

**REDUCING COMPLAINTS OF ITCHING FOR THE COMFORT OF PRURITIC ELDERLY WITH GARRA RUFA CARE BREATHING RELAXATION (GC-BR) BASED ON KOLCABA'S COMFORT NURSING THEORY****Wimar Anugrah Romadhon*, Ita Noviasari**

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[*anugrah.wimar@gmail.com](mailto:anugrah.wimar@gmail.com)**ABSTRACT**

Pruritus or itching in the elderly can have a negative impact on the comfort and health aspects of the elderly. Garra rufa Care Breathing Relaxation (GC-BR) intervention is a combination of two interventions with micro massage carried out by garra rufa fish and relaxation techniques which are useful for exfoliating dead skin, increasing blood circulation, eliminating bacteria. The aim of this research is that GC-BR therapy can increase comfort and reduce complaints of itching in elderly people with pruritus. Experimental research design with quasi-experimental methods. The sample size was 20 Pruritus Elderly consisting of 10 treatment groups and 10 control groups by total sampling. The independent variable is GC-BR. The dependent variable is the level of comfort and itching complaints of Pruritus elderly people. The instrument for this research is the General Comfort Questionnaire to assess the comfort of elderly Pruritus and the Numeric Rating Scale (NRS). Statistical tests use the Wilcoxon Signed Rank Test and Mann Whitney with a significance level of 0.05. The results showed that there was an effect of GC-BR on comfort level ($p=0.005$) and complaints of itching ($p=0.004$) in the treatment group. Meanwhile, in the control group there was no influence on the results of comfort level ($p=0.096$) and complaints of itching ($p=0.655$). The comparison results stated that there was a difference in the post test comfort level ($p=0.003$) and itching complaints ($p=0.031$). GC-BR has a significant effect on the comfort level and complaints of itching in the elderly.

Keywords: breathing relaxation; comfort; elderly; garra rufa care; pruritus

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INTRODUCTION

Pruritus is an unpleasant sensory perception that causes a strong desire to scratch and has a high impact on the quality of life. The elderly experience a decrease in skin moisture so they often experience pruritus (Weber et al., 2023). Emotional states can influence the stimulation of conscious appreciation of pruritus. If the stimulation of pruritus lasts frequently and for a long time, it will result in a feeling of discomfort due to complaints of itching that is felt and gradually changes can arise in the sufferer's personality (Chung et al., 2021). Pruritus can be found throughout the world. According to a cross-sectional study in Oslo, Norway, pruritus affected 8.4% of the general population. Meanwhile in a study in France a survey was sent to 10,000 randomly selected households. Of the 7,500, 87% reported skin problems from birth and 43% of patients with skin diseases stated that they had experienced pruritus (Cohen et al., 2019; Grundmann & Ständer, 2010). In a study in Thailand involving 149 elderly patients, pruritus was the most common disease in 41% of the total patients included (Grundmann & Ständer, 2010). The results of a preliminary study at the Tresna Werda Wlingi social

institution in Blitar district showed that 20 out of 49 elderly people experienced pruritus with complaints of itching and discomfort.

Aging skin is characterized by atrophy of the epidermis and dermis, due to loss of collagen, degeneration of the elastic fiber network and loss of hydration. Pruritus or itching in the elderly can have a negative impact on aspects of comfort and health in the elderly, especially the ability to carry out daily activities and mobilize (Shevchenko et al., 2018).. Itching occurs frequently, for a long time and without knowing the cause, resulting in feelings of fear, tension, anxiety (Djuanda, 2005). If the problem of pruritus continues and is not treated immediately in the elderly, negative impacts will arise such as scratching scars which can cause ulceration on the feet. Then ulcers can develop into infections and worsen skin conditions in the elderly. Therefore, there is a need for special nursing intervention to overcome this. One way to treat pruritus is with Garra rufa Care Breathing Relaxation based on Kolcaba's Comfort Nursing Theory.

