ISSN 2632-9433

International Journal of Health & Medical Sciences

Volume No.8
Issue No. 2
May - August 2025

ENRICHED PUBLICATIONS PVT. LTD

JE-18, Gupta Colony, Khirki, Extn, Malviya Nagar, New Delhi-110017
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ISSN 2632-9433

International Journal of Health & Medical Sciences

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ISSN 2632-9433

Editor-in-Chief

ISSN 2632-9433

International Journal of Health & Medical Sciences

ISSN 2632-9433

International Journal of Health & Medical Sciences

(Volume No. 8, Issue No. 2, May - Aug 2025)

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ISSN 2632-9433

Efforts to Enhance Dental Health Behavior and Status of Stunted Toddlers Through the Utilization of the 'Towards Healthy Teeth Card' in Integrated Health Posts Across Taebenu Subdistrict, Kupang Regency

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ABSTRACT

Dental and oral diseases, such as caries, pose risks to toddlers. The Indonesian government's Ministry of Health Regulation No. 89 of 2015 emphasizes community empowerment in dental health by involving local health cadres. The 'Towards Healthy Teeth Card' facilitates early detection and promotes community independence in dental health. Experimental studies on its effectiveness are needed, with parental involvement being vital to support toddler dental health. This study aims to determine the effect of the 'Towards Healthy Teeth Card' on improving stunted toddlers' dental health behavior and status. The research involved developing materials and concepts for the 'Towards Healthy Teeth Card' for toddlers and employed a pre-experimental one-group pretest-posttest design at Integrated Health Posts across Taebenu Subdistrict, Kupang Regency. The respondents were mothers and stunted toddlers, with total sampling used as the sampling method. The study assessed changes in behavior and dental health status using the def-t score. The Wilcoxon Signed Ranks Test analysis showed a significant effect of the 'Towards Healthy Teeth Card' on maternal behavior in maintaining dental health and the dental caries status of stunted toddlers, with a p-value of 0.000 (< 0.05). The study concludes that the 'Towards Healthy Teeth Card' significantly improves maternal behavior and dental caries status. Further implementation of the 'Towards Healthy Teeth Card' is recommended, particularly in villages with the highest prevalence of stunted toddlers, to improve their health status.

Keywords---dental and oral health, stunting, toddlers, towards healthy teeth card.

Introduction

According to the 2018 Basic Health Research data, dental damage among Indonesia's population has increased to 57.6%, with East Nusa Tenggara Province reporting a 43.9% proportion of dental problems, including tooth decay (Kementerian Kesehatan RI., 2018). A study on Early Childhood Caries (ECC) in Southeast Asia revealed that children aged 5–6 years have a 79% risk of developing caries (Duangthip et al., 2017), while in Indonesia, the prevalence of caries among toddlers ranges from 50–70% (Widayati,

2014). Dental and oral diseases can lead to serious functional limitations, such as impaired speech and chewing, discomfort, including bad breath and decayed teeth, and psychological impacts like low self-esteem (Buset et al., 2016; Silva et al., 2015).

Dental problems can trigger stunting. The 2021 Study on the Nutritional Status of Toddlers in Indonesia (SSGI) indicated that East Nusa Tenggara Province had the highest national stunting rate at 37.8%. However, dental health education at integrated health posts (Posyandu) has primarily been limited to direct teaching for health cadres about proper toothbrushing techniques and oral health examinations (Dewi et al., 2019). The Ministry of Health Regulation No. 89 of 2015 on dental and oral health efforts introduced the 'Towards Healthy Teeth Card' as a tool to empower communities and foster independence in dental health. The 'Towards Healthy Teeth Card' employs a color-coded assessment system, enabling mothers or Posyandu cadres to evaluate early caries risk in the primary teeth of toddlers. This card has been used to assess caries risks in pregnant women and toddlers (Karamoy & Fione, 2020; Oktadewi et al., 2023). However, training has mainly targeted Posyandu cadres, with limited usage of the 'Towards Healthy Teeth Card' at Posyandu and no focus on stunted children. Stunted children are particularly vulnerable to dental and oral diseases, which can worsen their development (Lutfi et al., 2021). This highlights a research gap concerning experimental studies on the 'Towards Healthy Teeth Card' in Posyandu.

This study involves parents in utilizing the 'Towards Healthy Teeth Card' to support changes in behavior and dental health status among stunted children. The urgency of this proposal lies in reducing stunting rates in Taebenu Subdistrict and addressing the minimal implementation of the 'Towards Healthy Teeth Card' in the area, which has 80 stunted toddlers. The research team plays a role in field implementation, education, and monitoring. The partner research team contributes by providing input on program implementation based on their experience with the 'Towards Healthy Teeth Card' and analyzing its effectiveness in changing the behavior of mothers with stunted toddlers and improving the DMF-T scores of these children (Petti & Scully, 2009; Masood et al., 2017).

Method

The type of this research is pre-experimental research with a one-group pre-test and post-test design, where a pretest is conducted before the intervention and a post-test is conducted after the intervention to determine the effect of the 'Towards Healthy Teeth Card' on improving parental behavior and the dental health status of stunted toddlers. The population in this study consisted of 67 mothers of stunted toddlers and 67 stunted toddlers across Taebenu Subdistrict, Kupang Regency, while the research sample included the total population of 67 mothers of stunted toddlers and 67 stunted toddlers across Taebenu Subdistrict, Kupang Regency, who agreed to participate in the study (Arikunto, 2017). The research

variables were: Independent Variable, The behavior of mothers in maintaining the dental health of stunted toddlers; Dependent Variable, The dental caries status of stunted toddlers.

The instruments used in this study included a questionnaire and a dental caries examination form. The tools used in the research included a mouth mirror, tweezers, probes, and excavators, while the materials used included personal protective equipment, alcohol, cotton, and Dettol. The stages of data collection were as follows: Interviewing; Recording participant identities; Administering the questionnaire; Conducting dental and oral examinations; Recording and analyzing the data.

The data analysis was processed using computer software to determine the effectiveness of maternal behavior in maintaining dental cleanliness and dental caries status from pre-test to post-test using the Wilcoxon Signed Ranks Test.

Result and Discussion

Behavior of Mothers in Maintaining Dental and Oral Health of Stunted Toddlers

Table 1
Distribution of Respondents' Behavior Before and After Using the 'Towards Healthy Teeth Card' in Integrated Health Posts (Posyandu) across Taebenu Subdistrict, Kupang Regency

Village Name	Behavior Before				Behavior After		
	Good	Moderate	Poor	Total	Good	Moderate	Total
Oeltua Village	27	4	6	37	37	0	37
	73.0%	10.8%	16.2%	100.0%	100.0%	0.0%	100.0%
Baumata Village	9	0	0	9	8	1	9
	100.0%	0.0%	0.0%	100.0%	88.9%	11.1%	100.0%
Oeletsala Village	4	2	0	6	6	0	6
	66.7%	33.3%	0.0%	100.0%	100.0%	0.0%	100.0%
Kuaklalo Village	1	2	0	3	3	0	3
	33.3%	66.7%	0.0%	100.0%	100.0%	0.0%	100.0%
Baumata Timur Village	9	3	0	12	12	0	12
	75.0%	25.0%	0.0%	100.0%	100.0%	0.0%	100.0%
Total	50	11	6	67	66	1	67
	74.6%	16.4%	9.0%	100.0%	98.5%	1.5%	100.0%

Table 1 shows that before using the 'Towards Healthy Teeth Card', there were still 17 respondents (25.4%) with moderate and poor behavior and 50 respondents (74.6%) with good behavior. However, after using the 'Towards Healthy Teeth Card', the behavior of mothers in maintaining the dental health of stunted toddlers improved significantly, reaching 66 respondents (98%).

