

COMPARISON OF PATIENT SATISFACTION LEVELS BETWEEN THE USE OF NATIONAL HEALTH INSURANCE (NHI) AND PRIVATE HEALTH INSURANCE (PHI) IN HOSPITAL FINANCING: A SYSTEMATIC REVIEW AND META-ANALYSIS

Kartika Maria Okky Simanjuntak^{1*}, Ayun Sariatmi², Cahya Tri Purnami³

^{1*, 2,3} Master of Public Health Program, Faculty of Public Health, Universitas Diponegoro Semarang
e-mail: okkyjuntak@gmail.com

*Corresponding Author

Abstract: Everyone needs access to quality healthcare to feel cared for and valued. However, in reality, the perceived disparities in coverage between National Health Insurance (NHI) and Private Health Insurance (PHI) frequently cause health services in hospitals to become a public problem. This study compares how public and private health insurance is used to pay for hospitals concerning patient satisfaction. The literature research was performed by systematically searching PubMed, ScienceDirect, Springer, and Google Scholar. The Review Manager v.5.4 and R statistical software v.3.3 are used in this study. Nine studies with 3589 patients were involved in the investigation. There was no significant difference in the proportion of satisfied patients between NHI and PHI (Prevalence odds ratio [POR] 1.18; 95% CI 0.25 – 5.47; $p=0.83$). There was no significant difference in patient satisfaction scores between NHI and PHI (Mean difference [MD] -0.49; 95% CI -6.79 – 5.81; $p=0.88$). An analysis of the tendency for publication bias was quantitatively insignificant (intercept 5.0507; 95% CI -12.37 – 22.47; $P = 0.466$). Patient satisfaction levels between NHI and PHI in hospital financing were not significantly different.

Keywords: national health insurance, private health insurance, patient satisfaction

INTRODUCTION

Everyone needs access to quality healthcare if they want to feel cared for and valued, want to assist others, and want to be treated equally in the eyes of society.(Marga et al., 2022) Achieving universal health coverage (UHC) has been a key global health policy objective in recent decades. All individuals have the right to obtain healthcare services through publicly organized risk pooling, protecting them against unaffordable medical expenses.(Erlangga et al., 2019)

Quality health services are considered quite expensive for some communities to meet their needs. Therefore, to demonstrate a sense of social justice for all people, a country will apply for national health insurance (NHI).(Marga et al., 2022) To ensure the uppermost grade of public health is reached, NHI is a health administration approved by all parts of the Indonesian nation in a united and communally supporting manner.(Febriyanti et al., 2023) In Indonesia, despite setting a goal of 95% membership coverage by the end of 2019, NHI only managed to reach 85.3%.(Putri et al., 2023)

However, in practice, health services in hospitals often become a public issue because of the perceived differences they receive, which can impact patient satisfaction. Since the public still sees the system favorably, interest in NHI services is typically minimal. People from middle-class to upper-class backgrounds favor private health insurance (PHI) over NHI.(Hasan et al., 2022) Doctors who are required to uphold the highest standards of professional conduct by their doctor's oath must make their own professional decisions regardless of the patient's financial status (Setiyowati et al., 2023).(Bhima et al., 2023)

Patient satisfaction surveys are important because they can determine patients' wishes or desires and must be carried out simultaneously with measuring other dimensions of health service quality to improve service quality.(Puspitasari et al., 2020) Patient satisfaction is measured by The degree to which a patient is happy with the medical care they received from their physician. The success of a healthcare facility is largely dependent on the satisfaction of its patients.(Manzoor et al., 2019) In the past two decades, medical professionals have paid more attention to the role of the consumer in the industrial market, service providers, patients, and clients of the healthcare system. To assess patient happiness, the contributing components must be known to develop an accurate

scientific technique by which we may make changes.(Salehi et al., 2018) This study compares patient satisfaction using NHI and PHI in hospital financing.

MATERIALS AND METHODS

This review was directed to assess the difference in patient satisfaction between private health insurance (PHI) and national health insurance (NHI) based on the protocol of Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA).

Search strategy

The literature research was performed by systematically searching PubMed, ScienceDirect, Springer, and Google Scholar using the search terms “national health insurance”, “private health insurance”, “patient satisfaction”, and “satisfactory”. All databases were searched up to October 2023.

