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EVALUATING THE QUALITY OF UNINTENDED PREGNANCY SERVICES AT PKBI CLINIC DKI JAKARTA

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ABSTRACT

According to WHO estimates, the unintended pregnancy rate in Indonesia is 40 per 1,000 women aged 15-49 years. These cases pose significant risks to maternal and child health, including potential neglect and even maternal mortality due to unsafe abortion practices. The high incidence of unintended pregnancies underscores the need for high-quality services from health facilities to improve patient satisfaction and expand access to care.The aim of this study is to identify the factors influencing trends in unintended pregnancy visits at the PKBI DKI Jakarta Clinic and assess their impact on service quality. This analytical study uses secondary data from the clinic, covering monthly patient visits from April 2022 to May 2024, and employs Run Chart and Control Chart analyses. The results indicate the presence of special causes, with external factors such as a rise in unintended pregnancy cases leading to an increase in patient visits. Internal factors that supported service quality included improved clinic management, the successful implementation of mobile outreach programs, and effective health promotion initiatives. In conclusion, the evaluation of unintended pregnancy services at the PKBI Clinic demonstrates good quality in terms of accessibility, human resource management, and service procedures. However, due to the persistent high rate of unintended pregnancies in DKI Jakarta, it is recommended that the clinic not only maintain its current service quality but also expand outreach efforts to further increase patient access.

Keywords:
Quality Improvement; Run Chart; Control Chart; Unintended Pregnancy; Healthcare Service

Introduction

WHO found that in 36 countries, 2/3 of sexually active women wish to delay or limit childbirth.[1] Nearly 121 million women worldwide experienced unintended pregnancies, according to the 2022 State of World Population report.[2] WHO estimates the rate of unintended pregnancies in Indonesia is 40 per 1,000 women aged 15-49 years.[1] Data from the Indonesian National Family Planning Board (BKKBN) in 2020 indicated that 17.5% of pregnancies were unintended.[3]

The risk factors associated with unintended pregnancies include age, residence, wealth index, religion, number of children, family size, cohabitation age, education level, and media exposure.[4] Based on data from the PKBI clinic, there were 210 cases of unintended pregnancy from 2022 to 2024. The causes include women who are pregnant not by their spouse, work contracts prohibiting pregnancy for a certain period, premarital pregnancies, and contraceptive failures.

Unintended pregnancies pose risks to maternal and child health, psychological impacts on mothers who are unprepared for childbirth, child neglect, and maternal death due to unsafe abortions. Global data shows that among 74 million women with unintended pregnancies in low and middle-income countries, 25 million undergo unsafe abortions, resulting in 47,000 maternal deaths.[5]

The high rate of unintended pregnancies necessitates that healthcare facilities provide high-quality services to improve outcomes. The PKBI (Indonesian Family Planning Association) clinic in DKI Jakarta is one such facility offering comprehensive services for unintended pregnancies. PKBI provides counseling and intervention services for unintended pregnancy. PKBI also provides online and offline education aimed at adolescents and women of reproductive age to prevent unintended pregnancies.

Improving service quality is crucial to enhance patient satisfaction. High-quality services can encourage patients with unintended pregnancies to visit the clinic without fear of intimidation. Quality improvement involves a collaborative effort to implement sustainable changes that result in better patient outcomes, system performance, and professional development.

Service quality for unintended pregnancy care can be assessed using Run Chart and Control Chart analyses, which are instrumental in healthcare decision-making. These tools enable the monitoring of ongoing processes by visualizing data variation. A Run Chart tracks process trends over time using a median value to identify patterns without control limits, whereas a Control Chart helps determine the stability of data, with upper and lower control limits indicating common or special causes of variation. These charts can be applied to various metrics, including patient visit trends at the clinic.[6,7]

The result of the research conducted by Wolfe in 2021, Run Charts allowed for an objective understanding of whether changes made to a process or system over time resulted in random or non-random data, thus monitoring processes to identify trends.[6] Another study by Slyngstad in 2021 showed that Control Charts contribute to quality improvement in healthcare by enabling the visualization and monitoring of variations and changes in healthcare processes.[7]

The purpose of this study is to identify the factors that cause the trend of visits to unwanted pregnancy cases at the PKBI DKI Jakarta Clinic assess their impact on service quality.

