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QUALITY OF LIFE BETWEEN TUBECTOMISED AND NON-TUBECTOMISED WOMEN

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Abstract

Tubectomy has been known as the most appropriate method for women who have decided to stop conceiving. Some argue that it may improve their quality of life; on the other hand, some say it may cause physical, psychological, and mental problems due to increased incidence of dysmenorrhea or other post-tubectomy syndrome. This study aimed to compare the physical health, mental health, and sexual function of tubectomy acceptors with non-tubectomy. A cross-sectional study was done among 178 people, distributed equally among tubectomy and non-tubectomy groups who met the inclusion criteria. The research was conducted in the Raipur District in February 2022 using The Short Form 36 (SF-36) questionnaire was used to measure the dimensions of physical and mental health, while the Female Sexual Function Index (FSFI) was used to measure sexual function dimensions. In physical health dimensions, the scores obtained from the tubectomy group had a median score of 80(28-88) compared to 78(36-93) in non- tubectomy group. The median scores on mental health dimensions were 73(30-88) in the tubectomy group vs. 76(23 - 88)in non- tubectomy group. Mann Whitney test showed no significant differences in the dimensions of physical health ($p = 0.600$) or mental health ($p = 0.678$). However, their sexual function dimensions median scores showed a significant difference, i.e., 76(23-92) vs 71(13-91), $p = 0.01$ in tubectomy vs non- tubectomy group. Tubectomy acceptors showed they had better sexual function than non-tubectomy as measured for sexual function dimensions such as increased desire, arousal, lubrication, orgasm, and satisfaction. In physical health and mental health of the tubectomy acceptors group same as those of non- tubectomy group.

Keywords: tubectomy, physical health, mental health, and sexual function

INTRODUCTION

Uncontrolled Population Growth Rate would cause problems for the population and increase the burden borne by the state. Indonesian Dependency Figures currently account for 52%. The family planning program was an effort to curb population growth. Riskesdas data in 2010 showed the percentage of tubectomy acceptors was only 2.1%. Various reasons had been put forward by those who were not willing to accept tubectomy among others because of fear of side effects, complications, and religious reasons. Some socio-demographic characteristics such as age, education,

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and number of children were often also associated with the acceptance of tubectomy and related to quality of life.(Boulay & Valente, 1999; Rosalia & Martaadisubrata, 1993) Another issue that often arose in the community about tubectomy could cause physical and psychological/ mental problems such as increased incidence of dysmenorrhea and post-tubectomy syndrome.(Malhotra, Chanana, & Garg, 2007) This was contrary to some research showing that tubectomy showed a positive effect on satisfaction and sexual spontaneity, in which tubectomy acceptors were happy with their sexual lives.(Shain, Miller, Holden,& Rosenthal, 2001; Smith, et al., 2010)

RESEARCH METHODS

This study used an analytic observational study with a cross-sectional approach. The type of data used was primary data, i.e., data obtained directly from respondents through questionnaires. Before being asked to fill out the questionnaire, respondents were given the information explanations and approval. The data was collected by 5 (five) persons, consisting of one (1) personnel KB (Family Planning Program) and 4 (four) people who were trained midwives in explaining the purpose of research, Respondents approval, on how to fill out the questionnaire and assisting in filling out the questionnaire, while the input data was performed by 4 (four) midwives. In this study, the number of respondents in each group was 89 people who met the inclusion criteria. For tubectomy acceptors for the group, samples were taken from all acceptors, while the sample for the group instead of tubectomy was taken by simple random sampling technique in women of childbearing age in the same age group of tubectomy acceptors. Inclusion criteria for the tubectomy group and the comparison group, among others, were: women of childbearing age≥ 35 years, married, lived at home with their husband, still sexually active, living in districts of Raipur. Differences in the criteria for inclusion in the tubectomy group and the comparison group, i.e., the group that used tubectomy inclusion criteria were women who had become tubectomy acceptors for ≥ 3 years and were listed as tubectomy acceptors in the PLKB data collection sheet, whereas the comparison group used as inclusion criteria were fertile women who were non-tubectomy acceptors. Exclusion criteria in the comparison group and tubectomy among others suffering from an illness, were taking medications that could affect libido, was in the process of divorce. The research was conducted in the Raipur District in February 2022 by using a standardquestionnaire that had been tested for validityand reliability, the Short Form 36 questionnaire (SF-36) to measure the dimensions of physical and mental health, as well as questionnaires of Female Sexual Index (FSFI) to measure the dimensions of sexual function. To analyze the difference between the quality of life between acceptors and non-tubectomy acceptors used Mann-Whitney test with a significance value of $p < 0.05$.