Dental Caries Status (def-t) in Stunted Toddlers

Table 2
Distribution of Dental Caries Status of Respondents (Stunted Toddlers) Before and After the Use of Towards Healthy Teeth Card at Posyandu in Taebenu Sub-district, Kupang Regency

	Caries_Before					
Village Name	Very Low	Low	Moderate	High	Very High	Total
Oeltua Village	33	2	2	0	0	37
	89.2%	5.4%	5.4%	0.0%	0.0%	100.0%
Baumata Village	7	0	1	1	0	9
	77.8%	0.0%	11.1%	11.1%	0.0%	100.0%
Oeletsala Village	3	0	0	1	2	6
	50.0%	0.0%	0.0%	16.7%	33.3%	100.0%
Kuaklalo Village	2	0	0	0	1	3
	66.7%	0.0%	0.0%	0.0%	33.3%	100.0%
Baumata Timur Village	8	2	2	0	0	12
	66.7%	16.7%	16.7%	0.0%	0.0%	100.0%
Total	53	4	5	2	3	67
	79.1%	6.0%	7.5%	3.0%	4.5%	100.0%
	Caries_After					
Village Name	Very Low	Low	Moderate	High	Very High	Total
Oeltua Village	33	2	2	0	0	37
	89.2%	5.4%	5.4%	0.0%	0.0%	100.0%
Baumata Village	7	0	1	1	0	9
	77.8%	0.0%	11.1%	11.1%	0.0%	100.0%
Oeletsala Village	3	0	0	1	2	6
	50.0%	0.0%	0.0%	16.7%	33.3%	100.0%
Kuaklalo Village	2	0	0	0	1	3
	66.7%	0.0%	0.0%	0.0%	33.3%	100.0%
Baumata Timur Village	8	2	2	0	0	12
	66.7%	16.7%	16.7%	0.0%	0.0%	100.0%
Total	53	4	5	2	3	67
	79.1%	6.0%	7.5%	3.0%	4.5%	100.0%

From Table 2, it is observed that the average presentation of dental caries status in stunted toddlers across all villages remains very low (79.1%), with the highest percentage found in Desa Oeltua at 89.2%. There were no changes in the dental caries status of stunted toddlers before and after the use of the Towards Healthy Teeth Card. Analysis of the Effect of Towards Healthy Teeth Card

Table 3
Summary of the Effect of Towards Healthy Teeth Card on Mothers' Behavior and Dental Caries Status in Stunted Toddlers at Posyandu in Taebenu Sub-district, Kupang Regency

	Z	Asymp. Sig. (2-tailed) / p
Behavior After - Behavior Before	-3.579[b]	.000
Dental Caries Status After - Dental Caries Status Before	.000[c]	1.000

From Table 3, it is observed that the mother's behavior before and after the use of Towards Healthy Teeth Card had a p-value of 0.000 < 0.05, indicating a significant influence of Towards Healthy Teeth Card on the behavior of mothers in maintaining the dental health of stunted toddlers at Posyandu in Taebenu Sub-district, Kupang Regency. Meanwhile, the dental caries status before and after the use of Towards Healthy Teeth Card had a p-value of 1.000 > 0.05, indicating no significant influence of Towards Healthy Teeth Card on the dental caries status of stunted toddlers.

Behavior

Based on the table above, it is observed that before the use of the Towards Healthy Teeth Card, the majority of respondents (74.6%) exhibited good behavior in maintaining the dental and oral health of stunted toddlers. Most respondents already demonstrated positive behavior, reflecting a basic understanding of the importance of dental and oral health for stunted toddlers. Additionally, this positive

behavior may be attributed to interactions with health cadres and support from healthcare professionals who assist mothers in adopting positive behaviors to maintain their children's dental health. According to Sudibya et al., awareness of the importance of maintaining dental health for toddlers can stem from previous experiences or information received from healthcare workers through prior counseling (Sudibya et al., 2020).

Based on the table above, 25.4% of respondents exhibited fair or poor behavior. This finding indicates a variation in the level of awareness and dental care practices among respondents before the intervention with the Towards Healthy Teeth Card. It highlights barriers or factors that influence respondents' behavior, such as their level of education and knowledge (Yanti et al., 2021). According to Moynihan and Petersen, the level of education and understanding of mothers affects their ability to comprehend and implement information from the Towards Healthy Teeth Card. Additionally, socioeconomic factors can influence respondents' behavior. According to Dewhirst, economic factors impact a mother's ability to purchase essential dental health supplies, such as fluoride toothpaste and toothbrushes, which are crucial for preventing dental caries in children (Moynihan & Petersen, 2004; Dewhirst et al., 2010).

The respondents' limited behavior in maintaining their stunted toddlers' dental health is also due to their lack of familiarity with positive practices for dental care. One effort to improve mothers' behavior in maintaining dental health for stunted toddlers is through the use of the Towards Healthy Teeth Card. Towards Healthy Teeth Card serves as a media tool to facilitate the assessment of respondents' behavior in maintaining dental health for stunted toddlers. This card focuses on parents, especially mothers, as children spend most of their time with their mothers. According to Sariningsih, mothers play a vital role in guiding, providing understanding, reminding, and offering facilities for their children, as well as fostering open dialogue and discussion while teaching children about maintaining dental and oral hygiene, since mothers spend more time with their children (Sariningsih, 2012).

After the use of Towards Healthy Teeth Card, it is evident from Table that respondents' behavior in maintaining the dental health of stunted toddlers significantly improved, with 66 respondents (98%) showing better behavior. Based on the Wilcoxon Signed Ranks Test analysis, there is a significant influence of Towards Healthy Teeth Card on mothers' behavior in maintaining the dental health of stunted toddlers and on the dental caries status of stunted toddlers. The p-value for mothers' behavior before and after using Towards Healthy Teeth Card is $0.000 < 0.05$, indicating a significant improvement. This suggests that respondents were able to use Towards Healthy Teeth Card to assess early caries risk factors in their children's primary teeth effectively, as the card is brought home, enhancing respondents' knowledge and enabling its practical use at home. According to Rahmawati, knowledge is the result of "knowing" which occurs after individuals perceive a particular object through their senses. This sensory input is processed through human senses. Knowledge, or cognition, plays a crucial role in shaping an individual's actions. Behaviors based on knowledge are more sustainable than

those not rooted in understanding (Rahmawati, 2019).

Dental Caries Status

Based on the table above, the average presentation of dental caries status (def-t) in stunted toddlers across all villages is categorized as very low (79.1%), with the highest prevalence observed in Oeltua village at 89.2%. There was no significant change in the dental caries status of stunted toddlers before and after the use of Towards Healthy Teeth Card. This lack of change can be attributed to several factors, including dietary patterns. A healthy diet plays a crucial role in preventing caries (Mainland et al., 2016; George et al., 2018). In rural areas, residents often rely on staple foods and locally sourced ingredients that are typically low in sugar, which is a major factor contributing to caries development. Lower sugar intake in rural areas can help mitigate the risk of dental caries (Saleh et al., 2021; Leroy & Frongillo, 2019).

Moynihan & Petersen (2004), state that low sugar consumption is strongly associated with lower caries rates within certain communities. Additionally, rural populations often have limited access to sugary foods and beverages sold in stores or restaurants, particularly products with high sugar content such as candies and sodas. This reduces excessive sugar intake in children, thereby helping maintain their dental health and preventing damage from excessive sugar consumption. According to Singh, in some rural areas, communities still use natural remedies to maintain oral hygiene, such as specific plants with antibacterial properties. Although not as effective as fluoride toothpaste, these natural substances can help reduce plaque and maintain dental health, thereby reducing the prevalence of caries. Rural communities are more likely to utilize natural resources that contribute to lower caries prevalence. Dietary patterns in rural areas often include higher intakes of fibrous foods that require prolonged chewing. These fibrous foods stimulate increased saliva production, which helps cleanse the mouth and neutralize acids produced by bacteria. Enhanced saliva production positively protects enamel from acidic substances that contribute to caries (Singh et al., 2013).