Methods

This study is an analytical investigation using secondary data from the PKBI clinic, based on monthly patient visits between May 2022 and April 2024. The inclusion criteria were patients who visited due to unintended pregnancies and women of reproductive age (15-49 years). The analysis utilized Run Chart and Control Chart techniques, with a total of 26 data points observed.

Quality improvement involves several key components, including data collection, identification of critical processes or outcomes, and data analysis. While Run Chart and Control Chart analyses can reveal patterns of change, they do not provide insight into the underlying causes. To address this limitation, interviews were conducted with the PKBI clinic team to identify the factors contributing to the observed patterns.[12]

Run Chart analysis is a time-series plot using the median as the centerline.[6] The steps in creating a Run Chart for the 26 observation points are:

1. Rule 1 Shift: Counting the number of consecutive points either all above or all below the median.
2. Rule 2 Runs: Counting the useful observations, with the number of runs in this study ranging between 9-18 runs. A non-random pattern is signaled by too few or too many runs.
3. Rule 3 Trend: Counting the number of trends, where consecutive data points increase or decrease by 7 points or more.
4. Rule 4 Astronomical point: Counting astronomical point patterns, where data points fluctuate up and down by 14 points or more.[8]

Control Chart analysis measures the quality of a process by displaying data over time controlled by control limits. A Control Chart consists of a centerline, upper control limit, and lower control limit, set at ±3 standard deviations from the centerline. The Control Chart used in this study is a p-chart because the type of the data is discrete, with countable occurrences and non-occurrences, and has different subgroup sizes.[9,10] The steps in creating a p-Chart are as follows:

1. Calculating the proportion of unintended pregnancy patient visits to the total pregnancy patient visits.
2. Reviewing one or more consecutive data points outside zone A or beyond 3 standard deviations.
3. Reviewing two or three consecutive data points outside zone B or beyond 2 standard deviations.
4. Reviewing four out of five consecutive data points outside zone C or beyond 1 standard deviation.
5. Reviewing one run consisting of 8 points on one side of the mean.
6. Counting the number of trends where consecutive data points increase or decrease by 7 points or more.
7. Counting astronomical point patterns, where data points fluctuate up and down by 14 points or more.[9,10]

Results and Discussion

Unintended pregnancy patient visits at PKBI clinic totaled 83 in 2022, 59 in 2023, and 68 from January to May 2024. The total visits over the past two years amounted to 210, with an average of 8 visits per month.

Figure 1 shows a total of 10 runs. The number of runs is between 9-18 runs, indicating neither too many nor too few runs. There are no 7-point consecutive trends either increasing or decreasing, there are no 14 or more astronomical point patterns in the data observations. This indicates that the data variation is random and caused by common factors. Variation is defined as changes in conditions, quantities, or levels within specific limits.[9] Random variation is the result of factors inherent in the process and remains within system control.[8]

Common causes refer to variations that are inherent in a process and consistently present within a system. These variations represent the normal fluctuations expected under routine operational conditions in the clinic and are not attributed to significant changes or specific external factors. An example of common causes includes seasonal fluctuations, such as predictable increases or decreases in the number of visits during certain periods, like post-holiday surges or the beginning of the year. These seasonal patterns are typically stable and not driven by sudden external factors, allowing for planned mitigation and evaluation.

However, the Run Chart analysis revealed that visitations at the beginning of 2024 increased, whereas visitations at the start of 2023 showed a decline. This irregular pattern deviates from the expected seasonal fluctuations, suggesting that the observed changes are unlikely to be due to common causes.

As an analytical tool, the run chart has limitations. It is designed for early detection of quality changes over time but cannot confirm process stability. Therefore, Shewhart developed the Control Chart with a mean-based centerline and control limits, providing a more specific and sensitive systematic data analysis.