Selection criteria

All authors screened the candidate study. Studies were included if they match the following criteria: (i) original research articles including patients’ characteristics and satisfaction; (ii) studies reporting the different satisfaction outcomes between NHI and PHI, with enough data of prevalence ratio (PR) or prevalence odds ratio (POR), and mean difference (MD).

Data extraction and risk of bias assessment

All authors extracted information from the included publications. Furthermore, any issue was resolved through consensus. The following data was gathered and presented in a predefined table from the eligible articles, including general information (first author, publication year, and study country), baseline characteristics (age and measurement tools) and endpoint parameters (PR/POR and MD). The Newcastle-Ottawa-Scale (NOS) observational study was used to evaluate the quality and risk of bias.

Statistical analysis

This study's primary outcomes were proportional differences, including PR/POR. The heterogeneity of the studies was assessed and determined using the Cochran Q-test and I² test. I² > 50% and p < 0.01 were considered a significant heterogeneity. The random effects model was used for substantial heterogeneity; otherwise, a fixed effects model was employed. Additionally, funnel plots with Egger’s tests were adopted to assess potential publication bias precisely. The Review Manager v.5.4 and R statistical software v.3.3 were used for all statistical analyses, and p-values < 0.05 were considered statistically significant.

RESULTS AND DISCUSSION

PRISMA Flowchart

An estimated 27007 studies that might be pertinent to this investigation were found through the literature search. A total of 25126 studies were eliminated after the title and abstract were screened. After a total of 117 studies underwent a thorough evaluation, nine studies were eventually gathered for further analysis, and 94 studies were successfully retrieved. Figure 1 displays the PRISMA flow chart used in the study selection steps.

