



## Pharmacy Workforce Resilience in the Implementation of Good Pharmacy Practice

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### ABSTRACT

**Introduction:** Quality pharmaceutical services are highly dependent on the implementation of Good Pharmacy Practice (GPP). To optimally implement GPP, pharmacy workforce are required to possess resilience, or psychological resilience, in the face of work pressure. This study aims to determine the relationship between resilience and GPP implementation.

**Method:** This study used a quantitative cross-sectional design conducted from December 2024 to May 2025. A sample of 75 respondents was selected using a simple random sampling technique. Data were collected using the F10RBS questionnaire to measure resilience and the GPP questionnaire to measure the implementation of Good Pharmacy Practice. The analysis was carried out using the Rank-Spearman correlation test.

**Results:** A total of 97.3% of respondents had a good level of resilience, and 98.7% of respondents demonstrated good implementation of GPP. The correlation test results showed a strong and significant relationship between pharmacy workforce resilience and GPP implementation, with a correlation coefficient (r) of 0.654 and a significance value of  $p = 0.000$ .

**Conclusion:** Based on the results of research on the Resilience of Pharmaceutical Workers in the Implementation of Good Pharmacy Practice in Lamongan Regency, it can be concluded that there is a significant and strong relationship with the resilience of pharmaceutical workers in the implementation of Good Pharmacy Practice.

**Keywords:** Good Pharmacy Practice; Pharmacy Workforce; Resilience

## INTRODUCTION

Pharmaceutical care is a form of direct care that emphasizes patient responsibility for medication use, with the goal of achieving clear outcomes and improving patients' quality of life. Today, the approach to pharmaceutical care has shifted from solely focusing on medication management to a more comprehensive, patient-centered approach based on the principles of pharmaceutical care. This aims to significantly improve patients' quality of life.

Pharmaceutical workers, pharmacists, and pharmaceutical vocational workers must continue to improve their knowledge, skills, and attitudes to be able to provide pharmaceutical services in accordance with applicable standards, so that pharmaceutical services can meet good quality (Ach Faruk Alrosyidi & Kurniasari, 2020).

One of the pharmaceutical services that can be implemented at this time is *Good Pharmacy Practice (GPP)*. *World Health Organization (WHO)* dan *Federation International Pharmaceutical (FIP)*, 2012) has published guidelines on GPP and encourages all countries to develop minimum standards for pharmaceutical practice. The goal of pharmaceutical services is to provide and administer medicines, medical devices, and related information so that the public can obtain maximum benefit. Comprehensive pharmaceutical services encompass promotive, preventive, curative, and rehabilitative activities for the community.

To achieve the goal of good pharmaceutical care, guidelines are needed for pharmacists and related parties. These guidelines are formulated in the form of *Good Pharmaceutical Care Practices (GPP)* as a tool to ensure pharmacists can provide services that meet quality standards to patients. This

also serves as a way to implement *Pharmaceutical Care* effectively. The presence of pharmacists plays a crucial role in pharmacies, providing a significant impact on the implementation of GPP in pharmacies.

According to research conducted by (Arimbawa *et al.*, 2021), The presence of pharmacists influences the way GPP is implemented in pharmacies, especially in terms of the process of procuring drugs through official channels and interactions with patients, both from social circles wherever. Special attention needs to be given to improving the reporting of drug side effects and recording of patient health information, by using a work schedule that is in accordance with pharmaceutical service standards, and avoiding medication errors in providing pharmaceutical services, pharmacists are required to comply with the code of ethics, professional standards, the rights of health service users, laws and regulations, and carry out services in accordance with the guidelines for *Good Pharmaceutical Service Practices (CPFB)* or GPP. In addition, pharmacists must also master effective communication techniques..

In doing GPP, Resilience is needed, Resilience is a person's effort to be able to adapt well when facing a situation that makes him feel stressed, so that he can bounce back, function well, and get through the difficulties he faces. In general, resilience is closely related to stress, because both are interrelated concepts and cannot be separated.

There are two factors that influence resilience: internal and external. Internal factors include spirituality, self-confidence, optimism, and self-esteem. Meanwhile, external factors include support from others in the social environment. (Missasi & Indah Dwi Cahya Izzati, 2019).

