

## The Relationship Between Knowledge and Preventive Behavior of Adhesive Capsulitis in Fried Rice Vendors in Denpasar City, Bali Province

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### ABSTRACT

The culinary business, including fried rice vendors, has the potential to experience musculoskeletal complaints such as adhesive capsulitis (frozen shoulder), which is triggered by a lack of passive shoulder movement or movements inversely proportional to the activity of the opposite shoulder during work. Adhesive capsulitis is characterized by pain, stiffness, and loss of shoulder range of motion. Early management is important to prevent the disease from progressing to the frozen phase. A high level of knowledge can help individuals apply disease prevention behaviors. This study aimed to analyze the relationship between knowledge and preventive behavior of adhesive capsulitis in fried rice vendors in Denpasar City, Bali Province. The research used an observational analytic design with a cross-sectional approach. The sample consisted of 40 cart-based fried rice vendors selected using purposive sampling. Data were collected through questionnaires and interviews. Data analysis was performed using the Spearman correlation test because the data scale was ordinal. The majority of respondents had low levels of knowledge (50.0%) and low preventive behavior (55.0%). The Spearman correlation test showed a significant ( $p=0.000$ ), very strong ( $r=0.828$ ), and unidirectional relationship between knowledge and preventive behavior regarding adhesive capsulitis. The study concluded that there was a significant, strong, and unidirectional relationship between knowledge and preventive behavior regarding adhesive capsulitis among fried rice vendors in Denpasar City, Bali Province.

**Keywords:** preventive behavior; knowledge; adhesive capsulitis; shoulders; fried rice vendors.

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### INTRODUCTION

A culinary business is any type of business engaged in the food and beverage sector (Effendi et al., 2023; Isma & Alisyahbana, 2023; Sukriani et al., 2023). The potential of the culinary business is relatively large because food and beverages are basic needs that cannot be avoided by humans. The culinary business has a promising opportunity when the culinary business process is well executed. The profits from the results of the culinary business can be used to meet the needs of life. The culinary business is one of the fastest-growing businesses in Indonesia because the culinary business can increase economic growth in the food industry. Culinary business can be done by everyone, especially teenagers to the elderly which is done from generation to generation such as the employment status as a fried rice trader.

Fried rice traders are one of the business fields that have the potential to experience complaints musculoskeletal with a vulnerability to experience adhesive capsulitis which can be triggered by a lack of movement, one of which is in the passive shoulder area or inversely proportional to the activeness of the shoulder on the next side during work. Complaints musculoskeletal is one of the complaints that occur in the skeletal muscles or skeletal muscle which can be felt by individuals in the form of mild to severe complaints. The factors that cause musculoskeletal complaints consist of repetitive movements that are classified as frequent, as well as long working time (Sri et al., 2017).

One type of complaint musculoskeletal especially in the shoulder area, is adhesive capsulitis. Adhesive capsulitis or frozen shoulder It is a clinical disease characterized by pain,

stiffness, and loss of range of motion in the shoulder. Adhesive capsulitis can progress from a mild pain phase to a severe pain phase. Sufferers' adhesive capsulitis can recover independently for 1-2 years without treatment. However, the adhesive capsulitis do not get normal shoulder function when they ignore the causative factors of the complaint musculoskeletal (Ramirez, 2019).

Globally, sufferers adhesive capsulitis reaching 2-5% of the total general population. The prevalence of people who experience adhesive capsulitis in Indonesia is 2%, while the number of patient prevalence adhesive capsulitis in patients with diabetes mellitus it reaches 11%. Adhesive capsulitis Causes pain in both shoulders, either simultaneously or sequentially. This occurs in 16% of the total patients adhesive capsulitis who have complaints in the form of pain in both shoulders (Purnomo et al., 2017).

One of the risk factors for the occurrence of adhesive capsulitis is inflammation of the capsules. The condition of health disorders in the form of shortening and shrinkage of the capsule that wraps around the shoulder joint results in the patient experiencing the formation of scar tissue which is characterized by shoulder pain and limited shoulder movement scope (Sriyani et al., 2022).