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RESULTS

Characteristics of both groups of respondentsand non-acceptors of tubectomy related toquality of life including age, number ofchildren, education, and occupational status were presented in Table 1. Based on Table 1, note that there was no significant difference in the proportion of respondents' characteristics in terms of age, education, and employment between groups rather than tubectomy, but in terms of the number of children, there were significant differences in proportions between groups tubectomy and non-tubectomy ($p<0.05$).

Table 1- Characteristics of Respondents

Characteristics	Group: Tubectomy (n = 89)	Non-tubectomy (n = 89)	p-value
1. Age (year)			
20-29	1	1	0.997
30-39	21	20	
40-49	59	61	
50-59	6	5	
>60	2	2	
2. Number of children			
> 2	61	36	<0.001
≤ 2	28	53	
3. Level of education			
High	1	0	0.565
Intermediate	3	4	
Low	85	85	
4. Occupation status			
Working	4	9	0.249
Non-working	85	80	

Note: *based on Chi-square test to test two parties

Physical Health

On physical health, the dimension consisted of aspects of physical functioning, physical role limitations, pain, general health, and vitality. Difference scores for each aspect of the physical dimensions between groups tubectomy tubectomy were not presented in Table 2.

According to Table 2, there were no knownsignificant differences between tubectomygroups and non-tubectomy groups in overall physical health score and on aspects of physical functioning, physical role limitations, pain, general health, and vitality.

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Table 2- Comparison between the Physical Health Score of TubectomyAcceptors with Non-tubectomy seen from Various Aspects

Median score and range

Physical health	Tubectomy (n = 89)	Non-tubectomy (n = 89)	p- value
1. Physical function	100	100	0.874
	(10-100)	(40-100)	
2. Restricted physical role	100	100	0.613
	(0-100)	(0-100)	
3. Physical pain	100	100	0.510
	(0-100)	(0-100)	
4. General health	71	71	0.763
	(33-92)	(29-92)	
5. Vitality of physical activity	50	50	0.910
	(5-80)	(5-90)	
Physical health score	**80**	**78**	**0.600**
	(28-88)	**(36-93)**	

Note: *based on the Mann-Whitney test with two parties

Mental Health

In the mental health dimension consisted of aspects of social functioning, emotional role limitations, and mental health. Difference scores for each aspect of the dimensions of mental health between tubectomy groups with non-tubectomy were presented in Table 3.

Based on Table 3 it was known that there was no significant difference between tubectomy groups and non-tubectomy on overall mental health scores, as well as on aspects of social functioning, emotional role limitations, and mental health.

Table 3- Comparison between the Mental Health Score of Tubectomy Acceptors with Non-tubectomy seen from Various Aspects

Median score and range

Mental health	Tubectomy (n = 89)	Non-tubectomy (n = 89)	p-value
1. Social function	88	80	0.772
	(30-100)	(30-100)	
2. Restricted emotional role	100	100	0.708
	(0-100)	(0-100)	
3. Mental health	48	48	0.826
	(4-80)	(20-68)	
Mental health score	**73**	**76**	**0.678**
	(30-88)	**(23-88)**	

Note: *based on the Mann-Whitney test with two parties

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Sexual Function

The dimension of aspects of sexual function consisted of desire, arousal, lubrication, orgasm, satisfaction, and sexual pain. Difference scores for each aspect of the dimensions of sexual function between tubectomy groups and non-tubectomypresented in Table 4.