Resilience is an aspect that is needed

by pharmacy workforce, with the implementation of GPP, Resilience is no longer an obstacle for pharmacy workforce when providing services because in its implementation it requires sufficient understanding and knowledge so that consumers feel safer, calmer and more comfortable in conducting transactions with pharmacy workforce, this attracted the author's interest in conducting research with the title "Resilience of Pharmacy workforce in the Implementation of Good Pharmacy Practice".

## METHOD

This study used a Cross-sectional design conducted from December 2024 to May 2025 on pharmacy workforce. The population in this study amounted to 160 pharmacy workforce consisting of pharmacists and Pharmacy Vocational Personnel (TVF), and obtained a sample of 75 obtained using the Simple Random Sampling method.

Simple Random Sampling is a technique for taking samples of population members randomly, without paying attention to the strata in the population. (Fajar *et al.*, 2021). Simple random sampling is a sampling technique that uses specific criteria. The inclusion criteria were pharmacists practicing in pharmacies in Lamongan Regency during the survey and willing to complete the distributed survey. The exclusion criteria were pharmacists who were unwilling to complete the questionnaire.

The data analysis used in this study was univariate analysis by calculating the frequency distribution of each variable studied and bivariate analysis to see the relationship between Pharmacy Personnel Resilience in the Implementation of Good Pharmacy Practice using the Spearman Rank Correlation test.

## RESULTS

The research results are divided into two sections: general data and specific data. The general data contains respondent characteristics based on age, gender, and type of employment. The specific data presents analysis results based on the studied variables, namely pharmaceutical workforce resilience and GPP implementation.

### Respondent Characteristics

Based on Table 1. Demographic Characteristics of the Research Sample of 75 respondents, most of them were in the 24–45 year age group, namely 52 respondents (69.3%), followed by the 46–65 year age group as many as 23 respondents (30.7%), and there were no respondents aged over 65 years (0%).

Based on gender indicators, the majority of respondents were female (62 people) (82.7%), while only 13 (17.3%) were male. This indicates that the pharmaceutical profession is still dominated by women, which aligns with the national trend among pharmaceutical workers. Based on the research results, the majority of respondents were female (62 people) (82.7%).

Based on the type of work indicator of 75 community pharmacists, most of the respondents (47 people or 62.6%) are vocational pharmacy workers. Meanwhile, 21 respondents (28%) are responsible pharmacists and only 7 respondents (9.4%) act as assistant pharmacists.

### Research Variable

#### Overview of Good Pharmacy Practice for pharmacy workforce

Based on Table 2, it is known that the majority of Pharmaceutical Workforce GPPs in the period December 2024 – May 2025 had 74 pharmaceutical workers in the good category (98.7%). Meanwhile, only 1 was in the poor category (1.3%).

Tabel 1. Demographic Characteristics of Research Samples

Demographic Characteristics	N	%
Age		
24-45	52	69.3
46-65	23	30.7
>65	0	0
Total	73	100
Gender		
Man	13	17.3
Women	62	82.7
Total	75	100
Position		
Pharmaceutical Vocational Staff	47	62.6
Responsible Pharmacist	21	28
Pharmacist Assistant	7	9.4
Total	75	100

Tabel 2. Overview of Good Pharmacy Practice and Resilience of pharmacy workforce

Variables	N	%
Good Pharmacy Practice		
Good	74	98,7
Bad	1	1.3
Total	75	100
Resilience		
Good	73	97.3
Bad	2	2.7
Total	75	100

Tabel 3. Relationship between GPP and Pharmaceutical Workforce Resilience

Resilience	GPP				Amount		r <sup>a</sup>	p-value <sup>a</sup>
	Good		Bad					
	N	%	N	%	N	%		
Good	72	98.6	1	1.4	73	100	0.654	0.000
Bad	2	100.0	0	0.0	2	100		
Total	74	98.7	1	1.3	75	100		

<sup>a</sup>Spearman Test

## Overview of Pharmacy Workforce Resilience

Based on Table 2, it is known that the majority of pharmacy workforce have a level of resilience in the good category, namely 73 (97.3%), while only 2 respondents (2.7%) are in the bad category.