Influence of Using Towards Healthy Teeth Card on Mothers' Behavior in Maintaining the Dental Health of Stunted Toddlers and Dental Caries Status

Based on the table above, it is evident that the p-value of 0.000 is less than the significance level of 0.05 (p-value < 0.05). This indicates a significant influence of using the Towards Healthy Teeth Card on mothers' behavior in maintaining the dental health and oral hygiene of stunted toddlers (Cardon et al., 2011; Butte et al., 2010). This influence encompasses changes in mothers' knowledge, attitudes, and practices in caring for their children's dental health. Through the Towards Healthy Teeth Card, mothers gain new insights into the importance of maintaining dental and oral health, particularly in preventing

dental caries and oral infections. The visual content in the card enhances mothers' understanding of the relationship between oral health and the nutritional status of their children. Research by Pertiwi et al. shows that visual-based educational media, like guide cards, can increase mothers' comprehension by up to 85% compared to verbal counseling alone. Once mothers of stunted toddlers acquire this new understanding of dental health, they are more likely to adopt positive attitudes and actions toward maintaining their children's dental health, such as ensuring twice-daily brushing, avoiding excessive sugary foods, and teaching children proper brushing techniques (Pertiwi et al., 2020). Additionally, the Ministry of Health notes that health education based on practical media can improve dental care practices by 60% among mothers of toddlers (Kementerian Kesehatan RI., 2021).

However, based on the table above, a p-value of 1.000 is observed, which is greater than the significance level of 0.05 ($p > 0.05$). This suggests that the use of the Towards Healthy Teeth Card does not have a significant impact on the dental caries status of stunted toddlers. The brief duration of use did not yield a significant change in the caries status of stunted toddlers. Sudibya et al. indicate that oral health education programs require a minimum of six months for significant behavioral changes to occur. The success of the Towards Healthy Teeth Card intervention heavily depends on the intensity and duration of the program. If the use period is too short or if mothers do not consistently apply the guidance from the card, the impact on dental caries status is limited (Sudibya et al., 2020). Research by Pertiwi et al. further supports that sustained education is necessary to significantly influence dental care practices (Pertiwi et al., 2020).

Conclusion

Based on the findings of this study, it can be concluded that the behavior of mothers before and after using the Towards Healthy Teeth Card has a p-value of $0.000 < 0.05$, indicating a significant influence of the Towards Healthy Teeth Card on mothers' behavior in maintaining the dental and oral health of stunted toddlers. On the other hand, the dental caries status in villages throughout Kecamatan Taebenu is classified as very low, with an average of 79.1%, and there was no significant change in the caries status before and after the use of the Towards Healthy Teeth Card.

Acknowledgments

We would like to express our deepest gratitude to all respondents who participated in this study. Your participation, time, and willingness to share information and experiences have been invaluable in ensuring the smooth progress and success of this research. We hope the results of this study will provide meaningful benefits to the broader community. Thank you once again for your support and cooperation.

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ISSN 2632-9433

The Effect of Turmeric Tamarind Drink on Pain Scale Changes in 12th Grade Female Students at Fahd Islamic School Health Vocational High School with Primary Dysmenorrhea

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A B S T R A C T

Each woman experiences menstruation differently. Some undergo menstruation without complaints, while others face discomfort, including dysmenorrhea. This study employed a quasi-experimental design with a nonequivalent control group design. The subjects were divided into two groups: the treatment group and the control group, with both groups undergoing pretest and posttest evaluations. The data collection was conducted at SMK Kesehatan Fahd Islamic School during the 2023 period. A total of 32 female students participated in the study, with 16 students assigned to the treatment group and 16 to the control group. The sampling technique used was purposive sampling. The instruments included a general data sheet and the Numeric Rating Scale (NRS) for pain measurement. The general data sheet contained information such as age, age at menarche, menstrual dates, duration of menstruation, menstrual pain, pain duration, family health history, and therapies used. The reliability test results showed a coefficient of 0.820 for the knowledge questionnaire and 0.785 for the attitude questionnaire, indicating that the instruments were reliable. Data analysis was performed using the Wilcoxon Signed Rank Test ($p \leq 0.05$) with SPSS 16 software at a significance level of $\alpha = 0.05$. The analysis revealed a p-value of 0.000 (<0.05), indicating a significant difference in the effect of turmeric tamarind drink therapy between the treatment and control groups on pain scale changes among female students with primary dysmenorrhea at SMK Kesehatan Fahd Islamic School. It is recommended that female students start consuming turmeric tamarind drinks to help alleviate pain during dysmenorrhea.

Keywords---dysmenorrhea, pain scale, toddlers, turmeric tamarind drink.

Introduction

Each individual undergoes adolescence as part of their development, a phase that holds significant importance in human growth. Adolescence is described as a transitional period from childhood to adulthood, accompanied by cognitive, emotional, social, and physical maturation (Marfuah & Mayasari, 2018). According to Regulation of the Minister of Health No. 25 of 2014, adolescence refers to individuals aged 10 to 18 years (Regulation of the Minister of Health of the Republic of Indonesia No. 25 of 2014, 2014). Adolescence is closely associated with the process of physical and psychological maturation. In female adolescents, physical maturation, particularly related to sexual functions, is marked by menstruation (Fatkhiyah et al., 2020). Menstruation is one of the characteristics of female

maturity, occurring monthly and lasting for 5 to 7 days. It involves the discharge of blood and endometrial debris from the uterus in response to ovarian hormone secretion. This process often causes pain, commonly referred to as dysmenorrhea. The prevalence of dysmenorrhea is quite high, with nearly 90% of women experiencing severe dysmenorrhea that can hinder daily activities and negatively impact their quality of life (Astuti et al., 2020).

One billion people in the world, or one in every six people, are adolescents, with 85% of them living in developing countries. According to the Ministry of Health of the Republic of Indonesia (Kemenkes RI) in 2016, Indonesia's population is 258 million, with 44 million or 17.9% being adolescents aged 10 to 19 years, and 21 million or 8.43% being adolescent females. In Indonesia, the average age for females to experience menarche (the first menstruation) is 12.5 years, ranging from 9 to 14 years. The incidence of primary dysmenorrhea in the United States is almost 95%, in Southeast Asia around 69.4%, and in Indonesia, it reaches 65%. Primary dysmenorrhea in Indonesia shows that 59.2% of adolescent girls experience decreased activity, such as skipping school or work (5.6%), while 35.2% do not experience any disturbances (Kulkarni & Deb, 2019).

Adolescence is a transition period from puberty to adulthood, a process of growth toward maturity, encompassing mental, emotional, social, and physical maturity (Mukhoirotin & Taufik, 2016). One of the signs of puberty in females is the occurrence of the first menstruation (menarche). Every woman experiences menstruation differently. Some women menstruate without complaints, while others experience it accompanied by discomfort such as dysmenorrhea (Setya et al., 2017). Dysmenorrhea is characterized by cramps or stiffness in the lower abdomen that occur before or during menstruation. This problem affects at least 60-85% of women and results in significant absenteeism from school or work (Anurogo & Wulandari, 2017). Menstrual pain in adolescent girls is often reflected in the number of absences from class.

In Indonesia, many women who experience dysmenorrhea do not report it or visit a doctor. It is reported that 90% of Indonesian women have experienced dysmenorrhea (Ramadhani, 2020). The incidence of menstrual pain in the United States is around 60%, while in Sweden it is about 72%. In Indonesia, the incidence rate is approximately 55%. The prevalence of menstrual pain ranges from 45-95% among women of reproductive age. Generally, it is not harmful but is often considered bothersome for those who experience it (Octavia & Iryawan, 2017). In Indonesia, there is no definitive data on the number of women suffering from menstrual pain (Anindita, 2010). In an epidemiological study on adolescents (ages 12-17), the prevalence of dysmenorrhea was found to be 59.7%. Of those who reported pain, 12% described it as severe, 37% as mild, and 49% as moderate. Dysmenorrhea caused 14% of patients to frequently miss school. In a cross-sectional study of 311 female university students in Iran (ages 18-27), the prevalence of primary dysmenorrhea was 89.1% (Dong et al., 2023). There is no precise data on the number of dysmenorrhea sufferers in Indonesia. This is because many women with dysmenorrhea do not

report it or seek medical attention. The embarrassment of seeing a doctor and the tendency to downplay certain conditions in Indonesia cannot be determined absolutely. It can be said that 90% of Indonesian women have experienced dysmenorrhea (Anurogo & Wulandari, 2017).