According to table 4, it was known that there were significant differences between the tubectomy groups and non-tubectomy both on overall sexual function score and on aspects of desire, arousal, lubrication,orgasm, and satisfaction ($p < 0.05$), but there were significant differences on the aspect of sexual pain between the tubectomy groups rather than non-tubectomy.

Table 4- Comparison between the Sexual Function Score of Tubectomy Acceptors with Non-tubectomy seen from Various Aspects

Median score and range

Sexual functioning	Tubectomy	Non-tubectomy	p-value
	(n = 89)	**(n = 89)**	
1. Desire	60	60	0.004
	(0-80)	(0-80)	
2. Arousal	80	75	<0.001
	(25-100)	(5-100)	
3. Lubrication	90	80	0.006
	(10-100)	(10-100)	
4. Orgasm	87	73	0.005
	(20-100)	(7-100)	
5. Satisfaction	93	80	0.015
	(40-100)	(0-100)	
6. Sexual pain	60	47	0.321
	(7-100)	(20-93)	
Sexual function score	**76**	**71**	**0.01**
	(23-92)	**(13-91)**	

Note: *based on Mann-Whitney test with two parties

Number of Children

Based on the characteristics of Table 1 the number of children there were significant differences between tubectomy groups rather than non-tubectomy. Therefore, further analysis was done on physical health score differences, mental health, and social functioning based on the number of children. Differences in scores on the analysis of physical, mental health, and sexual function based on the number of children, both in thenumber of respondents who had children > 2and the number of children ≤ 2 groupstubectomy, and not presented in Table 5.

Based on Table 5 it was known that the number of respondents who had children> 2 found a difference in the physical health score. This showed that the number of children was a confounding variable to the physical health of tubectomy acceptors, while the mental health score (SF-36) and sexual function score (FSFI) based on the number ofchildren, both in the number of respondents who had children> 2 and the number of children ≤ 2 between groups rather than tubectomy there was no

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differencealso. This showed that the number of childrenwas not a confounding variable to the mental health and sexual function tubectomy acceptors.

Table 5- Comparison of the SF-36 Score and MSHQ Score by Number of Children

Note: *based on Mann-Whitney test with two parties

Quality of life	Median score and range				Comparison of life quality score between tubectomy acceptors and non-tubectomy	
	Tubectomy		Non-tubectomy		Number of children	
	No. of Children		No. of Children		>2	≤2
	>2 (n=89)	≤2 (n=89)	>2 (n=89)	≤2 (n=89)	(n=59) p*	(n=59) p*
Score of SF 36 Score physical health	77	82,5	65	84	0,026	0.780
	(28-87)	(56-88)	(36-87)	(42-93)		
Score of Mental health	73	76,5	56,5	81	0,100	0.183
	(31-88)	(30-88)	(30-87)	(23-88)		
Score of FSFI	76	76	68	72	0,510	0.07
	(23-92)	(58-87)	(15-87)	(13-91)		

