pub Med, Cochran Library, Web of Science, Google Scholar, and other sources. Sixty-eight records search from other sources. Out of 1718 studies, we excluded 1626 studies because the duplication, title, and abstract did not fit our pre-test criteria. Of the rest ninety-two studies, fifty-six studies exclude they did not fulfil our inclusion criteria

by reviewing their titles and abstracts. Finally, 46 studies were screened for full-text review and 15 were to the prevalence and/or associated factors analysis (Figure 1).

Data for the fifteen eligible studies were extracted and analyzed in this study. To determine the pooled estimated proportion of nurses intended to leave their job by using 6,389 nurses. The prevalence of nurses intent to leave their job in Sub-Saharan ranged from 18.8 to 63.7% [24, 29]. All the fifteen studies were conducted by cross-sectional study design. Among these, nine studies were found in Ethiopia [6, 19, 22, 23, 24, 25, 26, 27, 28], two in Tanzania [16, 29], two in South Africa [17, 29], one in Ghana [18], and one in Malawi [29] (Table 1).

3.2. Meta-analysis

3.2.1. Prevalence of nurses ITL their job

In the current study, the pooled overall ITL of nurses was 50.74% (95% CI; 41.33, 60.14%). Severe heterogeneity was observed across the studies ($I^2 = 95.80$, $p = 0.000$) (Figure 2). In this study, the pooled prevalence of nurses' intention to leave in their job with a prediction interval was 51.96% (95% CI: 42, 47, 61.45%) (Figure 3).

3.2.2. Subgroup analysis

As a result of severing heterogeneity, we performed a subgroup analysis based on the region. In this regard, the prevalence was higher in East Africa with 58.03% (95% CI: 47.93, 68.12%, $I^2 = 94.0$, $p = 0.000$) as compared to South Africa with prevalence of 33.04% (95%CI: 20.45, 45.63, $I^2 = 92.9$, $p = 0.000$) (Figure 2).

3.2.3. Publication bias

A funnel plot showed an asymmetrical distribution (Figure 4). The result of the Egger test was also statistically significant with $BO = 0.042$ (95% CI 0.038, 0.045) and $p < 0.001$. We used trim fill analysis to

Table 1. Test for funnel plot asymmetry (Egger's test) of nurses' intention to leave their job in sub-Saharan Africa.

Std_Eff	Coef.	Std. Err.	t	P> t	[95% Conf. Interval
slope	4.687333	.387704	12.09	0.000	3.849749 5.524916
bias	-.2348428	.1215633	-1.93	0.075	-.4974643 .0277787

Test of H0: no small-study effects $P = 0.075$.

Number of studies = 15; Root MSE = .1202.

investigate the source of heterogeneity by filling nine observational studies. In this analysis, the pooled prevalence of nurses' ITL was 27.177% (CI: 17.088, 37.266) (Figure 4) (see Figures 5 and 6).

4. Discussion

This study revealed that the pooled prevalence of intention to leave among nurses was 51.96%. This finding was lower than the studies conducted in Alexandria (68%), China (63.88%), and Jordan (60.9%) [8, 40, 41]. However, in Israel (9%) [42], Europe (33%) Australia (21%), Switzerland (28.7%), Turkey (17%), Brazil (21.1%) [43] and Saudi hospital (26%) of the nurses were ITL their job [44]. The higher level of nurses' intention to leave their job in the present study compared to the study conducted in Israel, Europe, Australia, Switzerland, Turkey, Brazil, and Saudi due to variations in motivational and hygienic factors for retention mechanism.

Such difference might be because developed countries use better nurse retention mechanisms. Such as modern health facilities, an effort to increase the numbers of nursing staff, pay incentives, opportunities for flexible employment, and career staff advancement compared to Sub-Saharan Africa countries [45, 46]. Similarly, other studies conducted in eight European countries revealed that lower level (13.9%) of nurses had the intention to leave their job.