The causes of dysmenorrhea are not only endocrine factors but also include psychological factors, organic disorders, constitutional factors, and allergic factors. Research has shown a relationship between dysmenorrhea and conditions such as urticaria, migraines, and asthma (Ozerdogan et al., 2009; Durain, 2004). Dysmenorrhea management is classified into two types: pharmacological and non-pharmacological treatments. Pharmacologically, dysmenorrhea is treated with chemical pain relievers or analgesics, such as aspirin, phenastine, mefenamic acid, paracetamol, or non-steroidal anti-prostaglandin drugs like indomethacin and ibuprofen. Non-pharmacological treatments include various methods such as warm compresses, acuyoga exercises, massage, rest, and the consumption of herbal plants (Basha et al., 2024). Non-pharmacological treatments for dysmenorrhea that can be performed by nurses include warm compresses, aromatherapy, relaxation techniques like finger grasping and deep breathing, acupressure, and herbal therapies (such as cinnamon, soy, cloves, ginger, and turmeric). Research explains that red ginger contains chemical compounds such as essential oils, oleoresins, gingerol, 1.8-cineole, 10dehydrogingerdione, 6-gingerdione, arginine, and starch (Ozgoli et al., 2009). It is also mentioned that the gingerol content in red ginger can block the action of prostaglandins, which helps reduce menstrual pain (dysmenorrhea) (Utami, 2011).

Turmeric tamarind is a traditional herbal drink commonly consumed by the public to alleviate pain during menstruation. However, there is limited research supporting the effectiveness of turmeric tamarind in reducing pain associated with dysmenorrhea. Naturally, turmeric is believed to contain active compounds that function as analgesics, antipyretics, and anti-inflammatory agents, while tamarind (Tamarindus indica) contains active substances with anti-inflammatory, antipyretic, and calming properties (Walpurgis et al., 2020).

Based on a preliminary study conducted on 10 female students at Fahd Islamic Health Vocational School, it was found that 7 of them experienced dysmenorrhea, though the specific factors contributing to the occurrence of dysmenorrhea remain unknown. Given the background and phenomenon described above, the researcher is interested in conducting a study on the effects of turmeric tamarind on primary dysmenorrhea among female students at Fahd Islamic Health Vocational School in 2023.

Method

This study uses a Quasi-Experiment method with a non-equivalent control group design. In this design, subjects are divided into two groups: the treatment group and the control group, with both groups undergoing pretest and posttest. Data collection will take place at Fahd Islamic Health Vocational School

during the 2023 period. The target population for this study consists of 51 female students experiencing primary dysmenorrhea. The sample size is determined using the Federer formula, with a total of 32 female students. The treatment group will consist of 16 students, and the control group will also consist of 16 students. The sampling technique used in this study is Purposive Sampling, which involves selecting samples based on inclusion and exclusion criteria.

The inclusion criteria are: students who are aware of their menstrual cycle based on the last 3 months' menstruation dates, students who experience moderate dysmenorrhea during menstruation, and students who are willing to participate as respondents. Exclusion criteria include students who are taking analgesic medications during dysmenorrhea, students who have gynecological diseases, and those who are not suffering from any reproductive organ abnormalities, who are not experiencing stress or pressure recently, and who do not smoke. The instruments used in this study include general data sheets and the Numeric Rating Scale (NRS) pain scale measurement sheet. General data includes age, age at menarche, menstrual dates, menstrual duration, menstrual pain, pain duration, family health history, and therapy undergone. The reliability test results for the knowledge questionnaire were 0.820, and for the attitude questionnaire, 0.785, indicating that the questionnaires are reliable. The data collected from the pretest and posttest will be analyzed using the Wilcoxon Signed Rank Test ($p \leq 0.05$) with SPSS 16 software and a significance level of α: 0.05.

Result and Discussion

Tabel 1
Distribution of Menstrual Pain Scale Pre and Post in the Treatment Group of Female Students at Fahd Islamic Health Vocational School

Pain Scale	Pre	Post
Mean	4.94	1.75
Median	5.00	2.00
Mode	5	3
Standard Deviation	0.772	1.291
Min-Max	4-6	0-3
Wilcoxon Sign Rank Test		0.000

In the pre-treatment pain scale measurement, the results showed that out of 16 respondents, the average pain level was 4.94, with a median of 5.00. The most common pain level was 5, with the lowest pain at 4 and the highest at 6. In the post-treatment pain scale measurement, the average pain level was 1.75, with a median of 2.00. The most common pain level was 3, with the lowest pain at 0 and the highest at 3. The Wilcoxon Signed Rank Test for the treatment group showed a p-value of $0.000 < \alpha = 0.05$. This means that H0 is rejected and H1 is accepted, indicating a significant difference in the pain scale after the administration of turmeric tamarind drink.

Table 2
Distribution of Menstrual Pain Scale Pre and Post in the Control Group of Female Students at Fahd Islamic Health Vocational School

Pain Scale	Pre	Post
Mean	5.25	3.75
Median	5.00	4.00
Mode		4
Standard Deviation	0.577	1.183
Min-Max	4-6	1-5
Wilcoxon Sign Rank Test		0.000

Source: Source: Pain Scale Measurement Sheet (2018)

in the pre-treatment pain scale measurement, the results showed that out of 16 respondents, the average pain level was 5.25, with a median of 5.00. The most common pain level was 5, with the lowest pain at 4 and the highest at 6. In the post-treatment pain scale measurement, the average pain level was 3.75, with a median of 4.00. The most common pain level was 4, with the lowest pain at 1 and the highest at 5. The Wilcoxon Signed Rank Test for the control group showed a p-value of $0.000 < \alpha = 0.05$. This means that H0 is rejected and H1 is accepted, indicating a significant difference in the pain scale before and after the administration of turmeric tamarind drink in the control group. The conclusion from the statistical test is that there is an effect of turmeric tamarind drink on the pain scale change in female students with primary dysmenorrhea in the control group.

Table 3
Difference Test of Pain Scale Pre and Post Administration of Turmeric Tamarind Drink in the Treatment Group and Control Group at SMK Kesehatan Fahd School

Group	N	Average Pretest Score	Average Posttest Score	Difference
Treatment	16	4.94	1.75	3,19
Control	16	5.25	3.75	1,5

Based on Table 3, it can be seen that the mean difference between the pretest and posttest in the treatment group is 3.19, meaning that the turmeric tamarind drink has a significant impact on the change in pain scale for primary dysmenorrhea. In the control group, the mean difference between the pretest and posttest is 1.5, indicating that, even without the administration of the turmeric tamarind drink, there is still a slight change in the pain scale.

Table 4
Test of Differences in the Effect of Turmeric Tamarind Drink on Changes in Pain Scale in the Treatment and Control Groups at SMK Kesehatan Fahd Schoo

Group	Mean Rank	Sum OfRanks	Z	p-Value
Treatment	23,22	371,50	-4.177	0,000
Control	9,78	156,50		

Based on the Mann-Whitney test, a p-value of 0.000 (<0.05) was obtained, which means that H0 is rejected and H1 is accepted. This indicates a significant difference in the effect of the turmeric tamarind drink on the change in the pain scale between the treatment group and the control group in female students with primary dysmenorrhea at Fahd Islamic School Health Vocational High School.

Pain Scale Before Administration of Turmeric Tamarind Drink in the Treatment and Control Groups of Female Students with Primary Dysmenorrhea at Fahd Islamic School Health Vocational High School

Based on the research results, the pain scale before the administration of therapy using the Numeric Rating Scale (NRS) pain measurement in female students at Fahd Islamic School Health Vocational High School shows objective signs from respondents in the treatment group, with an average pain level of 4.94. The pain is described as cramps in the lower abdomen extending to the waist, sometimes reaching the knees, with a decreased appetite, difficulty in controlling emotions, and interfering with concentration during study and activities. In the control group, the average pain level was 5.25, with objective signs of pain in the lower abdomen radiating to the waist, decreased physical activity, reduced appetite, and irritability (Wieser, 2007).

From the research findings, it is concluded that the pain experienced by respondents is categorized as moderate pain, with objective signs aligning with the study (View of Effectiveness of Pain Relief Package for Adolescents with Dysmenorrhea.pdf, n.d.), on a scale of 4-6 (moderate pain). The symptoms felt by the respondents include cramps in the lower abdomen, pain radiating to the waist, loss of appetite, disturbed activities, and difficulty concentrating.