Efforts to prevent the progression of adhesive capsulitis disease require preventive measures. This is because if prevention is not carried out, it can accelerate the occurrence of the Frozen the most severe stage of occurrence adhesive capsulitis (Suhendro, 2023). Governance adhesive capsulitis in mild to severe pain medication can be given nonsteroidal anti-inflammatory (NSAID), physical therapy, pharmacological therapy, injection corticosteroid by intra-articular, injection sodium hyaluronate intra-articular, and suprascapular nerve block through use pulsed radiofrequency (PRF), as well as the application of physical exercise based on the patient's condition (Mulyawan & Wijono, 2020).

The problem formulation used in this study includes three key questions: (a) What is the knowledge about adhesive capsulitis on the shoulders of cart fried rice traders in Denpasar City, Bali Province. (b) What is the preventive behavior regarding adhesive capsulitis on the shoulders of cart fried rice traders in Denpasar City, Bali Province. (c) What is the relationship between knowledge and preventive behavior regarding adhesive capsulitis on the shoulders of cart fried rice traders in Denpasar City, Bali Province.

The general purpose of this study is to analyze the relationship between knowledge and preventive behavior regarding adhesive capsulitis on the shoulders of cart fried rice traders in Denpasar City, Bali Province. Specifically, the study aims to: (a) examine the knowledge about adhesive capsulitis on the shoulders of cart fried rice traders in Denpasar City, Bali Province, (b) study the preventive behavior of adhesive capsulitis on the shoulders of cart fried rice traders in Denpasar City, Bali Province, and (c) analyze the relationship between knowledge and preventive behavior regarding adhesive capsulitis among these traders.

The benefits of this study are twofold. For the author, the research offers an opportunity to gain new knowledge and insights into the relationship between knowledge and preventive behavior regarding adhesive capsulitis prevention in cart fried rice traders. For the community, the findings can serve as a valuable source of information to improve general knowledge and behavior, particularly in preventing adhesive capsulitis among cart fried rice traders in Denpasar City, Bali Province.

## **METHOD**

This study employed an observational analytical design with a cross-sectional approach, allowing for the measurement of variables without intervention. The objective was to determine the relationship between knowledge and preventive behavior regarding adhesive capsulitis among street-based fried rice vendors in Denpasar, Bali. The target population consisted of street-based fried rice vendors, with the target population encompassing vendors operating in Denpasar during 2025 (Jiwantoro et al., 2023). The sampling technique used was purposive sampling, ensuring participant selection based on specific inclusion criteria. This non-probability sampling technique was chosen to ensure the sample had characteristics relevant to the study variables (Prasetyo & Jannah, 2016; Hantono, 2020).

The sample size was calculated using the Slovin formula, resulting in a minimum sample size of 36 respondents. The sample was selected based on inclusion criteria, such as vendors who had been selling for more than six months and were willing to participate by providing consent through a signature or thumbprint on an informed consent form. The variables used in this study were knowledge about adhesive capsulitis as the independent variable and preventive behaviors towards the condition as the dependent variable (Sugiyono, 2022). Both variables were measured using questionnaires and interviews, with knowledge levels categorized into three scales: high, medium, and low, while preventive behaviors were also categorized in the same manner (Jaya, 2020).

Data collection will be conducted offline from respondents who meet the inclusion criteria. The instruments used for data collection are questionnaires administered directly to respondents and interviews. Data processing will involve coding, data entry, data cleaning, and analysis using SPSS software. This study will employ univariate and bivariate analysis, including descriptive statistics and the Spearman correlation test to examine the relationships between variables, as both variables use an ordinal scale (Prasetyo & Jannah, 2016; Winarni, 2021). This analysis will be conducted using a structured data processing process to ensure the accuracy and reliability of the research results.