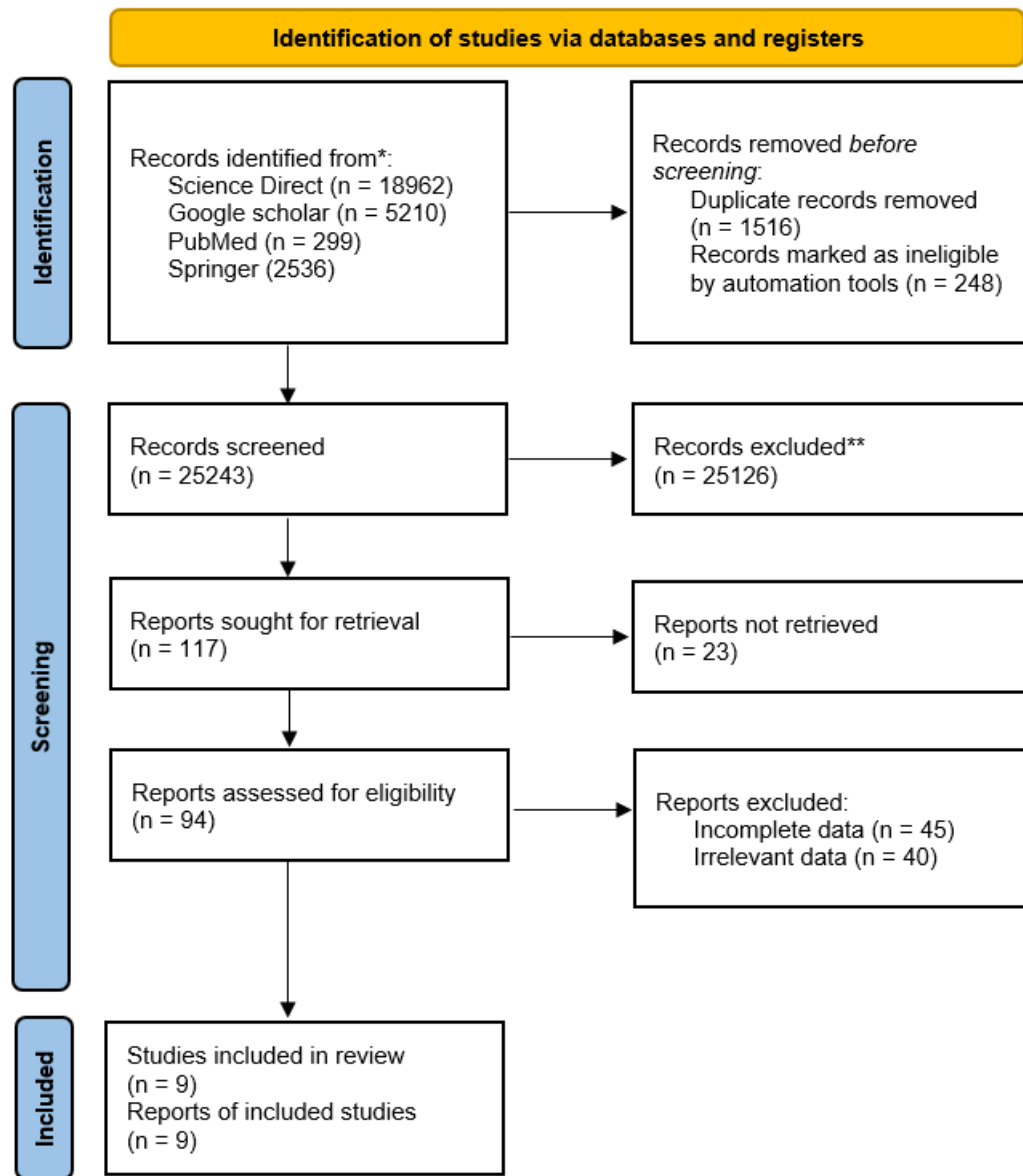


Figure 1. PRISMA Flowchart

Study characteristics

A total of 9 studies with a total of 3589 patients were included in the analysis. All studies reported were cross-sectional studies. Most of the studies came from Indonesia, with participants on average aged >18 years. Most studies used modified, internally validated questionnaires. A total of 2 studies used an externally validated questionnaire, namely SERVQUAL. Only 1 study reported no significant difference between PHI and NHI patients. Furthermore, three studies (Akande, 2020; Bitjoli, 2019; Mutiasari, 2022) note that NHI has a higher level of satisfaction than PHI. Meanwhile, other studies report the opposite. Overall, all included studies have adequate study quality. All characteristics of the included studies are described in Table 1.

Table 1. Study characteristics

Author, year	Country	Population			Population age (y)	Tools	Main Results	Quality of Study
		NHI	PHI	Total				
Akande, 2020(Akande et al., 2022)	Nigeria	150	150	300	39.9 ± 10.0 for private; 42.4 ± 10.1 for public	SERVQUAL analysis (empathy, assurance,	The type of healthcare facility the consumers used, and the overall degree of satisfaction	Good

						reliability, responsiveness and tangibility)	differed statistically significantly (p=0.028).	
Ariningtyas, 2019(Arinin gtyas, 2019)	Indonesia	31	39	70	N.A.	Satisfaction of midwifery services questionnaire	Patients with national and private health insurance plans who use the midwifery services at the Kediri General Hospital do not significantly differ in their levels of satisfaction (p = 0.548).	Good
Begum, 2021(Begum et al., 2019)	Bangladesh	210	910	1120	50.10 ± 21.13 for public hospital patients and 44.58 ± 19.70 for private hospital patients The majority of national healthcare insurance and private health insurance are 31-40 years old.	A customized five-point Likert scale	Patient satisfaction with public hospital services is significantly different from that of private hospitals (p<0.001)	Good
Bitjoli, 2019(Bitjoli et al., 2019)	Indonesia	68	68	136	The majority of patients were 31-40 years old	N.A.	There are significant differences between national health insurance and private health insurance patient satisfaction levels regarding registration services at Tobelo Hospital (p = 0.000) Although there was a statistically insignificant difference in mean score between commercial and public health insurance (p = 0.892), patient satisfaction was higher in the former.	Good
Dubey, 2020(Dubey & Kumar Sahu, 2020)	India	200	200	400	The majority of patients were 31-40 years old	SERVQUAL questionnaire	Utilizing the insured and uninsured at the Kasihan 1 Public Health Center in Bantul, Indonesia, resulted in varied patient satisfaction levels. Individuals who use health insurance are happier than individuals who don't have insurance.	Good
Fatimah, 2022(Fatimah et al., 2022)	Indonesia	111	111	222	N.A.	A customized eleven-point questionnaire	There are significant differences between national health insurance and private health insurance patient satisfaction levels at Adi Husada Hospital (p = 0.018)	Fair
Marga, 2022(Marga et al., 2022)	Indonesia	40	40	80	N.A.	N.A.	The degrees of satisfaction varied significantly across all categories (p = 0.000).	Fair
Mutiasari, 2021(Mutiasari et al., 2021)	Indonesia	856	214	1070	The majority of patients were 26-35 years old	Community Satisfaction Index (CSI) questionnaire		Good