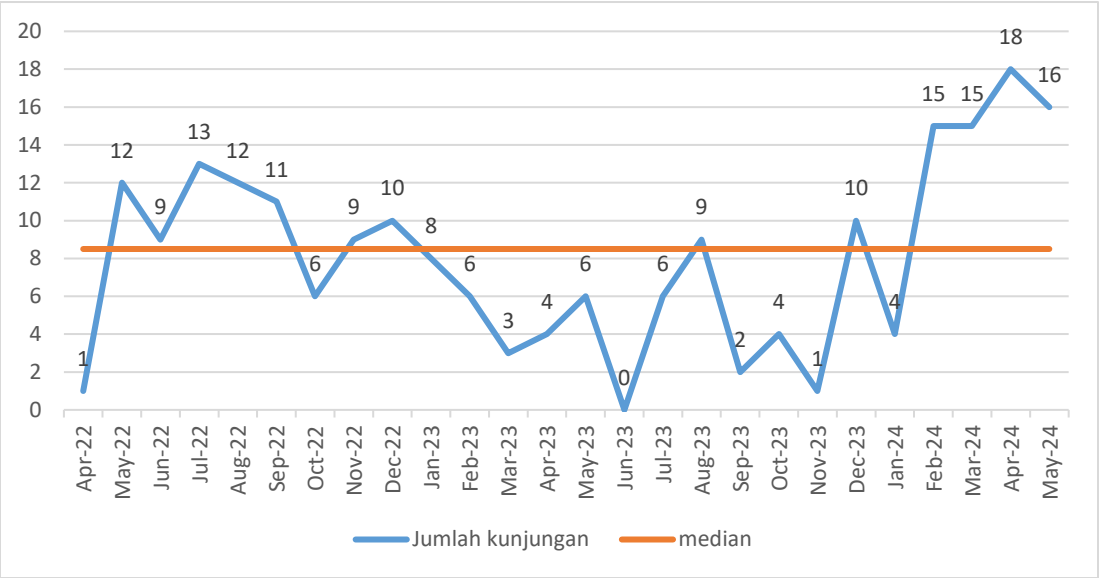

Figure 1. *Run Chart* of Unintended Pregnancy Service Visits at PKBI DKI Jakarta Clinic in 2022-2024

According to Perla's study in 2010, certain healthcare data scenarios use discrete data, making run chart rules more complex. For example, when 50% of the data show absolute extreme values, using the median as the central limit is impractical, therefore it has to use a mean-based centerline as seen in control charts.[11] Consequently, the researchers performed further analysis with the Control Chart to identify any systematic data variations.

Figure 2 shows the p-chart results. The p-chart indicates the proportion of unintended pregnancy visits out of the total pregnancy visits. It aims to determine whether unintended pregnancy visits remain within control limits. The results show that observation points 2, 15, 20, 23, 24, and 25 are outside zone A or beyond 3 standard deviations, while points 3, 7, 10, 24, and 25 are two out of three consecutive points outside zone B or beyond 2 standard deviations. Points 25 and 26 show four out of five consecutive points in zone C or beyond 1 standard deviation. The test concludes that the data variation is systematic, indicating special causes.[10]

Special causes are the result of specific factors that do not consistently occur within a process. They represent unusual or unexpected variations introduced by identifiable factors, rather than being part of the normal process variation.

In this study, special causes are attributed to external factors, particularly the rising incidence of unwanted pregnancies. According to data from the BKKBN, the rate of unwanted pregnancies in DKI Jakarta is approximately 26% of total pregnancies. This increase may significantly impact patient visits to the clinic, as unwanted pregnancies are sensitive issues that can lead to unsafe abortions or child neglect.

Interviews with the PKBI clinic team revealed that the primary causes of unwanted pregnancies, based on clinic data, include pregnancies occurring outside of a partnership, work contracts that prohibit pregnancy for a specified period, premarital pregnancies, and contraceptive failures.

The rise in unintended pregnancy cases correlates with an increased demand for health services. Therefore, clinics must ensure that the services provided effectively meet this demand to maintain patient satisfaction. The quality of service plays a crucial role in influencing patients' decisions when choosing a clinic.

When patients perceive that they are receiving quality, friendly, and informative services, they are more inclined to access these services and seek consultations.