The study also found that 20 students (62.5%) experienced menstrual pain during menstruation, while 12 students (37.5%) reported pain before menstruation. These results indicate that primary dysmenorrhea commonly occurs during menstruation, particularly on days 1 to 3. This is in line with Kristina's (2010) opinion, which states that primary dysmenorrhea is most prevalent during the first day of menstruation and intensifies on the second and third days due to increased progesterone production. According to theory, primary dysmenorrhea occurs on days 1-3 of menstruation due to increased prostaglandin production, which causes pain. Additionally, continuous uterine contractions also restrict blood flow to the uterus temporarily, leading to primary dysmenorrhea (Scartezzini & Speroni, 2000).

Based on the results of this study, the duration of menstruation in most respondents was more than 7 days, with 19 students (59.4%), and a smaller portion experienced menstruation for ≤ 7 days, with 13 students (40.6%). From this data, it can be concluded that the duration of menstruation is one of the risk factors for primary dysmenorrhea. This is in line with the opinion of Dita & Ari (2011), which states that the normal duration of menstruation is usually 7 days. Menstruation causes uterine contractions, and when it lasts longer, the uterus contracts more frequently, resulting in an increased release of prostaglandin hormones. Excessive prostaglandin production can cause pain, while continuous uterine contractions restrict blood flow to the uterus, leading to dysmenorrhea.

Pain Scale After the Administration of Tamarind Turmeric Drink on the Treatment and Control Groups in 8th Grade Students with Primary Dysmenorrhea

Based on the results of the study involving 16 students in the treatment group, prior to the administration of the turmeric tamarind drink, the average pain score was 4.94, and after being given the drink, the

average pain scale decreased to 1.75. The objective signs observed in the respondents included the ability to communicate well, reduced pain, and the ability to engage in activities comfortably. This change indicates that the turmeric tamarind drink had a significant impact on the pain scale of students with primary dysmenorrhea. This aligns with Ningsih et al. (2013), who explained that a pain scale of 1-3 is categorized as mild pain, with symptoms including cramps in the lower abdomen, which can still be tolerated, allowing the individual to continue activities and concentrate on learning.

Various methods are employed to reduce primary dysmenorrhea, including pharmacological and non pharmacological therapies. One non-pharmacological technique is the use of the turmeric tamarind drink. This therapy is cost-effective and easily accessible, as it is simple to prepare and the ingredients are readily available around us. The turmeric tamarind drink has basic properties as an analgesic and anti-inflammatory. The active agent in turmeric that functions as an anti-inflammatory and antipyretic is curcumin (Gloth III et al., 2001). Meanwhile, curcumenol serves as the analgesic. Tamarind fruit contains the natural active agent anthocyanin, which acts as an anti-inflammatory and antipyretic. Additionally, tamarind fruit also contains tannins, saponins, sesquiterpenes, alkaloids, and phlobotannins that help reduce nervous system activity (Hatcher et al., 2008).

The mechanism by which the turmeric tamarind drink reduces pain is based on the natural ingredients in the drink, which can alleviate primary dysmenorrhea symptoms through different pathways. Curcumin and anthocyanin work by inhibiting the cyclooxygenase reaction, thereby reducing inflammation, which in turn reduces or even prevents uterine contractions (Siega-Riz et al., 2010). The mechanism of uterine contraction inhibition by curcumin occurs by decreasing calcium (Ca2+) influx into calcium channels in the uterine epithelial cells. The contents of tannins, saponins, sesquiterpenes, alkaloids, and phlobotannins affect the autonomic nervous system, influencing the brain to reduce uterine contractions. As an analgesic agent, curcumenol inhibits the excessive release of prostaglandins (Almada, 2010).

In the control group, results showed that the average pain score was 5.25 on the first day, and by the third day, the average pain scale had decreased to 3.75. Objective signs observed in the respondents included frequent grimacing, slight pain in the lower abdomen, the ability to engage in physical activity, and an increased appetite. These changes indicate that, even without the administration of the turmeric tamarind drink, there was a change in pain scale in students with primary dysmenorrhea. This aligns with Ningsih et al. (2013), who explained that a pain scale of 3.75 is categorized as mild pain, with symptoms such as cramps in the lower abdomen, which can still be tolerated, allowing the individual to engage in activities and concentrate on learning.

The study found that pain decreased, even without any intervention, because by the third day, the increasing levels of progesterone began to decrease, and the body had adapted to the pain, meaning students were already accustomed to experiencing it. This is consistent with Price (2006), who explained

that a common symptom of primary dysmenorrhea is pain starting at the onset of menstruation. Sometimes, this pain lasts for more than one day but rarely exceeds 72 hours. According to Dita & Ari (2011), dysmenorrhea occurs on the first and second days of menstruation, with pain decreasing after a significant amount of blood is released, and from an endocrine perspective, prostaglandin levels rise before menstruation and decrease during menstruation..

Differences in Pain Scale Before and After Consumption of Turmeric Tamarind Drink in the Treatment and Control Groups of Grade 8 Students with Primary Dysmenorrhea at Fahd Health Vocational School

Based on Table 3, it is observed that the mean difference between pretest and posttest in the treatment group is 3.19, while in the control group, the mean difference is 1.5. Both groups experienced changes in pain scale, although the treatment group showed a greater change compared to the control group, as the treatment group received an intervention, namely the turmeric tamarind drink. The turmeric tamarind drink contains compounds such as curcuminoids, essential oils, flavonoids, and others, which are beneficial as analgesics (pain relievers), antiinflammatory agents, and so on. Therefore, the pain experienced during menstruation can decrease by regularly consuming turmeric tamarind brew. This aligns with Marlina (2016), who states that turmeric contains curcuminoids, a type of antioxidant with properties including bacteriostatic, spasmolytic, antihepatotoxic, and anti-inflammatory effects. Tamarind, on the other hand, is a fruit with high antioxidant content, and its antioxidant properties increase when combined with other spices. Tamarind helps to improve blood circulation, thus preventing the constriction of blood vessels during dysmenorrhea (Astawan, 2009).
In the control group, pain was experienced due to the decrease in prostaglandin levels on the third day, which led to a reduction in the pain scale. This is in line with Dita & Ari (2011), who explain that dysmenorrhea occurs on the first and second days of menstruation, and the pain decreases after a sufficient amount of blood is released. From an endocrine perspective, the increase in prostaglandin hormone levels before menstruation and its decrease during menstruation contributes to the reduction in pain.

The Difference in the Effect of Turmeric Tamarind Drink on Pain Scale Changes in 8th Grade Female Students with Primary Dysmenorrhea at Fahd Health Vocational High School

Based on the results of the pain scale differences after being given turmeric tamarind drink and using the Mann Whitney test, a p-value of 0.000 (< 0.05) was obtained. Therefore, it can be concluded that H0 is rejected and H1 is accepted, which means there is a significant difference in the effect of turmeric tamarind drink on the change in pain scale in 8th grade female students with primary dysmenorrhea at

Fahd Health Vocational High School. Based on the analysis, it was found that the average reduction in pain scale for the treatment group was 23.22, and the reduction in pain scale for the control group was 9.78. These results indicate that turmeric tamarind drink has a greater contribution in reducing the pain scale compared to no intervention (without turmeric tamarind drink).

The results of the difference in pain scale after being given turmeric tamarind drink using the Mann Whitney test obtained a p-value of 0.000 (< 0.05), which means that H0 is rejected and H1 is accepted. This indicates that there is a difference in the effect of turmeric tamarind drink therapy compared to no turmeric tamarind drink therapy on the change in pain scale in female students with primary dysmenorrhea at Fahd Health Islamic School. The difference in the effect between the turmeric tamarind drink and no treatment at all occurs because the turmeric tamarind drink contains curcumin, anthocyanin, curcumenol, tannins, saponins, sesquiterpenes, alkaloids, and phlobotamins. On the other hand, when no treatment is given, pain will still decrease because the body can tolerate the pain, but the change in the pain scale is not significant. This is because, without any intervention, the pain scale can still change due to the decrease in prostaglandin hormones on day 3 of menstruation (Suwarsih & Astuti, 2022).