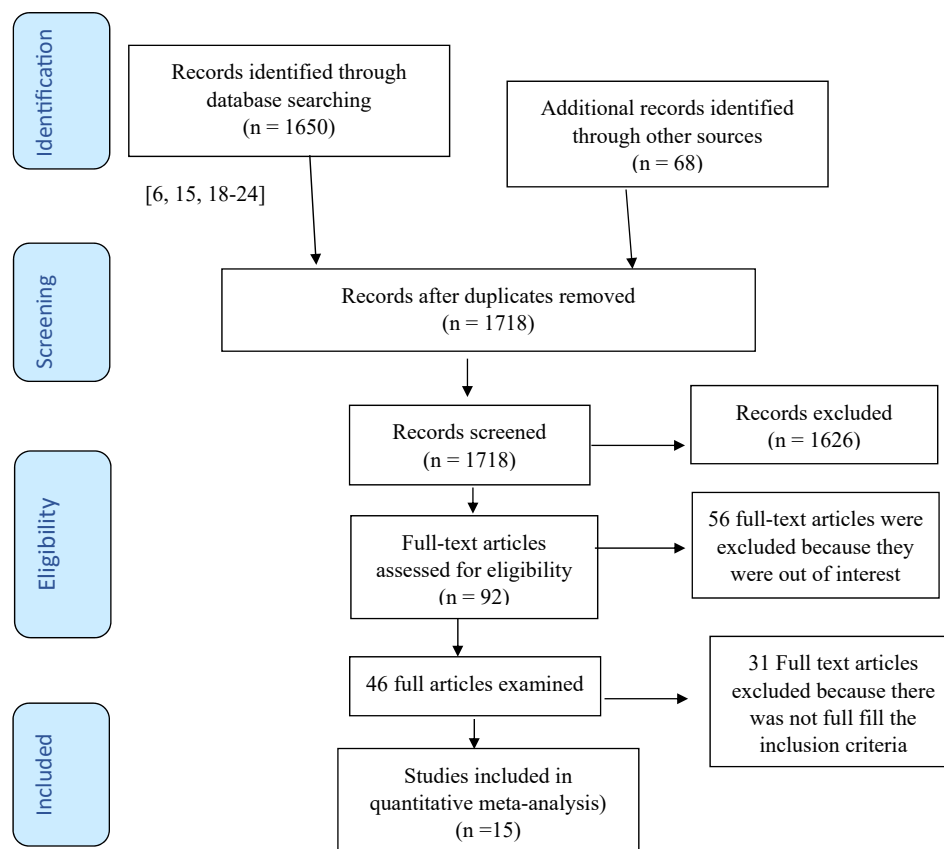


Figure 1. Flowchart to a selection of studies for a systematic review and meta-analysis of the nurse's intention to leave their job in Sub Saharan Africa, 2019.

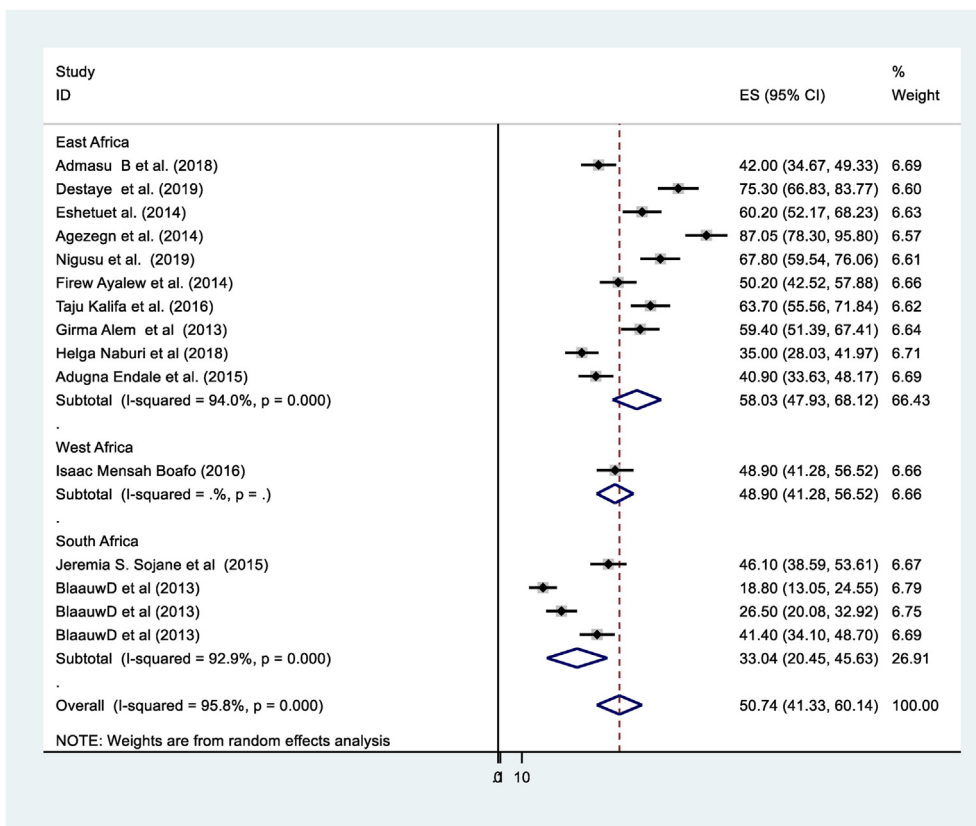


Figure 2. Sub group analysis of nurse's intention to leave their job in sub Saharan Africa, 2019 (n = 15).