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Sah, 2020(Sah et al., 2020)	Nepal	96	95	191	The majority of national healthcare insurance and private health insurance are 30-65 years old.	N.A.	There are significant differences between national health insurance and private health insurance patient satisfaction levels regarding quality services ($p = 0.003$)	Good
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Quantitative analysis

Our analysis showed no significant difference in the proportion of satisfied patients between private health insurance and national health insurance (Prevalence odds ratio [POR] 1.18; 95% CI 0.25 – 5.47; $p=0.83$). Furthermore, there was significant heterogeneity among studies ($\chi^2 < 0.001$; $I^2 = 97\%$). Our analysis also showed no significant difference in patient satisfaction scores between PHI and NHI (Mean difference [MD] -0.49; 95% CI -6.79 – 5.81; $p=0.88$). Furthermore, there was significant heterogeneity among studies ($\chi^2 < 0.001$; $I^2 = 99\%$). The forest plot is described in Figure 3. The forest plot is illustrated in Figure 2.

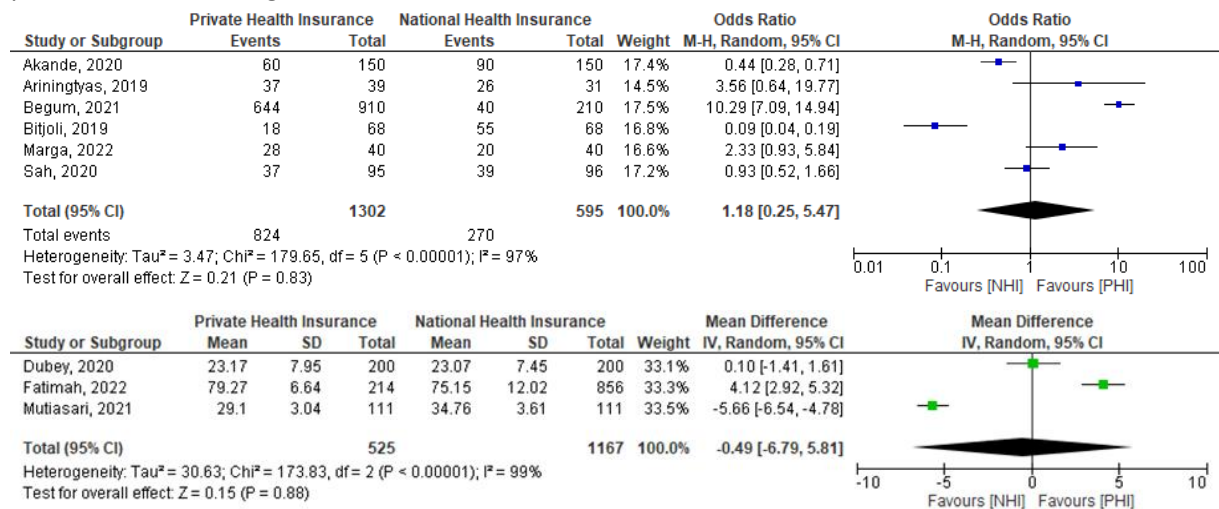


Figure 2. (A) Prevalence odds ratio of patient satisfaction; (B) Mean difference of patient satisfaction score

Publication bias

Furthermore, the risk of publication bias was analyzed in analyzing the proportional difference in patient satisfaction. Based on the Egger test, an analysis of the tendency for publication bias was quantitatively insignificant (intercept 5,0507; 95% CI -12,37 – 22,47; $P = 0,466$). The Funnel plot as a qualitative analysis is shown in Figure 3. Based on the funnel plot, there was a symmetry, which indicates the low risk of publication bias.

