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THE VALIDITY AND RELIABILITY OF KNOWLEDGE AND FAMILY SUPPORT RESEARCH ON WORKING MOTHERS' EXCLUSIVE BREASTFEEDING

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ABSTRACT
For the first six months of an infant's life, WHO and UNICEF recommend exclusive breastfeeding. After that, supplemental foods should be introduced, and breastfeeding should continue until the child is two years old. In 2022, only 67.96% of Indonesians engaged in exclusive breastfeeding, a decline from 69.7% in 2021. This indicates that enhanced support is necessary to increase this coverage. By investigating working mothers' knowledge of exclusive breastfeeding and their families' support for it in Semarang City, the study seeks to evaluate the validity and reliability of the questionnaire. A sample of working women in Semarang City with children between the ages of six and twelve months participated in this study, which employed a quantitative analytical research methodology. Convenience sampling was employed to collect data from 35 working mothers with children aged 6 to 12 months. The women received a questionnaire consisting of 15 inquiries regarding familial support for exclusive breastfeeding and 15 remarks concerning their comprehension of exclusive breastfeeding. Data analysis for the validity test uses Pearson Bivariate correlation, while for the reliability test, it uses Cronbach's Alpha. With a Cronbach's alpha of 0.826 and a Pearson correlation coefficient ranging from 0.418 to 0.733, the study's findings showed that the exclusive breastfeeding knowledge questionnaire was both valid and reliable, surpassing the r table value of 0.334. A Cronbach's alpha of 0.811 and a Pearson correlation coefficient ranging from 0.380 to 0.676, which exceeded the r table value of 0.334, indicated that the family support questionnaire was valid and reliable for exclusive breastfeeding. The study's findings indicated that the knowledge questionnaire on exclusive breastfeeding and the family support questionnaire for exclusive breastfeeding were both valid and reliable.

Keywords: exclusive breastfeeding; reliability; validity

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INTRODUCTION

For the first six months of an infant's life, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommend exclusive breastfeeding. After that, supplemental foods should be introduced, and breastfeeding should continue until the child is two years old to mitigate child morbidity and mortality. Both the mother and the newborn obtain substantial benefits from exclusive nursing for a period of six months. The principal advantage is the infant's safeguarding against gastrointestinal ailments. Infants who are either partially or not breastfed may experience an increased risk of mortality from diarrhea and other illnesses. Hoddinott et al. (2008) suggest that exclusive breastfeeding diminishes the likelihood of obesity and many disorders. This demonstrates how exclusive breastfeeding can guarantee a baby's healthy growth and development. Exclusive breastfeeding reduces a mother's risk of postpartum hemorrhage, breast and ovarian cancer, and chronic illnesses linked to obesity. Furthermore, research indicates that moms who exclusively breastfeed their children have a diminished likelihood of exhibiting signs of depression (Hoddinott et al., 2008).

Exclusive breastfeeding rates remain low in both affluent and underdeveloped countries, despite extensive studies endorsing its benefits. Worldwide, less than 40% of infants less than six months are exclusively breastfed (Cai et al., 2012). Khamis et al. (2017) report that 36% of infants less than six months are nursed exclusively. However, professional working mothers in impoverished countries are significantly less inclined to exclusively breastfeed (Khamis et al., 2017).In 2022, just 67.96% of Indonesians engaged in exclusive breastfeeding, a decline from 69.7% in 2021, indicating a need for enhanced support to improve this rate. The WHO will employ this to further initiatives aimed at facilitating healthy breastfeeding for all working women, regardless of their employment, and to highlight exemplary practices in workplace assistance for breastfeeding across countries, contract types, and industries (Syahri et al., 2024). The likelihood of premature discontinuation of breastfeeding, both general and exclusive, is heightened for working mothers who find it challenging to reconcile nursing with paid employment. One of the main causes of working mothers' early breastfeeding cessation is rigid work schedules (Guendelman et al., 2009).

