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DESCRIPTIVE ANALYSIS OF REPRODUCTIVE QUALITY IN WORKING WOMEN IN THE STIKes RESPATI ENVIRONMENT

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Abstract

Workers in Indonesia of reproductive age have various health problems. Female workers are more vulnerable than male workers, where women will experience menstruation, pregnancy, and menopause, which will make them more vulnerable if exposed to various risk factors in the work environment. Research results (1) say that women who work as full-time workers (35.24%) will be at risk of experiencing reproductive health problems, one of which is menstrual cycle problems. The research aims to determine the descriptive analysis of reproductive quality in working women in the STIKes Respati environment. The type of research is quantitative with descriptive methods, where the population is mothers who work at STIKes Respati. The research showed that weight examination for TB to determine nutritional status through the BMI measurement category showed that 70% had normal nutritional status, as many as 10% of workers were in the underweight category, and 20% were in the obese category. Based on the results of this research, the level of education is in line with a woman's ability to manage her diet well, so it impacts her nutritional status. Based on gynecological history, it is also at an expected average level with no history of gynecological disease in the family, as much as 80%. Meanwhile, the stress level of workers shows that 80% of workers show normal conditions (not stressed), and 20% are in stress conditions starting from mild to moderate stress.

***Keywords**: Reproductive Quality, Nutritional Status, History of Reproductive Health, Stress Level*

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1. Introduction

Reproductive health is crucial for the overall well-being of both women and men. It encompasses physical, mental, and social well-being and extends beyond the absence of disease or disability to include the health of the reproductive system and its functions.[1] As defined by the ICPD in 1994, reproductive health is a complete physical, mental, and social well-being, not simply the absence of disease or weakness, in all aspects of reproduction and its functions[2].

Reproductive health should be widely promoted so that expectant mothers are aware of the reproductive issues they may face and how to address them. Examples of women's health issues include high maternal mortality due to anemia, malnutrition, hemorrhage from miscarriage, and risky delivery due to reproductive organ diseases. Therefore, women's health issues require attention and a platform for broader promotion to ensure that women are informed about common reproductive health issues and

have access to solutions for the problems often encountered in primary care.[3]

Reproductive-aged workers in Indonesia are facing challenges in maintaining good health. According to data from the 2013 Regional Health Survey, the country is still grappling with nutritional issues, including high rates of chronic energy deficiency (CHD), iron nutritional anemia, and a growing trend of overweight. The prevalence of CHD risk (LILA < 23.5 cm) among pregnant women aged 15-49 is 24.2%, and among non-pregnant women in the same age group, it is 20.8%. The proportion of nutritional anemia among individuals aged 15-64 ranges from 16.9% to 25%, with pregnant women experiencing a rate of 37.1% and non-pregnant women at 22.7%. Furthermore, the prevalence of central obesity among women aged 15 and above is 42.1%.[2]

Female workers face unique vulnerabilities compared to their male counterparts due to biological factors such as menstruation, pregnancy, and menopause. These factors make them more susceptible to various risks in the workplace. Research Tri, indicates that 63.3% of women experience reproductive health issues, 60.6% face menstrual problems, and 20.2% encounter pregnancy-related issues.[4]

Additionally, 70.6% of female workers operate on morning, afternoon, and night shift rotations, 78% perform monotonous tasks, and 20.2% work in environments with temperatures exceeding 28°C. Furthermore, those with high and average work stress indexes of 100% and 89.5%, respectively, have reported reproductive health problems. There is a strong indication that work-related stress, temperature conditions, and shift schedules impact the reproductive health of female workers. High levels of stress can disrupt menstrual cycles and lead to various pregnancy complications. Other studies also suggest that severe stress in female workers can result in conception difficulties, miscarriages, prolonged labor, pre-eclampsia, premature birth, and spontaneous abortion. Stress can elevate cortisol levels, inhibiting the hormone LH necessary for estrogen and progesterone production, leading to hormonal imbalances and irregular menstrual cycles.[3]

The status of working mothers, whether in the formal or informal sector, makes breastfeeding difficult, especially if the home is far from the workplace. This is also the case if the company has a strict policy on the working hours of its employees. There are laws to ensure women workers have access to good health services for themselves and their children during the reproductive cycle. One of these laws establishes the right to maternity, paternity, and breastfeeding leave.[3]

Working mothers face numerous health risks, including the added burden of domestic duties and the responsibility of raising the next generation. Due to their natural biological processes, such as menstruation, pregnancy, childbirth, and lactation, women workers require proper healthcare and health protection. Indonesian workers of reproductive age experience a range of health issues, including iron deficiency anemia, which leads to increased illness and accidents, resulting in higher rates of absenteeism. Pregnant women are also at risk of delivering low-birth-weight babies.[4]