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DISCUSSION

The results in Table 2 show that there is no significant difference between tubectomy groups and non-tubectomy at overall physical health score and on aspects of physical functioning, physical role limitations, pain, general health, and vitality. Tubectomy is one type of permanent contraception for women that is conducted by occlusion of both fallopian tubes (binding or cutting or installing a ring) so that sperm and ovum cannot meet. In the female reproductive system, an egg cell is produced in the ovaries each month from menarche to menopause. The fallopian channel tube is the channel from the ovary to the uterus, and then the egg gets out of the fallopian tube where it meets with sperm cells. After a tubal ligation procedure, the egg cannot pass through the area that has been tied up so it cannot meet with sperm, and fertilization is not occurring. (Rachimhadhi, Angsar, Hadisaputra, Waspodo, & Mu'ammar, 2003) Some researchers suggest that tubal ligation does not lead to changes in health. The study results of Carmona, et al (Carmona, Cristobal, Casamitjana, & Balash, 2003) showed no significant change in the curve of the hormone FSH, LH, estradiol, inhibin, and progesterone in both the tubectomy group and the control group for the parameters. Carmona et al. (Carmona, et al., 2003) research results, supported by the results of the study of Wu et al (Wu, Xiao, Yan, Li, & Wu, 1997) showed no significant differences in hormonal patterns of the menstrual cycle in both groups and the control group tubectomy. LH levels were significantly lower in the control group. Likewise, the peak estradiol preovulatory phase was significantly lower than in the luteal phase tubectomy group. Only one in ten women in the tubal ligation group, who had undergone tubal ligation 1.5 years earlier, showed deficiencies in luteal function, but the function of normal ovulation and menstrual cycles. It can be concluded that the hormonal profile remained normal post-tubectomy.

The results in Table 3 that there is no significant difference between tubectomy groups and non-tubectomy at mental health scores overall, as well as on aspects of social functioning, emotional role limitations, and mental health. Tubectomy is not revealed in any severe psychological problems of post-tubal ligation so the situation is the same as with women who did not undergo tubectomy. This is in line with the results in Table 2 that there is no significant difference in physical health scores between groups rather than tubectomy. Physical health and mental health affect each other. Many studies indicate a strong

relationship betweenpsychological and physical health, with thesame physical health, is also synonymous with maintaining one's mental health. Similarly, the increase in physical health is associated with improved quality of life through improved self-esteem, improved mood, and anxiety, and resistance to stress. Mental health is a person's ability to adjust to the self and the surrounding environment (people and communities). According to Donovan et al (O'Connor, 1993), subjective assessment of quality of life as someone who would be his happiness is gained through life experiences. Happiness is closely related to mental health and defined as a person's emotional response to the social, emotional, work, and family relationships, feeling happy or unhappy, the match between expectations and reality, the satisfaction of doing physical functioning, social and emotional as well as the ability to conduct socialization with others. No difference in emotional role limitations differences in social environment both in tubectomy groups and tubectomy. This suggests that tubal ligation does not affect the acceptor's social life changes, such as reducing the time that should be made towork, the amount of work completed, and the barriers to social activities.

Humans are social creatures by nature, and man cannot live alone because humans have dependencies on each other. Therefore, human life needs to interact and communicate with the social environment. The social environment is all about creatures living in conditions that may affect the development, or behavior of a person's socialrelationships in action. There is no humanbeing who is able to live alone without interacting with sekitarnya.

The results in Table 3 are not in accordance with the results of Barnett dkk(Barnett, et al., 1993) that participation in family planning will provide comfort for a person so that the person can be free to express their sexual relations without fear of unwanted pregnancy. Tubectomy provides comfort for its users because they are no longer burdened with fears of unwanted pregnancy, with so acceptors no longer burdened with fears of having children so psychologically better acceptors than those without family planning. Table 4 The results showed that there are significant differences between the tubectomy groups and non-tubectomy on overall sexual function score and on aspects of desire,arousal, lubrication, orgasm, and satisfaction($p < 0.05$), but the aspect of sexual pain there are no significant differences between groups rather than tubectomy. Tubectomy is a contraceptive act done by tying or cutting the fallopian tubes so that both spermatozoa and ovum cannot meet. Tubectomy does not interfere with hormone production ovarium. Thus,

tubal ligation does not interfere with sexuality acceptor and can even enhance sexuality. The results are consistent with some previous research that tubectomy has a positive effect on sexuality. The results of Shain, et al. (Shain, et al., 2001) and Smith, et al. (Smith, et al., 2010) that tubectomy had a positive effect on satisfaction and sexual spontaneity, post- tubal ligation women happier in their sexual lives.