Kolcaba comfort nursing theory. Comfort is a condition of being free from stress or discomfort, and is also a concept that has a strong connection to nursing. Nurses provide comfort to clients based on 3 aspects according to Kolcaba, namely Health Care Needs, with interventions called comfort measures (Comforting Interventions) and variables that influence the intervention (Intervening Variables) in this case are elderly age. When clients are strengthened by the actions of nurses and clients they will be better able to seek healthy behaviors (Kolcaba, 2003; Marques, 2022). Garra rufa Care Breathing Relaxation intervention is a combination of two interventions with micro massage carried out by garra rufa fish which is useful for exfoliating dead skin, increasing blood circulation, eliminating bacteria, and also reducing foot odor which makes elderly people feel comfortable from complaints of itching. The enzyme Dithranol or anhralin is found in the mouth of the Garra Rufa fish. This enzyme helps the fish peel dead skin cells in humans, so that the skin cell regeneration process will be faster and new skin cells will grow quickly. By optimizing the provision of breathing relaxation techniques which can relax the elderly, reduce oxygen consumption, respiratory frequency, heart frequency and muscle tension, which provides a feeling of comfort (Liu et al., 2021; Novian Mahayu Adiutama et al., 2022).

METHOD

The design used in this research is an experimental research design with a quasi-experimental method. In this study there were two groups, namely the treatment group and the control group. The population in this study were all elderly people who experienced pruritus, especially in the lower extremities at UPT PSTW Wlingi, Blitar Regency. The total sample was 20 Pruritus Elderly consisting of 10 treatment groups and 10 control groups. Samples were taken by total sampling. The inclusion criteria for the sample are as follows: Elderly with pruritus in the lower extremities (legs). The exclusion criteria are as follows: 1) Elderly people with mental disorders 2) Elderly people who are deaf and illiterate 3) Elderly people with infectious diseases.

The independent variable is Garra rufa Care Breathing Relaxation. The dependent variable is the level of comfort and itching complaints of Pruritus elderly people. The instruments in this study were the General Comfort Questionnaire to assess the comfort of elderly Pruritus and the Numeric Rating Scale (NRS) which is a segmental numerical version of the VAS (Visual Analogue Scale). NRS is marked with numbers 0-10 (0: no itching and 10 unimaginable itching) for assessing itching complaints. The research steps that have been carried out are as follows: after the researcher determined the sample that met the inclusion criteria, the

researcher then carried out the first stage assessment (pre test) to determine the comfort level and complaints of pruritic elderly itching before the intervention was carried out. After that, the researchers carried out the GC-BR intervention. The technique for carrying out intervention is to provide support to the elderly regarding the new therapy provided, if good results are obtained. The GC-BR intervention was carried out once a day for 2 weeks, each session lasting 15 minutes, with a water temperature of around 25-30° C, and a water to fish ratio of 1000 L: 300 fish. The elderly were told to sit in a relaxed manner and enjoy micro massage therapy from Garra Rufa fish on the lower extremities. In the process of providing the Garra Rufa Care intervention, the elderly are accompanied in carrying out breathing relaxation techniques simultaneously. After the intervention was completed, the second stage of measurement (post test) was carried out to assess the level of comfort and complaints of itching in the elderly with pruritus. This research has been ethically tested at the Health Research Ethics Committee of STIKes Patria Husada Blitar with ethical letter number 06/PHB/KEPK/147/06.23.

RESULTS

Table 1.
Distribution of respondent characteristics

Characteristics	Experiment group		Control group	
	f	%	f	%
Age				
60 – 70	5	50	4	40
71 – 90	5	50	6	60
>90	0	0	0	0
Total	10	100	10	100
Gender				
Male	3	30	8	80
Female	7	70	2	20
Total	10	100	10	100
Education				
No School	2	20	5	50
Elementary school	4	40	3	30
Middle/High school	4	40	2	20
Total	10	100	10	100
Long suffering				
< 6 weeks	3	30	4	40
> 6 weeks	7	70	6	60

Table 2.
Results of the comfort level of older adults with pruritus in the treatment group and control group

Respondent	Experiment group		Control group	
	Pre	Post	Pre	Post
1	67	84	100	90
2	79	90	67	70
3	77	85	90	85
4	97	100	89	88
5	83	99	71	75
6	110	115	84	84
7	71	90	80	75
8	81	90	81	80
9	79	99	81	78
10	92	110	101	90
<i>Wilcox signed rank test</i>		p=0,005	p=0,096	

Mann Whitney (Post Test) P=0,003

Table 1, it can be seen that the treatment group was 60 - 70 years old and 71 - 90 years old, 50%, the majority were female, 70% and the highest level of education was elementary school and middle school/high school, 40%. In the control group, the majority were aged 71 - 90 years, 60%, the majority were male, 80% and the educational level had no schooling, 50%. Of the respondents with pruritus, the majority entered the chronic pruritus stage, meaning that 70% of the treatment group experienced complaints of itching and 60% of the control group experienced complaints of itching.