Working mothers are often burdened with a dual role, serving as both a homemaker and a full-time employee. Those who work 35 hours or more per week face a higher risk of fatigue compared to their part-time counterparts. Occupational fatigue manifests as decreased work performance and energy levels during activities. The primary contributors to fatigue include the duration of work and excessive physical exertion to meet work targets. A preliminary study at PT Anugerah Abadi revealed that six out of ten women experienced mild tiredness, while two out of ten suffered from moderate tiredness, and another two out of ten endured severe tiredness. Full-time female workers (35.24%) are susceptible to reproductive health issues, including menstrual cycle irregularities. Factors

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influencing menstrual disorders include pathological conditions (e.g., PCOS), unhealthy lifestyle choices (e.g., smoking, alcohol consumption), psychological factors (e.g., depression, stress), and excessive physical activity (e.g., extended working hours(1,5)

This research's primary objective is to comprehensively analyze the reproductive quality among working women within the STIKes Respati environment. This study aims to assess the nutritional status of working mothers at STIKes Respati, examine the reproductive health history of workers at the institution, and evaluate the stress levels experienced by employees at STIKes Respati.

2. Method

This quantitative research used descriptive methods to analyze the reproductive quality of working women in the STIKes Respati environment. The population in this study were working mothers in STIKes Respati. We used a total sampling which meant that the whole population was sampled. This research was conducted at STIKes Respati in January 2023. The data collected using assessment sheets and questionnaires in the form of weight and height forms to measure the nutritional status of the respondents; reproductive health history questionnaires; and Depression Anxiety Stress Scale 24 (DASS 24) questionnaires. The DASS questionnaire is a 24-item quantitative measure of the negative emotional states of depression, anxiety, and stress.[6] The data analyzed using univariate analysis, which aims to explain or describe the characteristics of each research variable. This analysis only produces a frequency distribution and plot of each variable. The analysis used is univariate analysis.

3. Result and Discussion

a. Characteristics of Respondents

Table 1. Distribution of Maternal Respondent Characteristics

	N	Minimum	Maximum	Mean
Age	20	20	45	34.6
Period of employment	20	0,25	19	7.99
	N	**Category**	**Frequency**	**Persentase (%)**
Education	20	Junior High School	1	5
		Senior High School	3	15
		University	16	80
Marital status	20	Married	18	90
		Single	2	10

According to Table 1, the average age of mothers in the Reproductive Quality Description Analysis of Working Women at STIKes Respati is 34.6 years, with a minimum age of 20 and a maximum age of 45. The average duration of maternal work is 7.99 years, with a minimum of 0.25 years (4 months) and a maximum of 19 years. Sixteen mothers (80%) have a University degree, three (15%) have a High School diploma, and one (5%) has a junior high school diploma. The working status data includes 18 married mothers (90%) and two unmarried mothers (10%).

The findings revealed that 80% of individuals had obtained a bachelor's or master's degree. Additionally, the examination of body weight in relation to height, using BMI measurement categories, indicated that 70% had a normal nutritional status. Furthermore, 10% of the participants were classified as severely underweight, and 20% were

categorized as obese. These results suggest a correlation between education level and women's ability to manage their diet, effectively influencing their nutritional status.

Education is crucial for enhancing human resources. Individuals with higher education levels are more inclined to engage in preventive measures and possess greater awareness of health issues, resulting in better overall health. Moreover, higher levels of education in women are associated with reduced maternal and infant mortality rates. Education also plays a role in shaping nutritional status, as individuals with higher education levels are expected to have a better understanding of nutrition. Nutritional deficiencies often stem from a lack of knowledge about a balanced diet.[7]

The respondents, according to marital status, are divided into two categories, namely married and unmarried working mothers. The number of respondents already working as working mothers is 18 persons (90%), and the number of persons who are not married is two persons (10%). This is consistent with Cahyani, the limits of women of childbearing age according to 6), namely women aged 15-49 with functioning reproductive organs, unmarried, married, or widowed.[8]

b. Nutritional Status

Table 2. Distribution of nutritional status (BMI)

	N	Category	F	P (%)
BMI	20	Severely underweight	2	10
		Underweight	0	0
		Normal	11	55
		Overweight	3	15
		Obesity	4	20

According to Table 2, it is evident that 11 people (55%) of maternal workers have a normal BMI, four people (20%) are obese, three people (15%) are overweight, and two people (10%) are severely underweight.