## The relationship between the implementation of Good Practice and the Resilience of pharmacy workforce

Table 3 shows that of the 75 respondents, some fall into the good and bad categories. Seventy-two respondents (98.6%) work in facilities with a good GPP, while only one respondent (1.4%) works in a facility with a poor GPP. On the other hand, of the two respondents with poor resilience, all (100%) work in facilities with a good GPP. The results of the Spearman test showed a significance value of  $p = 0.000$  and a correlation coefficient value of  $r_s = 0.654$ , indicating a strong and significant relationship between the implementation of Good Pharmacy Practice and the level of resilience of pharmacy personnel.

## DISCUSSION

Based on the age characteristics in Table 1, the age indicator shows that of the 75 respondents, the majority are in the 24 to 45 age group, namely 52 people. This condition is in line with the fact that the pharmaceutical field is one of the health professions that has a tendency to work age, and according to the Ministry of Health, the age of 24 to 45 years included

in the early adulthood age group, where a person's thinking ability is increasingly developing and they are better able to understand the ever-developing information in their environment and play a role in direct patient care, including medication administration and patient education. These results are supported by research Sari *et al.*, (2018) conducted in Banjarmasin pharmacy, In the study on the characteristics of respondents based on age obtained results (43.2%) at the age of 26-45<sup>th</sup> years. This shows that the majority of pharmacy workforce are in productive age and actively working, which has the potential to have good resilience in facing work pressure and challenges in implementing Good Pharmacy Practice (GPP).

Based on the characteristics of respondents based on gender, it can be seen that the majority of respondents were women, namely 62 people. This indicates that the pharmaceutical profession is still dominated by women, which is in line with the national trend of pharmaceutical workers. These results are reinforced by research Putu Eka Arimbawa, (2017) conducted in pharmacies in Denpasar City. In the study, of the 69 pharmacist respondents, 65.2% were female, and they showed a relatively stable level of job satisfaction in implementing Good Pharmacy Practice (GPP). The dominance of women in this profession remains visible and is an important part of the implementation of GPP because of the role of women who are more empathetic, patient, when employing tasks or doing something, and this condition is in line with the fact that the field of pharmacy is one of the health professions that has a tendency towards feminization, where women play a greater role in direct services to patients, including drug services and patient education. (Kristiono *et al.*, 2021).

Based on the job type Indicators from 75 community pharmacy workers show

that most respondents, which is 47 people or 62.6%, were vocational pharmacy workers, meaning they graduated from secondary education or diplomas who have technical duties in pharmaceutical services, such as preparing and administering medication, and providing basic information to patients. This is supported by the results study Ningrum *et al.*, (2022), in Mataram City, which shows that as many as 70.25% of the pharmaceutical staff who are actively involved in managing the COVID-19 pandemic in pharmacies are workers who have vocational training in pharmacy. This is in line with conditions in the field, where daily pharmacy operations, especially in terms of technical services such as packaging, drug delivery, and stock management, are mostly carried out by pharmaceutical vocational personnel. Regulation of the Minister of Health of the Republic of Indonesia Number 26 of 2020 concerning Pharmaceutical Service Standards in Pharmacies also states that pharmaceutical technical personnel are an inseparable part of the pharmaceutical service team in pharmacies and work under the supervision of pharmacists.

Based on the results of the data analysis contained in Table 2, it can be seen that the majority of the Pharmacy workforce GPP in the period December 2024 – May 2025 had a greater number of pharmacy workforce in the good category (74) than in the bad category (1).

According to World Health Organization (WHO) dan Federation International Pharmaceutical (FIP), (2012) GPP is a pharmaceutical service standard that must be implemented consistently to ensure the safety, quality, and effectiveness of drug delivery to patients. GPP emphasizes the importance of good medication management, patient education, and the active involvement of pharmacists in monitoring drug therapy. (Alsharif *et al.*, 2020).