However, in this study, the level of intention showed considerable differences between the participating countries, with a high proportion (>15%) in Italy and Germany, medium-level (10–15%) in France, Finland, and Poland, and low-level proportions (<10%) in Belgium, Slovakia, and the Netherlands [30]. In this regard, factors like work overload, poor economic situation, little chance of

promotion, lack of recognition, and low job rewards are factors behind the nurses' intention to leave their profession in developing countries are more common than in developed countries [47]. Therefore, in sub-Saharan Africa, nurses' intention to leave their job remains a concern to the government and the public health sectors [6, 8, 14].

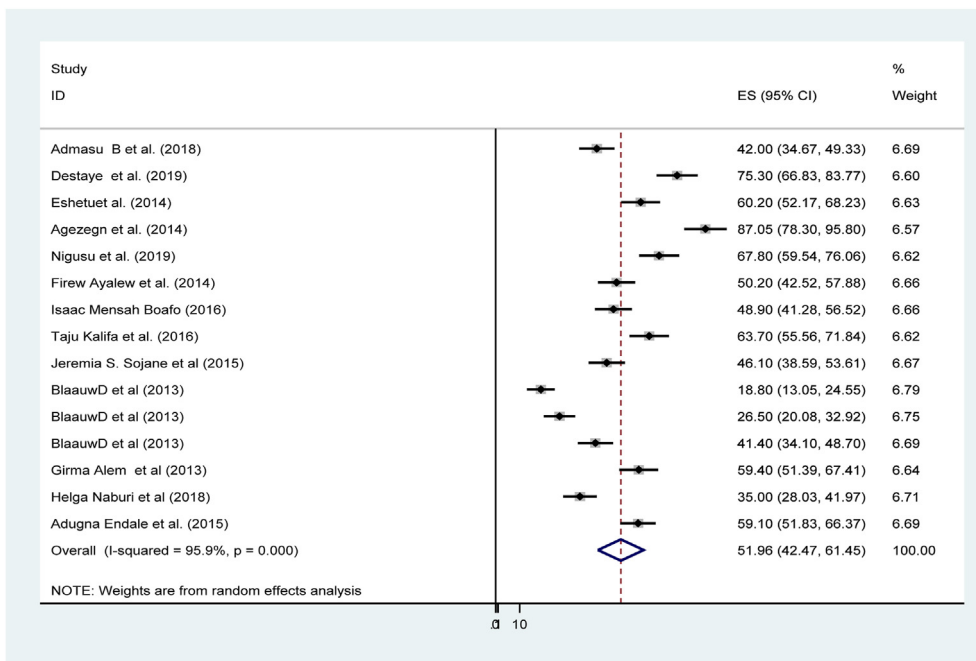


Figure 3. Forest plot for pooled prevalence of nurses' intention to leave with prediction interval (n = 15).

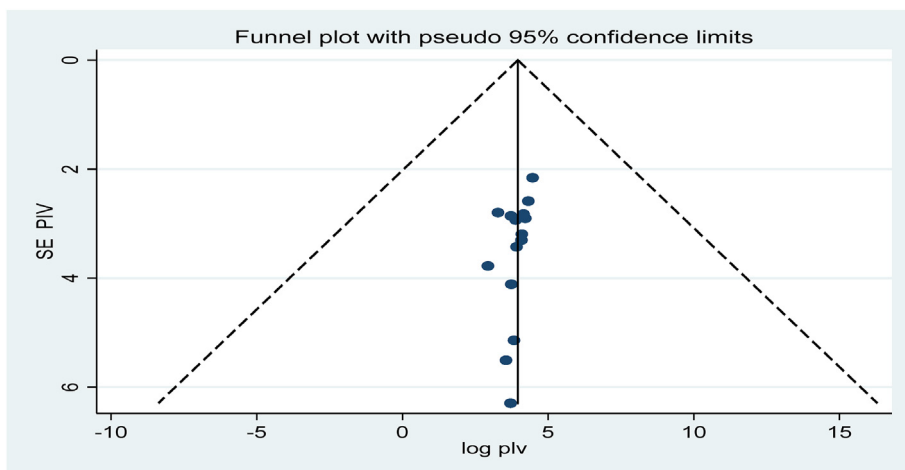


Figure 4. Funnel plot for publication bias, logprop or ln_p (Log of proportion) represented in the X-axis and standard error of log proportion in the Y-axis.