Workers' nutritional status is closely related to productivity.[9] Work nutrition is crucial because it reflects workers' physical quality and immunity, playing a role in providing substances and energy when the body feels tired from work. It can also boost motivation and enthusiasm, ultimately impacting work productivity. Implementing a communal meal program in the company, along with monitoring nutritional status (under or overnutrition) and providing physical activities (sports), can be highly effective. It is widely recognized that interventions to improve workers' nutritional status can reduce absenteeism and productivity losses, ultimately increasing the company's revenue.[10]

c. Reproductive Health Status

Table 3. Distribution of Reproductive Health Status

Obstetric History	N	Category	F	P (%)
Parity	18	Nullipara	2	11.11
		Primipara	2	11.11
		Multipara	14	77.78
history of miscarriage	18	Never	13	72.22
		1-2	5	27.78
		>2	0	0
number of children	18	None	2	11.11
		1-2	9	50
		>2	7	38.89
obstetric complications	18	Never	10	55.55
		During pregnancy	1	5.55
		During childbirth	7	38.89
		During postpartum	0	0
Family Planning History				

Type of Contraception	18	Condom	4	22.22
		injections	4	22.22
		IUD	2	11.11
		None	8	44.44
Duration of use	10	< 6 months	4	40
		6 months to 1 year	2	20
		> 1 year	4	40
Side Effects	10	Yes	2	20
		No	8	80
Gynecological and family illness history				
History of illness	20	Gynecological history	1	5
		Family illness history	3	15
		None	16	80
Menstrual History				
Menarche	20	Min	11	
		Max	14	
		Average	12,3	
"Menstruation as a Painful Process"	20	Yes	3	15
		No	15	75
		Other complaints	2	10
Pain Level	20	Mild (0-1)	15	75
		Moderate (2-3)	2	10
		Severe (4-5)	3	15
Menstrual cycle	20	Normal (21-35 hari)	15	75
		Oligomenorrhea (>35 hari)	0	0
		Polymenorrhea (<21 hari)	5	25
Duration of breastfeeding	20	Normal (5-7 hari)	16	80
		Hypomenorrhea (< 5 hari)	0	0
		Hypermenorrhea (> 7 hari)	4	20
Use of pads	20	< 2	0	0
		2-5	18	90
		> 5	2	10

Reproductive history assessment aims to identify women's reproductive health conditions, directly or indirectly impacting their current reproductive lives.[11] Results show that 77.78% were multiparous, 72.22% had never had an abortion, 50% had 1-2 children, and 55.55% had no obstetric complications. Regarding gynecological history, 80% had no family history of gynecological disease. However, each respondent's menstrual history varied significantly.

Respondents' reactions to the menstrual process as a physiological are varied. Several respondents' reactions found it as mild symptoms and not requiring special treatment; 15% found it painful, while 10% considered it disturbing. Meanwhile, based on the menstrual cycle, 25% experienced polymenorrhea, and 20% experienced frequent menstruation occurring at intervals of less than 21 days and lasting longer than seven days. The findings suggest a correlation between discomfort during menstruation and the duration of the menstrual cycle, indicating a common trend among the respondents.

Menstruation is the blood that comes out of the uterus of healthy women, typically lasting 3-6 days with a brownish color. Women change pads

2-5 times a day during this time. This process is influenced by a decrease in progesterone levels, which occurs after ovulation in the menstrual cycle.[12] The menstrual process is a measure of reproductive normality. There are several research findings on a connection between nutritional fulfillment and menstruation. Weight variation, such as being overweight, obese, or underweight, can lead to ovulation disorders like PolycysticOvarian Syndrome (PCOS), potentially causing secondary infertility. Additionally, insufficient nutrient intake can result in irregular menstrual cycles. For instance, vegetarian women lacking protein, vitamin C, and iron may experience issues during the preovulatory phase, which is crucial for the growth and maturation of eggs. On the other hand, vitamin B12 deficiency is associated with the ovulatory phase, the stage in which mature eggs are released for fertilization.[13]

Thus, if the reproductive health status is related to the state of nutritional status, it is known that 45% of the respondents are in the abnormal category, namely 10% in the category of severely underweight, 15% in the category of overweight, and 20% in the category of obese, based on the data of determining the nutritional status of the respondents.

The existence of menstrual problems among respondents may also be interconnected with the conditions of excessive weight and nutritional well-being. According to [14], BMI holds a profound influence over menstrual disharmony, attributable to specific hormonal fluctuations embodied by significant weight loss (underweight: BMI <18.5).