This is in line with Almada (2010), who explained that the curcumin content in turmeric and the anthocyanin content in tamarind inhibit the inflammatory process by acting as an enzyme cyclooxygenase (COX) inhibitor. The most important biochemical mechanism inhibited by curcumin is the influx of calcium ions into the epithelial cells of the uterus. If this inhibition of ion influx occurs in the epithelial cells of the uterus, uterine contractions can be reduced or even eliminated, preventing primary dysmenorrhea (Thaina et al., 2009). This is consistent with the theoretical review mentioned earlier regarding the active ingredients found in turmeric and tamarind. Both turmeric tamarind serve as anti-inflammatory, analgesic, and antipyretic agents, as well as calming agents that can prevent sympathetic nerve stimulation from the stress often experienced by young women due to their daily activities. Based on the results above, it can be concluded that there is a difference in the effect of turmeric tamarind drink therapy compared to no turmeric tamarind drink therapy on the change in pain scale in female students with primary dysmenorrhea (Harel, 2006).

This is in line with a study conducted by Shinta Amelia et al., titled "The Effect of Tamarind Turmeric Consumption on Menstrual Pain Intensity Reduction" in 2023. The results of the non-parametric Wilcoxon statistical test showed a p-value of 0.001 < α (0.05) on the first, second, and third days. This indicates that there is a significant effect on the menstrual pain scale before and after the consumption of tamarind turmeric, suggesting that tamarind turmeric is effective in reducing menstrual pain scale. This occurs because, before tamarind turmeric consumption, menstrual pain is natural and normal. Menstrual pain occurs due to prostaglandin release during the menstruation phase, causing uterine contractions, as well as causing the uterine wall to contract and surrounding blood vessels to compress (constriction),

leading to tissue ischemia. Consuming tamarind turmeric is one of the interventions among many relaxation techniques during menstruation to reduce menstrual pain intensity. These relaxation techniques can help reduce pressure and symptoms in women experiencing menstrual problems by consuming foods that stimulate the release of endorphins and serotonin (Effect+Of+Tamarind+ Turmeric+To+Decrease+The+Intensity+Of+ Menstrual+ Pain, n.d.).

This study is in line with the research conducted by Ika Nur Saputri et al., titled "The Effect of Tamarind Turmeric Consumption on Menstrual Pain Intensity in Adolescent Girls" in 2020. The results showed a decrease in menstrual pain intensity, allowing the participants to carry out their activities as usual. Based on the menstrual pain scale, 23 people selected pain scale 3, 11 people selected pain scale 4, and only 2 people selected pain scale 5. A comparison of pre- and post-intervention revealed a shift from severe to moderate pain and from moderate to mild pain. The researchers assume that the curcumin and essential oils in turmeric, combined with the anthocyanins and tannins in tamarind, work by inhibiting prostaglandin production, thereby reducing menstrual pain (Saputri et al., 2020).

This study aligns with research conducted by Selvy Afrioza et al., titled "The Effect of Tamarind Turmeric Drink to Relieve Menstrual Pain in Adolescents in Sukasari Village." Based on the analysis in the table above, it shows that 46 participants in this study experienced a reduction in menstrual pain scale after being given tamarind turmeric drink intervention in Sukasari Village, Rajeg Sub-district, Tangerang Regency. The results were obtained from the observation data of adolescents who experienced menstrual pain, which was analyzed using the SPSS program. The pre-intervention pain scale was 3.41, and the post-intervention pain scale was 1.86, resulting in a decrease of 1.55 in the pain scale. The results of the Wilcoxon Signed Rank Test showed a p-value of 0.00 ($p<0.05$), indicating a significant effect between the pain scale before and after the tamarind turmeric drink intervention (Afrioza & Srimulyati., 2022).

This study aligns with the research conducted by Sri Mulia Sar et al., titled "The Effect of Tamarind Turmeric Drink on Menstrual Pain Reduction in Adolescent Girls at MAN 3 Palembang in 2019." Based on the research results using the Paired Sample T-Test, it was found that the pain scale measurements before and after the tamarind turmeric drink intervention in 15 respondents yielded a significant result with a p-value of $0.000 < (\alpha\ 0.05)$, meaning the alternative hypothesis (Ha) was accepted. The researcher concluded that there was a significant effect of the tamarind turmeric drink intervention before and after consumption on adolescent girls at MAN 3 Palembang in 2019. The mechanism of action of tamarind turmeric, which contains curcumin, increases cholesterol 7a-hydroxylase activity and enhances cholesterol catabolism in the liver microsomal tissue. The compounds demethoxycurcumin, bisdemethoxycurcumin, and acetylcurcumin inhibit lipid peroxidase activity (299-Article Text-855-1-10-20210208, n.d.). Tamarind turmeric is a commonly used herbal remedy for menstrual pain,

containing simple active ingredients with analgesic, anti-inflammatory, and anti-spasmodic (muscle relaxant) properties. Ethanol turmeric extract functions as an analgesic to reduce dysmenorrhea complaints, while the anthocyanin content in tamarind inhibits the cyclooxygenase (COX) process, and compounds like tannins, saponins, sesquiterpenes, alkaloids, and phlobatamins affect the autonomic nervous system to reduce uterine contractions (299-Article Text-855-1-10-20210208, n.d.).

The benefits of tamarind turmeric as an herbal remedy include its active ingredients that function as analgesics (pain relievers), antipyretics (fever reducers), and anti-inflammatory agents. Tamarind also has active ingredients that function as anti-inflammatory, antipyretic, and calming agents. The combination of these two natural ingredients has been proven to be safe and does not cause poisoning when consumed together. The benefits of tamarind turmeric include pain relief, antioxidant effects, and potential weight loss (299-Article Text-855-1-10-20210208, n.d.). Research conducted by the Health Polytechnic of the Ministry of Health Malang also confirms the effectiveness of tamarind turmeric in alleviating pain. This study involved 20 respondents who experienced menstrual pain and were given tamarind turmeric extract daily during their first menstruation. The results were satisfactory, as a reduction in pain was observed in the participants during menstruation (299-Article Text-855-1-10-20210208, n.d.).

Conclusion

Based on the discussion presented earlier in the study conducted on the students at SMK Kesehatan Fahd School, it can be concluded that there was a change in the pain scale before and after the administration of tamarind turmeric drink in the treatment group, as well as a change in the pain scale before and after the administration of the tamarind turmeric drink in the control group. There was a difference in pain levels before and after the administration of tamarind turmeric drink. Furthermore, there was a significant difference between the treatment and control groups regarding the change in pain scale among the 8th-grade students with primary dysmenorrhea. It is recommended that students begin drinking tamarind turmeric to alleviate pain during dysmenorrhea

Acknowledgments

The authors would like to express their sincere gratitude to SMK Kesehatan Fahd Islamic School for their support and cooperation during the data collection process. Special thanks to all the female students who participated in this study, as well as the school staff and administrators who facilitated the research. We also extend our appreciation to our colleagues for their valuable insights and guidance throughout this research. Lastly, we acknowledge the contributions of all individuals who assisted in data analysis

and manuscript preparation.

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ISSN 2632-9433

Comprehensive Theraphy for Adjustment Disorder with Mixed Anxiety and Depression Reaction in Post Debridement Transhumeral Amputation ec Crush Injury Right Arm Patient's: A Case Report

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A B S T R A C T

Adjustment Disorder with Mixed Anxiety and Depression Reaction in Post Debridement Transhumeral Amputation ec Crush Injury Right Arm is a debilitating condition that significantly impairs daily functioning and quality of life. Comprehensive therapy in a multidisciplinary team is vital for the patient. Supportive psychotherapy is an evidence-based intervention known for its efficacy in treating anxiety-related disorders. This case report presents the treatment process and outcomes of a male patient diagnosed with adjustment disorder and PostTranshumeral Amputation. The patient underwent physical rehabilitation, such as physiotherapy ultrasound on the right shoulder, Range of Movement (ROM) exercises, strengthening the periscapular muscles, right rotator cuff, and sensory desensitization, evaluating after 2 weeks of therapy, and evaluating the need for prosthesis if the shoulder condition is optimal. The treatment goal for improving functional shoulder ROM, independent Activity Daily Living (ADL) with the left hand. pharmacological therapy is given, supportive psychotherapy to the patient and the family is given, psychoeducation about the psychological impact, and it is very important to accompany the patient as they undergo the process of further medical physical rehabilitation therapy, and supporting the patient in the future. Throughout treatment, the patient demonstrated a reduction in anxiety and depression symptoms, and improved coping mechanisms. The findings highlight the effectiveness of comprehensive therapy in managing the patient.