## **RESULTS AND DISCUSSION**

### **5.1 Research Results**

This study was carried out on cart fried rice traders in Denpasar City in February-October 2025, with 40 respondents.

#### **5.1.1 Characteristics of research respondents**

The characteristics of the study respondents from the 40 people who participated in this study included length of selling, economic status, education level, marital status, gender, and age.

**Table 1. Characteristics of Research Respondents**

No.	Respondent Characteristics	Frequency (n)	Percentage (%)
1.	Long selling		
	a) < 6 months	0	0,0
	b) > 6 months	40	100,0
2.	Status Economy		
	a) < 1 million	6	15,0
	b) 1 million - 5 million	32	80,0
	c) 6 million - 10 million	2	5,0

No.	Respondent Characteristics	Frequency (n)	Percentage (%)
	d) > 10 million	0	0,0
3.	Education level		
	a) No school	3	7,5
	b) Graduated from elementary school	11	27,5
	c) Graduate from junior high school	12	30,0
	d) Graduated from high school	12	30,0
	e) Universities	2	5,0
4.	Marital status		
	a) Unmarried	10	25,0
	b) Married	27	67,5
	c) Widow	1	2,5
	d) Doubt	2	5,0
5.	Gender		
	a) Male	34	85,0
	b) Women	6	15,0
6.	Age		
	a) Age 18-39 years old	22	55,0
	b) Age 40-59 years old	14	35,0
	c) Age 60 years and above	4	10,0

The description of the characteristics of the respondents in this study was analyzed using descriptive statistics (univariate). Based on Table 5.1, all respondents are cart fried rice traders who have been selling > 6 months (100.0%). The characteristics of the respondents of cart fried rice traders in Denpasar City showed that the most age was in the range of 18-39 years (55.0%), with the majority being male (85.0%). In terms of education, the most among junior high and high school graduates (30.0%). Most of the respondents had married status (67.5%). In addition, the majority of respondents have an income in the range of 1 to 5 million per month (80.0%).

### 5.1.2 Knowledge of *adhesive capsulitis*

Knowledge analysis of *adhesive capsulitis* was carried out using descriptive statistics (univariate). Results are presented in the form of minimum, maximum, mean, median, mode, standard deviation, frequency, and percentage. This presentation is used because the research focuses on two variables, namely knowledge and behavior to prevent adhesive capsulitis.

Based on Table 2, the highest level of knowledge is shown in question item number 1, which is the statement "Stiff shoulders are a disease that causes inflammation, stiffness, and pain in the shoulder", with a True answer percentage of 70.0%. This shows that most respondents understand the main symptoms of this condition.

Table 2. Adhesive Capsulitis Knowledge Variables

No.	Questions	Answer			
		True		False	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
1.	Stiff shoulder is a disease that causes inflammation, stiffness, and pain in the shoulder area.	28	70,0	12	30,0

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No.	Questions	Answer			
		True		False	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
2.	Stiff shoulder is one example of a disease that causes limited movement in the shoulder joint.	21	52,5	19	47,5
3.	Stiff shoulders are caused by the condition of the shoulder not being moved for a long period of time.	17	42,5	23	57,5
4.	Stiff shoulders are caused by injuries to the muscle areas around the shoulder.	24	60,0	16	40,0
5.	Stiff shoulders are caused by incomplete recovery after surgery on the muscle area around the shoulder.	22	55,0	18	45,0
6.	Stiff shoulders are caused by a history of diabetes mellitus.	20	50,0	20	50,0
7.	Stiff shoulders make it difficult for humans to wear clothes.	18	45,0	22	55,0
8.	Stiff shoulders make it difficult for humans to scratch the back area.	26	65,0	14	35,0
9.	Stretching the shoulder area during work breaks can prevent stiff shoulders.	23	57,5	17	42,5
10.	Doing warm-up exercises before exercise can prevent stiff shoulders.	19	47,5	21	52,5

The lowest level of understanding is found in question item number 3, which is the statement "Stiff shoulders are caused by shoulders that are not moved for a long period of time", with a percentage of False answers of 57.5%. These findings indicate that there are still many respondents who do not understand the causative factors of adhesive capsulitis properly.