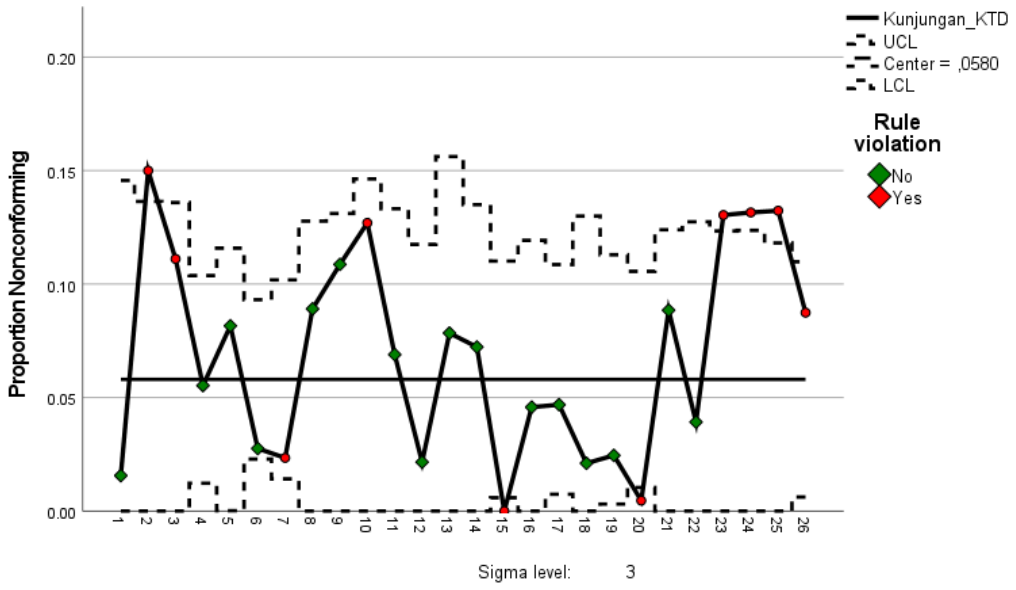

Figure 2. *Run Chart* of Unintended Pregnancy Service Visits at PKBI DKI Jakarta Clinic in 2022-2024

Conversely, subpar service can lead patients to avoid the clinic, prompting them to seek alternative solutions that may pose greater risks.

The clinic must implement strategies to enhance the quality of service to attract patients, ensuring that cases of unwanted pregnancy can be addressed promptly and effectively prevented in the future.

One key area for improving service quality is accessibility. In addition to the clinic's strategic location, it is essential to proactively reach out to the community. Based on interview findings, the PKBI clinic has already established a mobile program where staff not only provide services at the clinic but also engage with patients in the community. This program is being intensified to encourage more individuals to seek services at the clinic. As a result, it is anticipated that patient visits will increase in 2024.

The second key area to improve service quality is reliability, ensuring that the clinic can provide consistent and dependable services. In this study, the PKBI clinic offers comprehensive services for cases of unwanted pregnancies. Each patient who visits the clinic initially undergoes counseling by a trained counselor. This counseling aims to assess whether the patient requires a safe abortion in accordance with legal abortion policies or if she intends to continue the pregnancy.

If the patient chooses to continue the pregnancy, she is presented with options regarding the child's future, including placement in a children's home, adoption, or raising the child herself. Additionally, physical examinations are conducted by qualified doctors and medical personnel

The third key area to improve service quality is to ensure confidentiality, safety for patients, and provide personalized care and attention. In this regard, the PKBI Clinic recruits competent professionals in their respective fields and routinely conducts training to align services with patient needs while maintaining patient privacy. A comprehensive service system supported by trained personnel can significantly enhance service quality. This aligns with research conducted by Mosadeghrad in 2014, which suggests that the quality of health services can be improved through supportive visionary leadership, appropriate planning, education and training, resource availability and quality, effective resource management, and collaboration among healthcare providers.[13] The service system implemented by the PKBI clinic prioritizes patient needs, offering counseling that is tailored to individual circumstances. This approach not only helps prevent unsafe abortions but also ensures that patients who choose to continue their pregnancies receive proper care and support.

The fourth effort to improve service quality is responsiveness to patient needs, particularly in the timely provision of services. Research conducted by Alibhai in 2022 indicated that poor-quality pregnancy care significantly affects the utilization of health services during pregnancy. Such deficiencies include long waiting times and encounters with unfriendly or incompetent providers. When women perceive that they are receiving inadequate care, it may lead to the belief that pregnancy screenings are of little benefit, potentially driving them to seek alternatives, such as illegal abortions or unsafe methods based on information from mass media.[15]

At the PKBI clinic, the human resources comprise one administrator, one cashier, two doctors, one midwife, and one nurse. The clinic averages 20-30 patient visits per day, which is considered an ideal volume that allows staff to provide quality care without being overwhelmed. However, during specific activities, such as field visits, clinic staff are divided into two groups. Due to limited personnel, clinic leaders often recruit volunteers to assist in the field. A study by Omar Ali in 2023 highlighted the critical role of human resources as agents of change within organizations, emphasizing that both the quality and quantity of personnel can significantly impact clinic performance. The management of the PKBI clinic has recognized the need to enhance human resource capacity, particularly during surges in patient volume or during field visits. [16]

To maintain service quality, the PKBI Clinic should continue to invest in professional training and competency development to enhance the efficiency and capacity of its existing workforce. It is also essential to organize rest schedules and working hours effectively to accommodate peak times. Furthermore, increasing the capacity of healthcare workers through effective counseling and ongoing training is vital. Collaborating with community organizations can improve access to services for underserved groups, facilitating information dissemination and support. With this approach, the clinic is expected to manage the volume of unintended pregnancy visits more effectively and efficiently, thereby enhancing overall service quality.