This is confirmed by studies from (Arimbawa *et al.*, 2021) emphasized that the active presence of pharmacists in pharmacies greatly contributes to the implementation of GPP, especially in the aspects of drug management, patient counseling, and service documentation.

Although the data shows that most GPPs have met the criteria for a good number of pharmacists, this does not necessarily reflect ideal conditions in the field. A "good" category in terms of the number of pharmacists does not necessarily reflect a balanced workload, especially in large-scale pharmaceutical facilities. Furthermore, the presence of one GPP in the poor category juga perlu menjadi perhatian. Walaupun jumlahnya kecil (1,3%).

This can be an indicator that there are still pharmaceutical facilities that face obstacles in fulfilling pharmacy workforce. Factors such as budget constraints, difficult-to-reach geographic locations, or lack of interest in pharmacy workforce to be placed in certain areas can be the cause. (Susyanty *et al.*, 2020).

Most of the pharmaceutical workers in Lamongan Regency have a good level of resilience (Table 2), with 73 people falling into the good category. On the other hand, only 2 people have a poor level of resilience. Resilience is an individual's ability to bounce back and adapt positively when faced with stress, emotional burdens, and unstable work situations. According to American Psychological Association (APA, 2021), Individuals with high resilience tend to be more emotionally stable, resilient under stress, and more adaptive to change. This is reinforced by studies (Marsel *et al.*, 2022) conducted at Gunung Maria Hospital in Tomohon City. In the study, of the 154 nurse respondents, 111, or 72.08%, had high levels of resilience. This means they possess the skills and knowledge to develop and maintain resilience, enabling them to face

various problems and challenges that arise in the workplace.

Resilience is a critical competency influencing the effectiveness of service practices, including the implementation of GPP, as it is closely related to professional responsibility and the quality of communication with patients. The high level of resilience among pharmacy workforce in Lamongan Regency reflects their resilience and strong work motivation in facing challenges in the workplace.

This situation indicates that the majority of pharmacy workforce are able to adapt and support the ongoing implementation of GPP. However, to maintain and enhance this resilience, ongoing stress management training, improved workplace well-being, and ongoing support from the organization are necessary. By maintaining this resilience aspect, the quality of pharmaceutical services can continue to improve sustainably. (Epp *et al.*, 2022).

The results from statistical tests (Table 3) using the Spearman Rank method, we found a p-value of 0.000 and a correlation coefficient of 0.654. Rosalina *et al.* (2023) say this means there is a strong and meaningful connection between following Good Pharmacy Practice and the resilience of pharmacy staff. This means that the better the implementation of Good Pharmacy Practice in a setting, the higher the level of psychological resilience or resilience of the pharmacy staff working there. These results are reinforced by research by Benita *et al.*, (2022) who conducted research in the city of Surakarta, the research results showed a figure of 0.994, which indicates a very strong relationship or correlation because the coefficient value is close to 1.

Demonstrating a systematic, structured work environment based on standard operating procedures (SOPs), such as the GPP, will create a sense of security, role clarity, and certainty in the workplace for pharmacy staff. Such working conditions will foster strong resilience, as individuals

feel supported by the system and able to control their workload. Conversely, pharmacy practice that is not based on GPPs can lead to work stress, role uncertainty, and emotional exhaustion.

The relationship found between the implementation of GPP and resilience levels indicates that the implementation of service standards impacts not only patients but also the workforce. GPP can be a systemic instrument that not only ensures service quality but also creates a work ecosystem that supports the mental health and resilience of pharmaceutical workers. Therefore, interventions to improve GPP should be implemented not only from a technical operational perspective but also accompanied by soft skills development and psychological well-being for pharmaceutical workers. (Hohmeier *et al.*, 2019).

## CONCLUSION

The level of Good Pharmacy Practice (GPP) implementation by pharmacy workforce is generally considered high. This indicates that GPP practices are optimally implemented in pharmaceutical service facilities such as pharmacies. The resilience of pharmaceutical workers is also quite high. This reflects that most pharmaceutical workers already have strong psychological resilience in dealing with work pressure in the field. There is a significant and strong relationship with the resilience of pharmacy workforce in implementing Good Pharmacy Practice.

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