Nonetheless, there exist rules that promote exclusive breastfeeding among working women. Regrettably, owing to time limitations and the accessibility of breastfeeding amenities at the workplace, working mothers—especially in the formal sector—often encounter difficulties in exclusively nursing their infants. Consequently, numerous working mothers are driven to discontinue exclusive breastfeeding and resort to formula milk. Consequently, adequate care is necessary to prevent the status of a working woman from serving as a justification for discontinuing breastfeeding. A research instrument is necessary to facilitate data collection and measure variables effectively. A questionnaire is a measurement or research instrument commonly employed in data collection processes and the evaluation of research outcomes (Anggraini et al., 2022). Sugiyono (2013) characterizes a questionnaire as a component of a research instrument utilized to assess an event and gather information, comprising a series of questions pertinent to the research being conducted (Dewi & Sudaryanto, 2020). The testing of the research instrument's reliability and validity must adhere to the established criteria. The validity and reliability of the questionnaire used in the study have a major impact on the quality of a research project, community service program, or scientific activity. By investigating working mothers' knowledge of exclusive breastfeeding and their families' support for it in Semarang City, the study seeks to evaluate the validity and reliability of the questionnaire.

METHOD

The research employs a quantitative design utilizing a questionnaire instrument, which comprises an evaluation of knowledge regarding exclusive breastfeeding as well as a questionnaire pertaining to family support for the provision of exclusive breastfeeding. Constructed questionnaire was subsequently evaluated for validity and reliability. Data collection was conducted through convenience sampling in March 2025 with 35 working mothers with children aged 6 to 12 months in Semarang City.

Validity Test

The extent to which a test measures its target construct accurately is referred to as validity. Validity assessment in this study was conducted utilizing the SPSS software. The researchers employed Pearson's Bivariate correlation (Pearson's Product Moment) as the testing approach for the validity assessment. Pearson analysis is conducted by connecting the score of each individual item with the aggregate total score. The total of each component is the aggregate score. Validity is established when items that have a significant relationship to the overall

score show that they can clarify the intended revelations. The instrument or question items show a significant correlation with the overall score, demonstrating validity, if the r count is more than or equal to the r table (two-sided test with a significance threshold of 0.05). The procedures implemented by the researcher in the construct validity assessment are as follows:

Phase One: Assembling Research Tools

The tool employed in this research is a questionnaire. This study utilizes two questionnaires: The Exclusive Breastfeeding Knowledge Questionnaire and the Exclusive Breastfeeding Family Support Questionnaire. The Knowledge Questionnaire on Exclusive Breastfeeding comprises 15 questions addressing the definition of breast milk, its benefits, methods of storage, and administration techniques. Out of the 15 questions, 10 are categorized as favorable and 5 as unfavorable. Respondents must complete instructions prior to filling out the questionnaire. The list of questions in the Knowledge Questionnaire About Exclusive Breastfeeding is as follows:

Table 1.
Compilation of Inquiries on the Exclusive Breastfeeding Knowledge Questionnaire

No	Question	True (T)	False (F)
1	Exclusive breastfeeding is provided to infants aged 0 to 4 months.		
2	Exclusive breastfeeding is providing breast milk exclusively, without supplementary food, for infants aged 0 to 6 months.		
3	Colostrum is the first secretion of breast milk, characterized by its yellowish hue and viscous consistency.		
4	The first secretion of breast milk, known as colostrum, should be discarded as it lacks essential nutrients.		
5	Breast milk enhances infants' immunity.		
6	One advantage of breast feeding for women is that it does not lead to breast sagging.		
7	The schedule for giving breast milk to babies should be adjusted to the baby's wishes.		
8	Prior to breastfeeding, the mother cleans the nipples and the areola with a small amount of expressed breast milk.		
9	Breast milk preserved in an open space can endure for 3-4 hours.		
10	Administering expressed breast milk to infants is more effective with a bottle.		
11	Frozen expressed breast milk must be heated in boiling water before being given to the baby.		
12	Expressed breast milk can be stored in a two-door freezer for a duration of 3 to 6 months.		
13	Before the mother's employment, breast milk may be manually expressed.		
14	When the mother is employed, breast milk may be administered to the infant using a spoon.		
15	Each breastfeeding session should result in the breasts being emptied.		

The Family Support in Exclusive Breastfeeding questionnaire comprises 15 items addressing informational, emotional, instrumental, and self-esteem support related to exclusive nursing. Out of the 15 questions, 13 are categorized as favorable, while 2 are categorized as unfavorable. Respondents must complete instructions prior to filling out the questionnaire. The Family Support in Exclusive Breastfeeding questionnaire comprises the following questions:

Table 2.
Compilation of Inquiries for Family Support in Exclusive Breastfeeding Questionnaire