The results of this study indicate that PKBI clinics are capable of maintaining high service quality. Additionally, following the recovery from the COVID-19 pandemic, PKBI has strengthened its health counseling program. This initiative has successfully raised public awareness about the importance of accessing health services to address unwanted pregnancies. The PKBI clinic provides information related to unwanted pregnancy through both online and offline platforms, targeting adolescents and women of reproductive age, with sessions occurring 3-4 times a year. This health promotion initiative has the potential to influence changes in behavior and beliefs, thereby increasing participation in accessing health services.According to research conducted by Negin, in 2021, educational and promotional interventions based on the *Health Belief Model* are effective in improving women's perceptions and behaviour in prevention and self-medication.[14]

Public trust in the PKBI clinic as a service provider has been increasing due to enhanced service quality and health promotion efforts, which is expected to lead to a rise in patient visits in 2024. However, given the persistently high number of unintended pregnancy cases, it is crucial for PKBI clinics to implement effective patient screening and strengthen preventive measures. To improve the quality of unintended pregnancy services at PKBI clinics, several recommendations are proposed. First, strengthening the Sexual Reproductive Education and Counseling Program is essential; this can be achieved by increasing the frequency and coverage of counseling initiatives, particularly in areas with elevated unintended pregnancy rates, and by engaging community leaders and schools to broaden educational outreach. Additionally, developing interactive and relevant educational materials, utilizing digital media such as short videos, infographics, and social media platforms, can enhance engagement with adolescents and couples of

childbearing age. Second, optimizing mobile clinic services is vital; PKBI should expand these services to underserved areas, ensuring regular visit schedules and clear communication to raise community awareness. Equipping mobile clinics with adequate facilities to offer comprehensive services, including reproductive health checks, counseling, and contraceptive provision, is also necessary.

Third, capacity building for health human resources should be prioritized, involving periodic training to enhance the competencies of health workers in managing unintended pregnancy cases, including effective communication skills for patient counseling and emergency contraception techniques. Encouraging medical personnel participation in peer review training can help ensure the consistent application of best practices across facilities. Fourth, strengthening the referral system and inter-agency collaboration is critical; collaborating with other health centers, hospitals, and non-governmental organizations can enhance the referral system for patients requiring follow-up services. Integrating reproductive health services with other health programs, such as those addressing HIV/AIDS and maternal-child health, will provide a more holistic approach to care.

Fifth, utilizing technology to improve access to services is imperative; developing an online application or platform for visit registration, consultation scheduling, and remote health consultations will facilitate easier access to services for patients. Establishing a 24/7 counseling hotline will further provide immediate information and assistance for women facing unwanted pregnancies. Lastly, continuous monitoring and evaluation of services are essential; implementing structured patient feedback mechanisms, such as periodic satisfaction surveys, will help assess service quality and identify areas for improvement. Regular data analysis using statistical tools, including control charts, can monitor variations in visit numbers and identify effective interventions.

Conclusion

The analysis results of this study indicate that the Control Chart is more sensitive in identifying special causes due to the presence of control limits, which help pinpoint data that falls outside acceptable ranges and detect small changes in the process. The findings reveal a special cause linked to the increase in unwanted pregnancy cases, leading to fluctuations in patient visits. This situation is further supported by the quality of services provided by the PKBI clinic, which aligns with community needs. The regular implementation of mobile programs and health promotion initiatives has also heightened community awareness regarding the importance of accessing health services.

Nevertheless, given that the incidence of unwanted pregnancies remains high in the DKI Jakarta area, it is crucial for PKBI clinics to sustain the quality of their services while expanding outreach efforts to engage more patients. The service quality demonstrated by the PKBI clinic can serve as a model for other health facilities striving to address unintended pregnancy cases effectively.

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