

The Influence of Pregnant Women's Knowledge on COVID-19 Vaccine Uptake

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ABSTRACT

COVID-19 is a novel infectious disease that has significantly impacted global health. Vaccination has been identified as a crucial measure to curb the spread and reduce severe outcomes of the disease, including among pregnant women. This study aims to determine the correlation between pregnant women's knowledge of the COVID-19 vaccine and their participation in the vaccination program. A correlational design with a cross-sectional approach was employed. Data were collected from 35 pregnant women using simple random sampling, with knowledge assessed through questionnaires and participation verified via interviews and vaccine card documentation. The Spearman Rank test revealed a significant correlation ($\rho = 0.782$; $p < 0.05$), indicating that higher knowledge levels were associated with increased participation. This study highlights the importance of improving awareness among pregnant women to boost vaccination coverage.

Keywords: COVID-19 vaccine, knowledge, participation, pregnant women

BACKGROUND

Since its emergence in late 2019, COVID-19 has disrupted health systems worldwide. Originating in Wuhan, China, the virus causes a spectrum of symptoms ranging from mild to life-threatening, with particular concern for vulnerable groups, including pregnant women. Studies have shown associations between COVID-19 infection during pregnancy and adverse outcomes such as premature labor, intrauterine fetal demise, and neonatal death (Kostania et al., 2021).

Indonesia implemented a nationwide COVID-19 vaccination program, including targeted campaigns for pregnant women as outlined in the Ministry of Health Circular No. HK.02.01/I/2007/2021. However, uptake among pregnant women remains suboptimal, partly due to varying levels of knowledge and public perception.

According to Istriyati (2011), low maternal knowledge correlates with incomplete childhood immunization. Furthermore, knowledge levels significantly influence attitudes and behavior, including health decision-making during pregnancy (Untari, 2021). Participation, defined by Erayatna (2016), encompasses involvement in decision-making, execution, and utilization of outcomes. This study aims to explore the relationship between pregnant women's knowledge of COVID-19 vaccines and their participation in the vaccination program.

METHODS

This was a correlational study with a cross-sectional design. The population comprised 38 pregnant women residing. A total of 35 participants were selected using simple random sampling. Data were collected between April 11 and May 11, 2022, using structured questionnaires (15 items with a Likert scale) to assess knowledge, and interviews along with vaccine card checks to assess participation.

Statistical analysis was conducted using the Spearman Rank correlation test to determine the strength and direction of the relationship between knowledge and participation.

RESULTS

Characteristics of Respondents

Based on the findings, most respondents were 31 years old, accounting for 14.3%. This age falls into the productive age category, where mothers generally have a better level of maturity in making decisions, including those related to their own health and that of their unborn child. Age can influence how a person receives, understands, and responds to information; therefore, individuals in this age group are expected to have greater awareness of the importance of vaccination.

In terms of education, nearly half of the respondents had completed high school, representing 45.7%. Education plays an important role in shaping knowledge and attitudes toward health. The higher a person's education level, the greater the likelihood that they can understand health information well, including the benefits and safety of vaccines. Nevertheless, respondents with a secondary education level still demonstrated sufficient potential to comprehend explanations provided by health workers.

Regarding occupation, the majority of respondents were housewives, amounting to 85.7%. This finding indicates that most respondents spent more time focusing on household and family matters. Such a condition provides more opportunities for mothers to pay closer attention to their own health as well as their pregnancy, including participation in vaccination programs. However, this also highlights the importance of external information sources, as their limited interaction within formal workplaces may restrict access to health-related information.

The source of information is another significant aspect, with more than half of the respondents reporting that they obtained vaccine-related information from midwives, at 54.3%. This result underscores the crucial role of midwives as trusted frontline healthcare providers, particularly for pregnant women. Midwives not only provide medical services but also act as effective educators in enhancing knowledge and encouraging greater participation of pregnant women in vaccination programs.

Knowledge of COVID-19 Vaccine

Knowledge Level	Frequency	Percentage
Poor	12	34.3%
Moderate	13	37.1%
Good	10	28.6%

Participation in Vaccination Program

Participation Level	Frequency	Percentage
Poor	1	2.8%
Moderate	14	40.0%

Good	12	34.3%
Very Good	8	22.9%

Cross-tabulation and Statistical Test

A cross-tabulation revealed that respondents with poor knowledge commonly had moderate participation (31%). Spearman Rank correlation yielded $\rho = 0.782$, with $z = 4.56$ ($p < 0.05$), indicating a significant and strong positive correlation between knowledge and participation. SPSS results confirmed this with a Spearman coefficient of 0.745 and a significance level of 0.000, validating the strong relationship between the two variables.

DISCUSSION

Knowledge is essential for informed health decisions. In this study, most respondents had moderate knowledge regarding the COVID-19 vaccine, which influenced their level of participation. Higher knowledge was significantly associated with greater willingness to get vaccinated. This finding aligns with previous research that emphasizes the role of education and awareness in shaping health behavior (Notoatmodjo, 2012).

Moreover, participation is not only influenced by knowledge but also by trust, motivation, and support systems, particularly from family members. The relatively low education level and lack of consistent health promotion activities may have contributed to limited participation despite government initiatives.

Systematic reviews (e.g., Pragitara et al., 2022) suggest that enhancing communication through healthcare workers, especially midwives, can improve vaccine uptake among pregnant women.

CONCLUSION

There is a significant and strong positive relationship between pregnant women's knowledge about the COVID-19 vaccine and their participation in the vaccination program. To increase vaccination coverage, continuous health education and better coordination in vaccination programs are recommended. Involving family members, especially husbands, in educational sessions may also enhance participation.

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