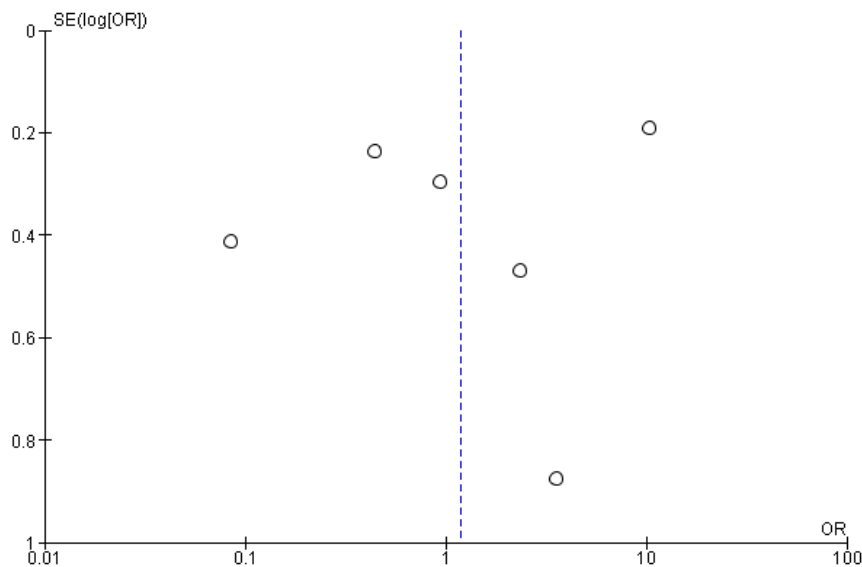


Figure 3. Mean difference in patient satisfaction score

Discussion

Health services in hospitals are still a public issue because of the public's perception that there are differences in the services they receive according to their health insurance, which impacts patient satisfaction. Because of this public view, interest in NHI services remains low, particularly among persons in the middle to upper classes who prefer PHI over NHI.⁵ Surveys on patient satisfaction are important because they can determine the wishes of patients and must be carried out simultaneously with measurements of other dimensions of health service quality so that they can enhance the quality of health-care services in the future.⁷

Most studies included were using modified and internally validated questionnaires. Two studies were using an externally validated questionnaire, namely SERVQUAL. SERVQUAL is a service quality measurement technique for five dimensions, which consist of five elements, i.e., tangibles, reliability, responsiveness, assurance, and empathy. The replies were evaluated using five questions on a Likert scale, arranging from (1) very dissatisfied, (2) unsatisfied, (3) indifferent, (4) satisfied, and (5) very satisfied.^{10,18}

Our analysis showed no substantial difference in the portion of satisfied patients and the mean difference in patient satisfaction scores between private and national health insurance. These results indicate that doctors and all existing health workers are required to uphold the highest standards of professional behavior based on their oath to make professional medical decisions without regard to the patient's financial status.⁶ From a medical perspective, all patients, regardless of the type of health insurance they have, are the same, so they must receive the same service. Therefore, health workers must continue to work professionally. Professionalism is displayed by fundamental clinical expertise, communication skills, ethical and legal understanding, and the expectation to implement professionalism values.¹¹

One of the basic principles of medical ethics, namely justice, is commonly defined as fair, equitable, and proper treatment of individuals.¹⁹ All patients must be treated the same, served the same, that is, equally quickly, provided with equal facilities and infrastructure, the same type of medicine given according to predetermined standards, the friendliness of the officers in delivering services is also the same, and all other supporters are also the same. Patients will feel they have received the same high-quality treatment, increasing patient satisfaction with both types of insurance and easing public concerns about disparities in healthcare delivery.¹¹

It is the first systematic review and meta-analysis study to compare patient satisfaction levels between NHI and PHI in hospital financing. Some limitations to this study should be noted when interpreting the findings. First, this study's data sources for this study are limited to five countries, the majority of which are in Asia, which may restrict the findings' representativeness. Then, all of the studies considered used a cross-sectional research design, making it difficult to determine cause-and-effect relationships due to how the research was designed.

CONCLUSION

Patient satisfaction levels between NHI and PHI in hospital financing were not significantly different. Health service providers are expected to maintain their professional standards and raise the bar on care. Through the results of this study, it is hoped that there will be no bad perception of health services between NHI and PHI.

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