This phenomenon correlates with compromised hypothalamic functionality, culminating in diminished serum and urine concentrations of gonadotropins and their subsequent secretion patterns. BMI bears a considerable impact on the regulation and release of serum gonadotropins. Menstrual cadences grow erratic when BMI diminishes below 19, and it is conjectured that a woman's body weight must comprise 22% fat to facilitate a harmonious ovulatory cycle. Fat manifests as adipose tissue, providing a source of estrogen through the metamorphosis of androgens into estrogen. This transformative process imparts an ample feedback mechanism to the hypothalamus-pituitary-ovarian axis.[15]

As gonadotropin levels decline, so do follicle-stimulating hormone (FSH), estrogen, and progesterone secretions — giving rise to a paucity of mature oocytes and aberrations in the menstrual cycle. The disruption of the menstrual cycle serves as a significant indicator of reproductive dysfunction, associated with an array of medical afflictions such as endometrial and breast cancers, infertility, and bone fractures.[16] Another opinion is that menstrual imbalances may originate from diverse elements encompassing nutrition, stressors, physical exertion, endocrine disturbances, gynecological ailments, and hormonal instabilities.[17]

d. Level of Stress

Table 4. Distribution of Stress Level

	N	Category	f	%
Stress level	20	Normal	16	80
		Mild	3	15
		Moderate	1	5

Drawing upon the insights presented in Table 4, we discern the stress levels of female workers through the lens of reproductive quality description analysis. Of these individuals, 80% (16 persons) in the standard category, 15% (3 persons) grapple with mild stress, and 5% (1 person) contend with moderate stress.

In this research, we ventured to measure worker stress by employing the DASS 2 instrument—a self-assessment scale designed to gauge an

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individual's adverse emotional states, including depression, anxiety, and stress[6]. The findings reveal that 80% of workers show normal conditions (not stressed), whereas 20% are in stressful conditions ranging from mild to moderate.

Based on the characteristics of the respondents, their ages ranged from 20 to 45 years, and their work experience varied between four months to 19 years. This indicates considerable variation across respondent groups regarding age and dedication to the institution. Such factors may allude to their capacity for emotional control and adaptation to workload, potentially influencing vulnerability to stressors. The workload can be a stressor for workers who struggle to acclimate physically and mentally to the demands placed upon them in their responsibilities. [18]

According to Tarwaka, work experience has a profound influence on occurrences of work fatigue. An employee's tenure within an organization amplifies feelings of ennui toward their role, ultimately impacting fatigue. The longer a person works in a company, the more his feelings of boredom with his work will affect the level of fatigue he experiences. This finding is in line with Ruliati that there is a significant relationship between an employee's length of service and the work fatigue experienced.[19; 20] Studies further highlight a significant relationship between work stress and fatigue; as one increases, so does the other. Age emerges as a variable that has a bearing on work fatigue. [21; 20]

The ramifications of stress extend beyond diminished work quality, encroaching upon aspects of personal health—reproductive well-being. Work stress experienced by female workers has the potential to disrupt menstrual cycles and precipitate an array of pregnancy complications. This notion aligns with Rahmawati's research. There was a correlation between abnormal menstrual cycles and stress levels.[22] Stress augments cortisol levels, inhibiting the LH hormone—necessary for estrogen and progesterone production. Resultant hormonal imbalances can instigate menstrual cycle irregularities. [17]

According to Nidya research, that several intrinsic elements of work possess the capacity to induce stress and adversely impact mental health. Among these factors are the physical conditions constituting an inhospitable workplace environment, including noise. Noisy settings are perceived as disruptive auditory stimuli, prompting stress responses in affected individuals. [23]

Hence, cultivating a nurturing work environment is a barrier against employee stress. Research findings substantiate this assertion that a mere 20% of workers grapple with stress, encompassing 5% moderate and 15% mild stress. A harmonious work ambiance fosters a sense of security and empowers employees to perform optimally. Enveloped in a workplace that resonates with their disposition, employees feel a deep sense of belonging as they navigate their daily tasks. In this context, the work environment encompasses subtle yet crucial aspects such as noise, temperature, illumination, hygiene, and other physical factors. [18]

Thus, it becomes imperative to consistently assess worker satisfaction and comfort, mitigating fatigue and preventing the onset of stress. In turn, such endeavors serve to optimize productivity within the work sphere.

4. Conclusion

Upon examining body weight and height to discern nutritional status through BMI categorization, it was revealed that 70% have a normal state. Notably, two individuals (10%) were found to be severely underweight, while 20% were obese. According to these findings, a

woman's educational level is inextricably linked with her ability to orchestrate wholesome dietary patterns, thus significantly impacting her nutritional well-being. Based on gynecological history, 80% of respondents had normal reproductive health and had no family history of gynecological disease. Lastly, the employees' stress conditions show that 80% show calm (without undue stress), while 20% show various stress levels ranging from mild to moderate intensity.

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