The results showed Barnett et al (Barnett, et al., 1993) participation in family planning will provide comfort for someone so that people can more freely express their sexual relations without fear of unwanted pregnancy. Tubectomy provides comfort for its users because they are no longer burdened with fears of unwanted pregnancy. Acceptor can freely have sexual intercourse at any time and as often as possible without kekahwatiran against unwanted pregnancy.

The results in Table 4 are not in line with the results of Costello; et al (Costello, Hillis, Marchbanks, Jamieson, & Peterson, 2002) showed no change in sexual and sexual pleasure post-tubectomy. Similarly, Kjer's (Kjer, 1999) research focuses on libido, frequency of coitus, coitus pleasure, lack of excitement, sexual life, and femininity juice after tubectomy in a group of patients who are satisfied and other groups who are not satisfied with tubectomy. The result showed that there was no difference in libido, frequency of coitus, or coitus satisfactionbetween the two groups. Significantdifferences are seen in the lack of enthusiasm about the sexual life is more relaxed and the perception of womanhood changes.

Based on Table 4 the sexual aspects of pain there is no significant difference between groups rather than tubectomy. Based on Table 4 the majority of respondents aged 40-49 years. In theory, at age 25, a woman will have a decline in the function of the reproductive organs. At the age of> 35 years can various sexual problems such as pain during intercourse?

The results in Table 5 show that for respondents who had a number of children> 2, there is a difference in the physical health score. This shows that the number of children is a confounding variable to the physical health of tubectomy acceptors, while the mental health score (SF-36) and sexual function score (FSFI) based on the number of children, both in the number of respondents who have children> 2 and the number of children ≤ 2 between groups rather than tubectomy there is no difference. This shows that the number of children is not a confounding variable to the mental health andsexual function of tubectomy acceptors. Every marriage generally expects the presence of children. Every couple has different expectations

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about the number of children they will have. The desired amount of each partner depends on the couple themselves. The decision of how many children they want to have is greatly influenced by the values espoused or believed by the couple as the parents of the child. Fulfillment by the desired number of children in each couple can increase the harmony in keluarga. One of the family plans is planning the number of children who want to be owned by the couple. The purpose of determining family size is generally because they want to be responsible for raising their children. In reproductive decisions, including the selection of contraception by considering the economic (household budget) and the consequences of changes in fertility and health in order to achieve a quality of life. The ideal number of children that you have will greatly influence the decision of couples in deciding which contraceptive method will be used. Couples with a number of children may choose to use long-term contraception in an attempt to limit the number of children, whereas the number of children living with a couple fewer choose to use short-term contraceptives for extending childbirth spacing. Based on Table 5, the number of children is a confounding variable to the physical health of tubectomy acceptors. This is because the number of children is associated with maternal frequency (parity) and is related to maternal health. Mothers who give birth more often are more at risk of complications or health problems. No parity relationship between childbirth complications. The results of Rukmini and Wiludjeng, (Rukmini & Wiludjeng, 2005) Tambunan (Tambunan, 2007) show the number of cases of maternal deaths increased in parity> 3.

Limitations of Research

The unavailability of specialized instruments to measure quality of life so that tubectomy acceptors used in this study a combination of instruments, the SF-36 to measure physical health and mental health, as well as the FSFI used to measure sexual function. To assess physical health of the physical examination is because survey respondents may have the disease but they do not know it because they never checked themselves into a health worker. However, because of limited manpower, cost, and time in this study, physical health assessment is only done through questionnaires. The absence of information related to variables of the physical dimensions of health and mental health and sub-variables of sexual pain in tubectomy acceptors that more studies need to be conducted to identify the variables associated sub Tubectomy through qualitative research.

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CONCLUSION

Based on the above, it can be concluded that there is no significant difference in the dimensions of physical and mental health among women with tubectomy acceptor and non-tubectomy. Tubectomy acceptor's sexual functions are better than women of non-tubectomy, yet there is no difference in the aspect of sexual pain.

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