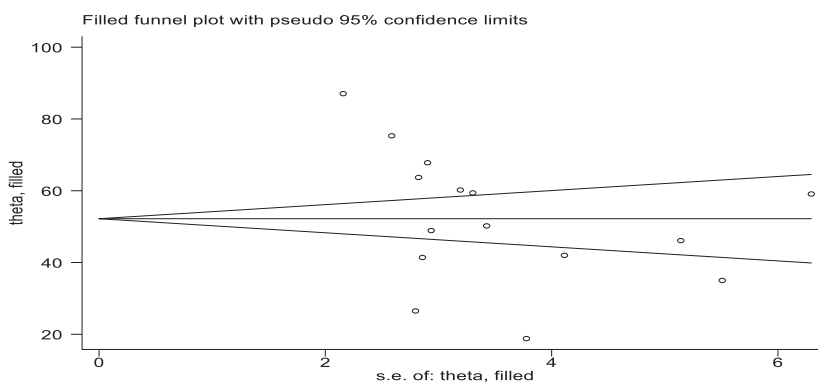


Figure 5. The trim fill analysis showed the pooled prevalence when the unpublished studies are filled.

Positive environmental practices are enhanced recruitment and retention of the nursing workforce; strategies for continuous professional development; adequate employee compensation; recognition programs; sufficient equipment and supplies; support and respect; and safe working environments. Staffing levels using workforce planning, a positive impact

on the working conditions of nurses. Conversely, shortages of nurses, increase nurses' workloads, and insufficient staffing patterns and skill mix all have a negative impact and need to be addressed [48, 49].

The intention to leave is an indicator that can be assessed continuously at the organization level to inform the human resource planning in

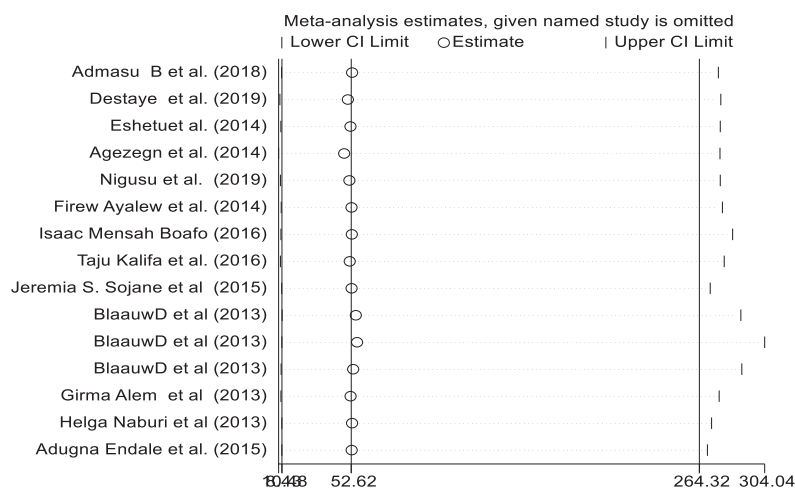


Figure 6. The sensitivity analysis showed the pooled prevalence when the studies omitted step by step.

nursing. That evaluation can reveal trends among different types of health care institutions; when conducted in detail, it will allow this phenomenon to prevent most effectively. On the other hand, nurses' ITL has hurt organizational costs and productivity. It also contributes to the negative impacts on care quality.

Subgroup analysis pointed out that the prevalence of nurse's intention to leave their job was 58.03 % in East Africa and 33.04% in the Southern Africa regions.

The sub-group analysis indicated that there is substantial heterogeneity of the issue under study across the sub-Saharan countries. Nurses intended to leave their job highest in East Africa. Such difference might be due to nurses' social and cultural variation across the respective regions. Nevertheless, of this high level of ITL, their job in East Africa affects the organizational cost and professional crises.

Hence, special attention is given to the health sectors to reduce nurse's intention to leave their job. The other reason for the lower prevalence in other sub-Saharan African countries might be an insufficient number of studies were included in the review process. Therefore, this finding further emphasizes the importance of nursing shortages in determining fluctuations in nurses' considerations of leaving their profession, even in a short time interval.

5. Limitation

This meta-analysis has a few limitations. Even though most of the studies had good quality, all the primary studies were cross-sectional limited in this study. In addition, although we used diverse search strategies to find all possible available literature, some grey literature, such as conference proceedings, limited to find out. Furthermore, since this didn't identify the common factors that influence nurses intended to leave their job turned limited this study.

6. Conclusion

In the current study, there was a high level of nursing intention to leave their job. Nurses' ITL was also fluctuating, and the misereres from country to country in the study area. Therefore, design sufficient development and career opportunities, a positive working atmosphere, and secure their autonomy.

Declarations

Author contribution statement

Emiru Ayalew: Conceived and designed the experiments; Performed the experiments; Wrote the paper.

Yinager Workineh: Performed the experiments; Wrote the paper.

Teshager Woldgiorgies, Ayele Semachew and Sitotaw Kerie: Analyzed and interpreted the data; Wrote the paper.

Balew Zeleke And Haileeyus Gedamu: Contributed reagents, materials, analysis tools or data; Wrote the paper.

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Data availability statement

Data will be made available on request.

Declaration of interests statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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