
THE EFFECT OF TELEPHARMACY SERVICES ON COMMUNITY KNOWLEDGE ABOUT MEDICINES AND THEIR USE AT BESTARI RAYA PRAYA PHARMACY

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ABSTRACT

The advancement of information technology has given rise to new innovations in pharmaceutical services, one of which is telepharmacy. Telepharmacy enables pharmacists to provide medication information and education remotely through digital media, thereby reaching a wider community. This study aimed to determine the effect of telepharmacy services on community knowledge regarding medicines and their use at Bestari Raya Praya Pharmacy. This research employed a quantitative method with a One Group Pretest–Posttest Design. The study sample consisted of 23 respondents obtained through accidental sampling. Data were analyzed using the Wilcoxon Signed Rank Test. The results showed that in the pretest, prior to receiving telepharmacy services, the majority of respondents had a low level of knowledge (69.6%). After the implementation of telepharmacy services, there was an improvement in knowledge, with the majority of respondents reaching a good level (60.9%). The Wilcoxon test yielded a significance value of 0.000 ($p < 0.05$), indicating a significant difference between knowledge before and after telepharmacy services. Therefore, it can be concluded that telepharmacy services have a positive impact on improving community knowledge about medicines and their use.

Keywords: Telepharmacy, Community Knowledge, Drug Use, Pharmacy

1. BACKGROUND

The rapid development of information and communication technology (ICT) has reshaped health services, including pharmacy practice. Telepharmacy emerges as an innovation that enables pharmacists to deliver pharmaceutical care remotely, covering drug information, consultation, and therapy monitoring through digital platforms [1]. This approach is particularly beneficial for communities with limited access to health facilities, as it bridges the gap between patients and pharmacists [2].

The role of pharmacists extends beyond dispensing medications to ensuring safe and rational drug use. Misuse of medicines due to lack of knowledge can lead to adverse drug reactions, reduced therapeutic effectiveness, and increased healthcare costs [3]. Thus, educational interventions through telepharmacy become essential in promoting drug literacy.

Several studies have highlighted the

effectiveness of telepharmacy in enhancing

patient understanding and adherence. For instance, Farid et al. reported that over 80% of telepharmacy users found the service helpful in understanding medication instructions [4]. Moreover, Novita and Aditama showed that telepharmacy interventions significantly improved clinical outcomes in chronic disease management [5].

Despite its potential, challenges remain, including low awareness of telepharmacy concepts among the public and limited

digital access in certain regions [6]. Hence, it is crucial to evaluate the impact of telepharmacy on community knowledge, particularly in rural or semi-urban areas. This study investigates the effect of telepharmacy services on public knowledge of drug use at Apotek Bestari Raya Praya, Lombok Tengah.

2. RESEARCH METHODS

This study applied a quantitative pre-experimental design with a one-group

pretest–posttest design [7]. The research was conducted at Apotek Bestari Raya Praya in July–August 2025.

- Population and Sample: The population consisted of pharmacy customers, and 23 respondents were selected using accidental sampling.
- Instruments: Data were collected using a structured questionnaire consisting of 14 knowledge items related to drug use, dosage, side effects, and storage.
- Data Collection: Respondents completed the pretest questionnaire before receiving telepharmacy services (via WhatsApp and other digital media). After the intervention, a posttest was administered within 24 hours.
- Data Analysis: Data normality was tested with Shapiro-Wilk. Since results were not normally distributed ($p < 0.05$), the Wilcoxon Signed Rank Test was applied. Significance was set at $\alpha = 0.05$.

3. RESULTS AND DISCUSSION

Before the intervention, most respondents (69.6%) demonstrated poor knowledge. After telepharmacy services, knowledge improved, with 60.9% in the good category. The Wilcoxon test confirmed a significant difference ($p = 0.000$).

Table 1. Public Knowledge on Drug Use Before and After Telepharmacy

Category	Pretest (f, %)	Posttest (f, %)
Good	3 (13.0%)	14 (60.9%)
Fair	4 (17.4%)	7 (30.4%)
Poor	16 (69.6%)	2 (8.7%)
Total	23 (100%)	23 (100%)

Figure 1. Changes in Knowledge Level Before and After Telepharmacy (bar chart can be inserted showing improvement from poor to good knowledge)

The findings demonstrate that telepharmacy effectively enhances community knowledge about drugs, consistent with earlier studies [5][8]. The significant reduction in respondents with poor knowledge (from 69.6% to 8.7%) highlights the educational role of

telepharmacy in promoting rational drug use.

These results align with Farid et al. [4], who reported high effectiveness of telepharmacy in medication monitoring, and Hasanah et al. [9], who observed improved health behaviors through digital health applications. Moreover, this study corroborates Yusransyah et al. [10], emphasizing the importance of telepharmacy education programs in strengthening community health systems.

However, challenges remain in digital literacy and infrastructure. Limited access to stable internet networks and varying user familiarity with technology may hinder optimal implementation [6]. Future research should integrate hybrid models combining digital and face-to-face counseling to maximize outcomes.

4. CONCLUSION

This study concludes that **telepharmacy significantly improves public knowledge regarding drug use**. The intervention increased the proportion of respondents with good knowledge from 13.0% to 60.9%, with statistical analysis confirming a significant effect ($p = 0.000$). Telepharmacy thus represents a promising strategy to promote rational drug use and enhance health literacy in communities.

5. THANKS

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