Keywords---Adjustment, Amputation, Anxiety, Depression, Rehabilitation

Introduction

Higher levels of anxiety symptoms and functionality at presurgery were associated with lower social adjustment to amputation and with higher adjustment to the limitations. Results support the need to improve psychological screening and early treatment of anxiety symptoms before the surgery, as well as depression and traumatic stress symptoms after a lower limb amputation, and the promotion of social

support over time, to promote psychosocial adjustment to amputation. This set of psychosocial variables should be included when planning postamputation rehabilitation and psychosocial intervention programs for this target population (Pedras et al., 2018).

Patients showed higher levels of anxiety than depression symptoms at pre-surgery, although anxiety significantly decreased one month after surgery. Both anxiety and depression symptoms contributed to depression after LLA, although anxiety at pre-surgery was the only predictor of anxiety at post-surgery (Pedras et al., 2018). The other study showed mental health symptoms are associated with educational level, employment status, and adjustment to amputation and prosthesis satisfaction in Lebanese individuals with LLA. These findings should be considered to achieve optimal prosthetic rehabilitation (Saleh et al., 2024).

The result of one study that analyzed revealed the role of insecure attachment styles in influencing the use of an emotion-oriented coping strategy in particular. The latter mediated the relationship between attachment insecurity, depression and anxiety in adult amputees (Falgares, 2018). The main gains of the suggested comprehensive program of rehabilitation appear in a better recovery of the muscle strength of both a stumped and a healthy limb (Herasymenko et al., 2016).

This case report, based on literature review, aims to evaluate the scope and effectiveness of rehabilitation interventions and exercise programs that can improve quality of life and improve symptoms in Post Debridement Transhumeral Amputation ec Crush Injury Right Arm patients with comorbid Adjustment Disorder with Mixed Anxiety and Depression Reaction (Guest et al., 2019).

Methodology

The research method used in this study is a case report with a literature study using secondary data sources from various articles in national, international journals, and textbooks. The author uses PubMed and Google Scholar with keyword searches, "Adjustment, Anxiety, Depression, Amputation, Rehabilitation". The literature obtained is then analyzed systematically. Literature collection is carried out by considering the inclusion criteria in the form of literature published no later than 2018 compared to the total or the entire event.

Case Report

The patient was interviewed in a sitting position on a chair in the physical rehabilitation polyclinic examination room facing the examiner and accompanied by his son. The patient was neatly and cleanly dressed. During the interview, he was able to look at and answer questions well. He tended to tell a lot of other things which then answered the examiner's initial questions. He stated the name, place, and time of

the examination correctly, and he was also able to reiterate the examiner's name a few minutes after the initial introduction. He complained of a stiff right shoulder that was getting worse. The stiffness had been felt since November 2024. The patient recounted an accident that happened to him in October 2024. The patient said that on October 2024, he was riding a motorbike from work to home. At that time, he was not wearing a helmet. He was about to overtake a truck, but the motorbike in front of him suddenly slowed down. He finally braked the motorbike hard until it skidded and fell so that the truck he was overtaking ran over the patient's right elbow. During the incident until being taken to the hospital, he was conscious.

The patient underwent 2 operations, namely a hand amputation and repair of an open and seeping surgical wound. However, at first, this incident made the patient feel sad. The sadness because he used to be active in repairing diesel pumps is now no longer possible. This feeling of sadness sometimes makes him feel weak, tending to just stay at home. He can still feel happy because he is always supported by his family and relatives. The patient is still optimistic about his future, although sometimes he feels anxious about his future life, thinking about being productive or supporting his family. There are no palpitations, restlessness, cold hands or shaking when the patient is anxious. He always tries to motivate himself. Occasionally he imagines the accident he experienced, but this does not cause physical symptoms and the patient can still be taken on a motorbike and go through the road where the incident occurred at that time. In the first month of the incident, the patient could only sleep at 04.00 - 06.00. So far, he has not seen or heard anything without a source. He also did not think that the incident that happened to him was the result of something unnatural. The patient hopes that there is an assistive device that can be used so that the right hand can function as before.

He denied any history of systemic illness, surgery or previous allergies. the patient was diagnosed with CF Right Clavicle Lateral Third Allman Group 2, CF Right Scapular Body, Crush Injury Right Arm-Elbow Region + susp vascular injury (MESS Score: 9), OF Right Humerus Middle Third Gustillo Anderson Grade 3C, Brachial Artery Injury, Radial Nerve Injury, Open Dislocation of Right Elbow Joint, Dislocation of Radiocapitellar Joint, Dislocation of Ulnohumeral Joint, Total Rupture Biceps Brachii, Total Rupture Brachialis, Total Rupture Triceps Brachii, Total Rupture Choracobrachialis. Then in November 2024, he was brought back to the hospital because the surgical wound was seeping and open, which was accompanied by pain. In the second hospitalization, he underwent another procedure on his upper arm and was diagnosed with Post Debridement + Reconstruction Close the defect with Local Advancement Flap Regio Brachii D ec Infected Wound Regio Brachialis D ec History of debridement and Transhumeral Amputation ec Crush Injury Regio Brachii D (MESS Score 9): Open Degloving Wound Regio Brachialis D with tendon, bone, vascular exposed + skin loss.

There was no previous psychiatric treatment. He also had no history of other medical treatments. Before the accident, he smoked about 9 cigarettes a day for 20 years, still actively smoking until now. Since the accident, he has smoked more up to 16 cigarettes a day. This happened because he had no activities and

when his friends came to visit, he would also smoke with his friends. He drinks about 1-2 cups of coffee a day. The patient drinks alcohol only occasionally during social activities or certain celebrations. He has tried illegal drugs since he graduated from STM but has not consumed them again. He currently lives with his wife and two sons. Family life is considered harmonious and he receives support from his family during this treatment. No family members have previous psychiatric complaints.

From Prenatal and Perinatal History, he was born normally and full term, and he was breastfed and cared for by both parents, and his development is typical by children of his age. In Middle Childhood History (age 3-11 years), he can play and socialize with children of his age, there is no difficulty in following lessons. After graduating from STM, after completing his education, he worked in a workshop. He had tried a motorbike repair shop but only for 2 years, then he returned to work at a diesel pump repair shop.

Examination findings showed vital signs, internal medicine assessment, and neurological examination results were within normal limits. A psychiatric evaluation revealed a normal appearance, adequate verbal and visual contact, and an anxious demeanor. His mood and affect were anxious and depressed, appropriate. His thought process was logical and realistic, with a coherent flow, though he exhibited preoccupation with physical condition. His psychomotor activity was calm during the examination, with insight at level 5.

Based on the anamnesis and mental status examination, the patient exhibits an anxiety and depression reaction that has been present for the past 3 months. The symptoms are fluctuating. The patient also reports difficulty sleeping and thinking about his future. Based on the Pedoman Penggolongan Diagnosis Gangguan Jiwa (PPDGJ) III (the Indonesian Classification of Mental Disorders), the patient's condition meets the diagnostic criteria for adjustment disorder with Mixed Anxiety and Depression Reaction.

The treatment for this patient consists of both non-pharmacological and pharmacological approaches. The nonpharmacological therapy includes supportive psychotherapy and relaxation therapy to help manage anxiety symptoms. The pharmacological therapy involves the use of benzodiazepine medications. The benzodiazepine prescribed was Alprazolam (0.5 mg tablet), taken orally once every 24 hours at night if needed. The primary goal of Supportive psychotherapy, ventilation is done by allowing him to express what he feels so that he can understand the conditions and feelings he feels. Instilling suggestions in the patient's mind that what the patient is currently undergoing is a recovery process. His current physical condition will be part of the rest of the patient's life, so positive thoughts are needed so that the patient's quality of life remains good. Reassurance is a reassurance carried out by providing supportive comments to be able to function properly again according to the patient's capacity or body condition.