No	Statement	Yes	No
SUPPORT FOR INFORMATION			
1	The family disseminates knowledge regarding exclusive breastfeeding.		
2	The family offers guidance to enable the woman to practice exclusive breastfeeding.		
3	The family delegates the decision to the mother on the provision of exclusive lactation.		
4	The family receptive to the mother's perspective if she chooses to provide exclusive breastfeeding.		
5	The family joins the woman to healthcare providers to obtain information regarding exclusive breastfeeding.		
SUPPORT FOR EMOTIONAL			
6	The family is open to hearing the mother's grievances regarding difficulties in supplying breast milk.		
7	The family feels sympathy because the mother only gives breast milk to her baby		
8	The family is patient if the mother has complaints in providing breast milk		
9	The family is prepared to assume the mother's responsibilities should she express concerns about supplying breast milk.		
10	The family instructs the mother to administer formula milk if breast milk is insufficient for her infant.		
SUPPORT FOR INSTRUMENTAL			
11	The family joins the woman to healthcare providers to obtain information regarding exclusive breastfeeding.		
12	The family accompanies the mother to consult a health service regarding any breastfeeding concerns.		
13	The family offers financial support to ensure the woman maintains adequate nutrition while breastfeeding her infant.		
SELF-ESTEEM SUPPORT			
14	The family gives approval to the mother if she wants to provide exclusive breastfeeding		
15	The family is happy if the mother if the mother chooses to exclusively breastfeeding.		

Phase Two: Executing the Distribution of Research Instruments

The test was administered to a sample of 35 working women with children aged 6 months to 1 year.

Phase Three: Executing Validity Assessment Utilizing SPSS

Upon completion of the instrument, the subsequent step is to do a validity analysis utilizing the SPSS software. The researchers employed Pearson Bivariate correlation (Pearson Moment Product) for the validity test. The instrument or question items are said to be closely linked with the total score and are therefore regarded as valid if the computed r value is greater than or equal to the table r value (2-sided test with significance at 0.05).

Reliability Test

A technique for evaluating a questionnaire that acts as an indicator of a variable or construct is called a reliability test. If a person's response to a statement remains consistent or stable throughout time, the questionnaire is considered dependable. A questionnaire is said to be reliable if it consistently produces the same results when given to the same respondents. Cronbach's Alpha is used in this study to evaluate reliability. A reliability coefficient between 0 and 1 is produced by Cronbach's Alpha. A higher reliability coefficient suggests that the questionnaire is more reliable. Although an alpha value above 0.80 suggests that all items are reliable and that all tests consistently show strong reliability, an alpha score above 0.7

indicates adequate reliability. On the other hand, some people read it as this: The reliability is considered flawless if alpha is greater than 0.90. A range of 0.70 to 0.90 for alpha indicates strong reliability. When alpha falls between 0.50 and 0.70, the reliability is deemed to be moderate. Reliability is deemed low if alpha is less than 0.50. One or more items are likely to be untrustworthy if alpha is low.

RESULT

Validity Test

Following the execution of a validity assessment for each question pertaining to The Exclusive Breastfeeding Knowledge Questionnaire and the Exclusive Breastfeeding Family Support Questionnaire by Pearson Bivariate correlation (Pearson Moment Product), the subsequent results were acquired. Out of 15 questions about Knowledge of Exclusive Breastfeeding, 11 questions were deemed legitimate with a correlation coefficient equal to or over the critical value, while 4 questions were classified as invalid with a correlation coefficient below the critical value. Subsequently, the faulty questions were revised, and a validity test was conducted once more, resulting in 15 questions being deemed valid with a r count more than or equal to the r table. The specifics of the validity test results for each question item on Knowledge of Exclusive Breastfeeding are as follows:

Table 3.
Outcomes of the Exclusive Breastfeeding Knowledge Questionnaire Validity Test

Question	r count	r table	Description
1	0.618	0.334	Valid
2	0.421	0.334	Valid
3	0.688	0.334	Valid
4	0.733	0.334	Valid
5	0.418	0.334	Valid
6	0.715	0.334	Valid
7	0.619	0.334	Valid
8	0.418	0.334	Valid
9	0.704	0.334	Valid
10	0.616	0.334	Valid
11	0.421	0.334	Valid
12	0.418	0.334	Valid
13	0.700	0.334	Valid
14	0.619	0.334	Valid
15	0.550	0.334	Valid

Out of the 15 questions regarding Family Support in Exclusive Breastfeeding, 12 questions were deemed acceptable with a correlation coefficient equal to or exceeding the table value, while 3 questions were considered invalid with a correlation coefficient below the table value. Subsequently, the invalid questions were revised, and a validity assessment was conducted once again, resulting in 15 questions being deemed valid with a r count equal to or over the r table value. The specifics of the validity test outcomes for each question item on Family Support in Exclusive Breastfeeding are as follows:

Table 4.
Outcomes of the Family Support in Exclusive Breastfeeding Questionnaire Validity Test

Question	r count	r table	Description
1	0.527	0.334	Valid
2	0.440	0.334	Valid
3	0.595	0.334	Valid
4	0.612	0.334	Valid
5	0.440	0.334	Valid
6	0.595	0.334	Valid

Question	r count	r table	Description
7	0.612	0.334	Valid
8	0.440	0.334	Valid
9	0.595	0.334	Valid
10	0.380	0.334	Valid
11	0.612	0.334	Valid
12	0.527	0.334	Valid
13	0.595	0.334	Valid
14	0.676	0.334	Valid
15	0.612	0.334	Valid

Reliability Test

Following a reliability assessment utilizing Cronbach's alpha for the exclusive breastfeeding knowledge variable and familial support in facilitating exclusive breastfeeding, the coefficient value for the exclusive breastfeeding knowledge variable was determined to be 0.826. The coefficient value for the family support variable in facilitating exclusive breastfeeding was shown to be 0.811. The test results indicate that the questionnaire assessing knowledge of exclusive breastfeeding and familial support for its provision is reliable and consistent, as it satisfies the criterion of a Cronbach's alpha coefficient value over 0.80. It can be stated that all items are reliable and all tests consistently have strong reliability.

Table 5.
Outcomes of the Reliability Assessment

Questionnaire	Cronbach's Alpha	Description
Knowledge of Exclusive Breastfeeding	0,826	Reliabel
Family Support in Exclusive Breastfeeding	0,811	Reliabel

DISCUSSION

With a Cronbach's alpha of 0.826 and a Pearson correlation coefficient ranging from 0.418 to 0.733, the study's findings showed that the exclusive breastfeeding knowledge questionnaire was both valid and reliable, surpassing the r table value of 0.334. A Cronbach's alpha of 0.811 and a Pearson correlation coefficient ranging from 0.380 to 0.676, which exceeded the r table value of 0.334, indicated that the family support questionnaire was valid and reliable for exclusive breastfeeding. Validity testing evaluates the extent to which a measurement instrument reliably quantifies the target variable. Questionnaire's validity is evaluated using the validity test. Questionnaire is deemed legitimate if its questions effectively elicit the information intended to be measured (Ghozali, 2009). A test is said to possess high validity if it effectively fulfills its measuring function, yielding precise and accurate results in alignment with its intended goal. A test yielding results irrelevant to its intended measurement is characterized as having low validity.

According to Sugiyono (2017), he states that the reliability test is to what extent the measurement results using the same object will produce the same data. Reliability is a statistic used to assess a questionnaire that functions as an indicator of a variable or construct. If a person's response to a statement remains consistent or stable throughout time, the questionnaire is considered dependable. The degree of a test's stability, consistency, predictive validity, and precision is indicated by its reliability. Results from measurements with high dependability are consistent (Ghozali, 2009). This aligns with the findings of validity assessments performed by other scholars. The study employed a questionnaire that was validated and verified for reliability, yielding a r table value of 0.361, a r count ranging from 0.414 to 0.968, and a correlation coefficient of 0.853. The questionnaire comprises maternal sociodemographics (age, educational attainment, employment status), exclusive breastfeeding, and familial support (Fatmawati & Winarsih, 2020).

Additionally, some studies utilize a family support questionnaire from Simbolon's (2011) research and a maternal knowledge questionnaire for nursing from Bakti's (2016) research, both of which have been previously validated for reliability and validity. A validity test was conducted on 20 family support questions and 20 knowledge questions; a r value greater than 0.3 indicates validity. A result of r = 0.7 was obtained from the family support questionnaire calculation. The maternal knowledge questionnaire is valid, as indicated by the calculated results, which showed a value of r = 0.5. The reliability test was carried out after the validity test; reliability is indicated by a Cronbach's Alpha score greater than 0.7. Cronbach's Alpha for the family support questionnaire computation was 0.8. The reliability of the mother's knowledge questionnaire was demonstrated by its Cronbach's Alpha calculation, which came out at 0.899 (Setijaningrum & Hidayati, 2017).

CONCLUSION

The evaluations of validity and reliability for each item in the Knowledge Questionnaire on Exclusive Breastfeeding and the Family Support Questionnaire for Providing Exclusive Breastfeeding demonstrated that both instruments are valid and reliable for research applications.

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