Table 2, it was found that the lowest pre-test value for comfort level in the treatment group was 67 and the highest was 110. In the control group, the pre-test value for the comfort level of the elderly was the lowest, namely 67 and the highest value was 101. The post-test value for the comfort level of the elderly was the lowest in the treatment group, namely 84 and the highest comfort level was 115. The post test value for comfort level in the control group was the lowest, namely 70 and the highest 90. The results of the analysis using the Wilcoxon signed rank test statistical test in the treatment group obtained a value of $p=0.005$ so that $p<0.05$, which means there is a significant influence or difference in the comfort level of the elderly. Meanwhile, in the control group, $p=0.096$ was obtained, so $p>0.05$, which means there was no significant difference in the comfort level of the elderly between pretest and posttest. The results of the analysis using the Mann Whitney statistical test during the post-test obtained a value of $p = 0.003$ so that $p < 0.05$, which means there is a significant difference in the post test value of the comfort level of the elderly between the treatment and control groups.

Table 3.

Results of itchy complaint scores for seniors with pruritus in the treatment group and control group

Respondent	Experiment group		Control group	
	Pre	Post	Pre	Post
1	5	3	3	3
2	7	4	4	4
3	7	4	3	2
4	5	3	3	2
5	7	4	3	4
6	3	1	6	7
7	5	3	5	5
8	4	1	4	5
9	6	2	7	7
10	3	0	4	4
Wilcox signed rank test	p=0,004		p=0,655	
Mann Whitnev (Post Test)			P=0.031	

Table 3, it was found that the pre-test score for itching complaints in the elderly was the lowest in the treatment group, namely 3 and the highest score for itching complaints, namely 7. The pre-test score for itching complaints in the control group was the lowest, namely 3 and the highest was 7. The post-test score for itching complaints in the elderly was the lowest in the group. treatment was 0 and the highest was 4. The post test score for itching complaints in the control group was the lowest, namely 2 and the highest was 7. The results of the analysis using the Wilcoxon signed rank test statistical test in the treatment group obtained a value of $p = 0.004$ so that $p < 0.05$, which means there is a significant influence or difference in the value of complaints of itching in the elderly with pruritus. Meanwhile, in the control group, $p=0.655$ was obtained, so $p>0.05$, which means there was no significant difference in the value of pruritic elderly complaints of itching between pretest and posttest. The results of the analysis using the Mann Whitney statistical test at the post test obtained a value of $p = 0.031$

so $p < 0.05$, which means there is a significant difference in the post test value of pruritic elderly complaints of itching between the treatment and control groups.

DISCUSSION

The results of the research before the elderly were given GC-BR showed that 2 respondents felt mild itching and 8 respondents felt moderate itching. After the intervention, 6 respondents complained of mild itching and 3 still felt moderate itching but the score scale decreased and 1 respondent no longer complained of itching with a score of 0. The results of the comfort level of all elderly respondents with pruritus after the intervention had been carried out had a significant increase, meaning that there was an influence GC-BR intervention on comfort level and complaints of itching in elderly with pruritus in the treatment group. Pruritus is the most common complaint in the elderly population, with one of the main causes being dry skin. Pruritus is an irritating skin sensation that stimulates scratching (Rinaldo et al., 2019). Pruritus is caused by several causes, including dry skin, immunosuppression and nerve degeneration and can also be caused by skin diseases, systemic conditions and psychogenic conditions (Valdes-Rodriguez et al., 2015). As we age, changes in skin structure and gradual loss of cell function cause the skin to become more sensitive and prone to disease. Apart from normal aging of the skin, decreased mobility and side effects due to medication are one of the reasons why older people are at high risk of developing skin disorders and pruritus so that they experience complaints of itching and disrupt the comfort of their daily activities (Pereira & Ständer, 2017). Researchers are of the opinion that elderly people with aging factors and accompanying dermatological diseases cause elderly people to easily experience pruritus so that increasing age causes a gradual decline in cell function, causing the skin to become more sensitive and at risk of experiencing itching and discomfort.