Based on Figure 1, the knowledge that was found in this study was relatively low knowledge as much as 50.0%, which shows that half of the study population has a lack of understanding about *adhesive capsulitis* disease. Statistical analysis shows that the maximum value of knowledge is 10, while the minimum value is 1. The standard value of knowledge deviation was 2.611, with a *mode* value of 8, a *median* value of 5.50, and a mean value of 5.45.

The *mode* value of 8 in the variable knowledge about *adhesive capsulitis* was obtained through descriptive statistical analysis of questionnaire data processed using the SPSS program. The knowledge instrument consists of 10 questions, with a score of 1 for each correct answer, so that the total score ranges from 0 to 10. *Mode* 8 shows that the score achieved by 40 respondents the most is 8. Based on the assessment category, a score of 8 is included in the level of knowledge of good or high (8–10). Although the most frequently appearing scores were in the high category, the overall results showed that most of the 20 respondents (50.0%) were in the low knowledge category (1–5). Thus, the *value of mode* 8 indicates that there is a group of respondents who have good understanding, but the group with a low level of understanding is still more dominant in the study population.

**Preventive behavior of adhesive capsulitis**

Behavior analysis of *adhesive capsulitis prevention* was carried out using descriptive statistical analysis (*univariate*). The presentation of this data includes various measurement indicators such as maximum, minimum, mean, median, mode, and standard deviation, in addition to being presented in the form of frequency and percentage. The use of this variety of statistics aims to provide a comprehensive picture of the distribution of preventive behavior variables, in line with the main focus of this study on the knowledge variables and the behavioral variables of preventive adhesive capsulitis.

Based on Table 3, the most frequent preventive behavior of respondents is in question number 3, namely "I avoid lifting heavy weights excessively during activities", with a Correct answer percentage of 70.0%. This shows that most respondents have understood the importance of limiting activities that can put an excessive load on the shoulders.

The least common preventive behavior was seen in question number 8, namely "I rarely exercise because I don't have free time or free time", with a percentage of False answers of 57.5%. This condition indicates that time constraints are a factor that affects the low exercise habits of the respondents.

**Table 3. Behavioral Variables for Adhesive Capsulitis Prevention**

No.	Questions	Answer			
		True		False	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
1.	I do warm-up exercises before exercising.	18	45,0	22	55,0
2.	I stretch the shoulder area in the form of raising my arms up before the activity.	27	67,5	13	32,5
3.	I avoid lifting heavy weights excessively during activities.	28	70,0	12	30,0
4.	I take advantage of my free time or free time to exercise.	20	50,0	20	50,0
5.	I maintain a healthy lifestyle through the consumption of vegetables and fruits.	25	62,5	15	37,5
6.	I don't force stretches on the shoulder area when the shoulders are still stiff	21	52,5	19	47,5
7.	I immediately visited a health facility when the stiffness and pain in the shoulder area did not heal.	19	47,5	21	52,5
8.	I don't like to do sports because I don't have any free time or free time.	17	42,5	23	57,5
9.	I don't lift items with heavy loads.	23	57,5	17	42,5
10.	I don't like to consume foods and drinks that contain too much sugar.	22	55,0	18	45,0

The dominant or widely found preventive behavior in the study was relatively low preventive behavior as much as 55.0%. This shows that more than half of the study population does not have adequate precautions against *adhesive capsulitis*. Descriptive statistical analysis showed that the greatest value about preventive behavior was 10, while the smallest value was 1. The standard deviation value on preventive behavior was 2.47; with the most value or *mode*

value of 4. The median value of *adhesive capsulitis* prevention behavior was 5.00; and the mean value was 5.50.