This process is supported by relaxation training, which enables the patient to manage stressful situations more effectively. A therapeutic technique that can relax the mind and body through a process that will

progressively release muscle tension in every part of the body. The mind is directed to remain "here and know" aware and accepting physical incompleteness as part of the patient's life. Sleep hygiene using eye and ear covers, keeping the body warm and not cold (e.g. using blankets, socks, applying oil) can help improve sleep disorders.

The main reason the patient sought psychiatric treatment was his excessive anxiety about various aspects of life. He wanted to reduce his overwhelming worry and be able to engage in daily activities without fear of pain and insomnia.

Therapy from Medical Rehabilitation is physiotherapy 2-3 times a week. In physiotherapy, ultrasound is performed on the right shoulder, Range of Movement (ROM) exercises, strengthening the periscapular muscles, the right rotator cuff, and sensory desensitization. They continue evaluating after 2 weeks of therapy and evaluating the need for a prosthesis if the shoulder condition is optimal. The Goal of therapy for improving functional shoulder ROM, independent Activity Daily Living (ADL) with the left hand.

Discussion

Currently, I have found a change in mood feelings that are uncomfortable, sad, anxious, as a result of a change in health conditions experienced by the patient from healthy to sick, which causes the patient to be unable to do activities as before. This disorder is an adjustment to changes in the patient's health situation that occurred in the last three months. In patients found mixed type insomnia, the cause of which is unknown, although occasionally the patient said it was because of thinking. This can be overcome with sleep hygiene and relaxation therapy. Diagnosis Intervention is a step between diagnosis and patient acceptance of treatment. Patients need some discussions before they can accept the diagnosis and participate in treatment. Interventions given with the FRAMES concept (Syamsulhadi & Septiawan, 2016) in Wardani & Nuaba (2023). Feedback on the patient risk or impairment: changes in the patient's physical condition cause psychological disorders that occur due to patient's adjustment. Responsibility for change belongs to the patient: With mature personality traits and ego defense mechanisms in the patient, the patient can survive and experience improvement from previously felt psychological symptoms. Advice to change should be specific and non-ambiguous: The patient is advised to undergo rehabilitation therapy such as physiotherapy, so that the physical complaints currently experienced can be reduced. The patient learns the exercises taught by the Physical Rehabilitation Specialist Doctor and the physiotherapist so that he can also do them routinely at home. Supportive psychotherapy and relaxation therapy are carried out to help optimize the patient's general condition. Empathetic rather than confrontational counseling style: The examiner validates the emotions felt by the patient, provides comments that support the patient. Self-Efficacy: The examiner assesses that the patient and his/her family will follow the recommendations during treatment.

The therapy provided by the Medical Rehabilitation is an important therapy for the recovery of the patient's general condition so that they can return to daily activities optimally. Age and amputation level affect physical balance, prosthesis satisfaction, and daily living activities after amputation. Therefore, orthopedic surgeons and physical therapists should conduct a multidisciplinary evaluation, in transfemoral amputees to improve outcomes (Karaali, 2020).

Therapy from the field of Psychiatry is non-pharmacology in the form of supportive psychotherapy, sleep hygiene and relaxation therapy. This aims to maintain the patient's mature ego defense mechanism so that the patient's fighting power to return to being productive and living with the best GAF can be achieved. The role of psychiatrists in this case: Bridging the patient's complaints or problems to other disciplines to get treatment that can help reduce the patient's suffering, and providing supportive psychotherapy so that the patient remains enthusiastic. Sleep hygiene is taught so that the patient can sleep regularly and with quality. Psychoeducation is also important to be given to the family so that they can understand the patient's current condition and help the patient's recovery. While non-pharmacological therapy is given, supportive psychotherapy to the patient and the family is given psychoeducation about the psychological impact and it is very important in treating the wound to accompany the patient as they undergo the process of further medical physical rehabilitation therapy and supporting the patient in the future (Daniati et al., 2022).

Social phobia, depression and poor quality of life are common problems in patients with major lower limb amputation. After five years, it should not be forgotten that social phobia will increase and depression will decrease along with its seriousness (McKay et al., 2006). Therefore, amputated patients should be psychiatrically counseled and treated. It is important to provide permanent employment opportunities to improve the quality of life (Tutak et al., 2020). Tailored multidisciplinary interventions need to be developed providing support before and after an amputation surgery, to reduce anxiety and depression symptoms and promote psychological adjustment to limb loss (Pedras et al., 2018). This patient will be given a prosthesis, Implications for rehabilitation. Adjustment to amputation and prosthesis use involves both physical and psychosocial issues, it is important that, besides physical rehabilitation, psychological interventions, education, and communication activities between the patient and the health professionals are carried out. The adaptation to the prosthesis and the recovery of walking capacity are important goals in the rehabilitation process and the knowledge of the physical and psychosocial factors associated with amputation and the use of the prosthesis can help the health team to provide better care to these subjects. Welladjusted, comfortable and easy-to-use prostheses are of great importance as they enable the patient to perform their daily activities and maintain their independence. It is important to encourage the participation of the individual in both rehabilitation and choice of prosthesis (Luza et al., 2019).

Conclusion

The therapy for Adjustment Disorder with Mixed Anxiety and Depression Reaction in Post Debridement Transhumeral Amputation patient's ec Crush Injury Right Arm, provided by the Medical Rehabilitation, is an important therapy for the recovery of the patient's general condition so that they can return to daily activities optimally. The main gains of the suggested comprehensive program of rehabilitation appear in a better recovery of the muscle strength of both a stumped and a healthy limb, so psychiatric theraphy is very important such as nonpharmacological theraphy is given supportive psychotherapy to the patient and the family is given psychoeducation about the psychological impact and it is very important to accompanying the patient is undergoing the process of further medical physical rehabilitation therapy and supporting the patient in the future.

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4. Scientific critique or forum (discussion on a particular scientific topic, based exclusively on management argumentation) and commentaries. Exceptionally, in particular areas, a scientific paper in the Journal can be in a form of a monograph or a critical edition of scientific data (historical, archival, lexicographic, bibliographic, data survey, etc.) which were unknown or hardly accessible for scientific research.

Professional articles:

1. Professional paper (contribution offering experience useful for improvement of professional practice but not necessarily based on scientific methods);
2. Informative contribution (editorial, commentary, etc.);
3. Review (of a book, software, case study, scientific event, etc.)

Language

The article should be in English. The grammar and style of the article should be of good quality. The systematized text should be without abbreviations (except standard ones). All measurements must be in SI units. The sequence of formulae is denoted in Arabic numerals in parentheses on the right-hand side.

Abstract and Summary

An abstract is a concise informative presentation of the article content for fast and accurate Evaluation of its relevance. It is both in the Editorial Office's and the author's best interest for an abstract to contain terms often used for indexing and article search. The abstract describes the purpose of the study and the methods, outlines the findings and state the conclusions. A 100- to 250-Word abstract should be placed between the title and the keywords with the body text to follow. Besides an abstract are advised to have a summary in English, at the end of the article, after the Reference list. The summary should be structured and long up to 1/10 of the article length (it is more extensive than the abstract).

Keywords

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Acknowledgements

The name and the number of the project or programmed within which the article was realized is given in a separate note at the bottom of the first page together with the name of the institution which financially supported the project or programmed.

Tables and Illustrations

All the captions should be in the original language as well as in English, together with the texts in illustrations if possible. Tables are typed in the same style as the text and are denoted by numerals at the top. Photographs and drawings, placed appropriately in the text, should be clear, precise and suitable for reproduction. Drawings should be created in Word or Corel.

Citation in the Text

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Footnotes

Footnotes are given at the bottom of the page with the text they refer to. They can contain less relevant details, additional explanations or used sources (e.g. scientific material, manuals). They cannot replace the cited literature.
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Note