Pruritus is an unpleasant sensory perception that causes a strong desire to scratch and has a high impact on the quality of life. The clinical manifestations of pruritus are signs of scratching and excoriation. In acute scratching, urticaria can occur, while in chronic scratching, cutaneous bleeding and lichenification can occur. Scratching with nails causes linear excoriation of the skin and lacerations of the nails themselves (Dharma et al., 2020). Severe and long-lasting cases of pruritus make it difficult to carry out normal activities, because the itchy skin is very annoying. Pruritus will cause irritation and discomfort on the skin which can make it difficult to sleep. Pruritus or itchy sensation is a very common complaint in the general population. Itching is one of the symptoms of sensitive skin. This itching can cause a burden that is very disturbing to the individual, just like chronic pain. Prolonged itching can affect an individual's quality of life. Decreased quality of life due to pruritus can be caused by sleep disorders, mood disorders, negative psychosocial impacts which culminate in a significant decrease in overall quality of life.

Research by Remröd, Sjöström and Svensson, (2015) states that sufferers of severe pruritus report higher scores for depression and anxiety which disturb the comfort of the elderly, which means that comfort increases if complaints of itching also decrease. Comfort is a condition of being free from stress or discomfort, and is also a concept that has a strong connection to nursing. Nurses provide comfort to clients and families with interventions called comfort measures, in this case the GC-BR intervention. These comfort measures strengthen the client and family while in the hospital. When clients and families are strengthened by the actions of nurses, clients and families will be better able to seek healthy behaviors (Kolcaba, 2003). The Garaa Rufa Care intervention has been used as a natural spa in Asia and Turkey. The Gara Rufa fish eats dead human skin cells by sucking them,

increasing blood circulation, eliminating bacteria and also foot odor. Gara Rufa fish can treat psoriasis symptoms and effectively treat pruritus combined with breathing relaxation to reduce oxygen consumption, respiratory frequency, heart rate and muscle tension, which stops the anxiety-muscle tension cycle so that the elderly feel comfortable (Grassberger & Hoch, 2018).

The psychological factors of pruritus can cause hopelessness and frustration in clients; onlookers may observe, comment, ask annoying questions or even avoid the client (Chung et al., 2021). The results of the GCQ questionnaire on respondents psychologically have an impact on reducing the comfort of the elderly and socio-environmentally, people's perception will be a stressor for the elderly with pruritus. Elderly people with pruritus problems will experience complaints of itching and discomfort due to decreased physical, environmental, psychological and socio-cultural factors, therefore nurses need additional or complementary measures to overcome this. Garra Rufa fish eat dead skin cells and release the enzyme dithranol, and help the process of exfoliating dead skin naturally. Garra Rufa fish therapy is also useful for inhibiting skin growth that is too fast, increasing skin moisture, improving blood circulation, reducing and blurring scars, helping skin rejuvenation, making skin smoother and cleaner and increasing skin regeneration (Jayasree et al., 2016). The skin cell regeneration process stimulates new skin cells to grow. So the habit of scratching disappears and results in reduced itching complaints. Garra Rufa Care creates a micromassage sensation in pruritic elderly people. This causes stimulation of peripheral afferent nerve activity which functions to send information to the central nervous system. The limbic system responds to and processes all these stimuli in the amygdale and hippocampus. The amygdale functions to recognize and respond to danger emotionally based on information formed from experience, while the hippocampus functions to store new information based on events that have been experienced. The response processed in the amygdale and hippocampus will continue to the prefrontal cortex and continue to the hypothalamus, causing a decrease in CRF (Corticotropin Releasing Factor). The decrease in CRF triggers the pituitary gland to reduce the hormone ACTH (adrenocorticotrophic hormone) and causes a decrease in cortisol production in the adrenal cortex. Thus reducing complaints of itching and increasing comfort in pruritic elderly (Grassberger & Hoch, 2018).

Apart from that, this intervention is useful for improving psychology due to the sensation of respiratory relaxation obtained and during "micro-massage" therapy with garra rufa when fish bites provide comfort that affects mood and emotions (Grassberger & Hoch, 2018). GC-BR intervention for elderly people with pruritus can reduce complaints of itching and increase the client's sense of comfort, thereby reducing predisposing factors for pruritus to recur. Providing the GC-BR intervention showed an effect in reducing complaints of itching and comfort levels in elderly people with pruritus, without any side effects.

CONCLUSION

Pruritus is the most common complaint in the elderly population, with one of the main causes being dry skin. Pruritus is very common in the elderly and can disrupt their quality of life, causing discomfort and other emotional disturbances that require immediate treatment. The GC-BR combination intervention significantly increased comfort and reduced complaints of itching in elderly pruritus. The micromassage experience resulting from Garra Rufa fish bites and Breathing relaxation to focus the mind and feel the sensation of relaxation are the core of the expected therapy.

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