The *mode* value with a value of 4 indicates that the most frequently appearing score in 40 respondents is 4. Based on the categorization system, these values are included in the low level of preventive behavior (1–5). The overall findings of the study also showed that more than 22 respondents (55.0%) had low preventive behaviors, in line with the *mean* which was also in the low category (5.50). Thus, the existence of *mode* 4 not only represents the score with the highest frequency, but also emphasizes that the majority of fried rice traders in Denpasar City still have not implemented adequate efforts to prevent *adhesive capsulitis*.

**The relationship between knowledge and *adhesive capsulitis* prevention behavior**

The researcher conducted a correlation test using *a spearman* because the scale of the research data included ordinal data. Correlation analysis is included in bivariate statistical analysis.

**Table 4. Correlation Test between Adhesive Capsulitis Variables**

Variabel	r ( <i>Spearman</i> )	p-value	Remarks
<b>Knowledge and preventive behavior</b>	0,828	0,000	Strong, positive, significant relationships

Based on Table 4, the test results show that the calculated r value is 0.828, while the r table (Appendix 12) is 0.3120. Because r is calculated > r table, there is a relationship between *adhesive capsulitis* knowledge and its prevention behavior. The significance value is  $0.000 < 0.05$ , so the relationship is significant. The correlation coefficient of 0.828 is in the range of 0.80–1.00, which indicates a very strong relationship. A positive sign on the coefficient indicates the direction of a unidirectional relationship, meaning that an increase in knowledge is followed by an increase in preventive behavior, and vice versa. Thus, there is a significant, very strong, and one-way relationship between knowledge and *adhesive capsulitis prevention behavior* on the shoulders of cart fried rice traders in Denpasar City.

Knowledge and preventive behavior can affect the occurrence of *adhesive capsulitis*. These two factors play a role in determining the level of respondents' awareness of work risks, including the ability to recognize hazards, stretch while working, and avoid postures that cause relative immobilization of the shoulders during sales activities (Linawati et al., 2021; Fadhilah et al., 2023; Harahap et al., 2024).

This study shows that most of the cart fried rice traders in Denpasar City are male (85.0%), aged 18–39 years (55.0%), married (67.5%), educated in junior high or high school, and have more than six months of selling experience. The population in this study is cart fried rice traders, which is a profession generally dominated by men of productive age in Indonesia, with job demands that involve strenuous and repetitive physical activity such as pushing carts, stirring rice in large pans, and holding long static positions. Although the main risk factors for *adhesive capsulitis* are age >40 years and female gender. Recurrent injuries and heavy physical workload in men of productive age are secondary risk factors that play a role as determining variables in this study.

The results of the analysis also showed that the level of knowledge (50.0%) and preventive behavior (55.0%) of *adhesive capsulitis* in the respondents was still relatively low.

The correlation test showed a significant relationship between knowledge and preventive behavior ( $p = 0.000$ ,  $r = 0.828$ ). This strong and one-way relationship shows that the lower the knowledge, the lower the preventive behavior applied, so the risk of *adhesive capsulitis* can increase.

### **Knowledge of *adhesive capsulitis***

The results of descriptive statistical analysis showed that the respondents' knowledge of adhesive capsulitis was relatively low, which was obtained by 20 people (50.0%) out of a total of 40 respondents. This condition needs special attention, especially considering that most of the respondents are cart fried rice traders in Denpasar City. This occupational group has repetitive work postures and physical activity that inherently increase the risk of musculoskeletal disorders in the shoulder area. This low level of knowledge has the potential to cause them to ignore early intervention, even though their work is directly related to an increased risk of adhesive capsulitis.

Good knowledge and understanding have a fundamental role in encouraging prevention and early treatment behavior, because adhesive capsulitis can develop progressively if not treated quickly and appropriately. This study indicates that respondents do not fully understand the cause-and-effect relationship between physical workload and the potential for specific health disorders such as adhesive capsulitis. This low level of knowledge is generally closely related to limited access to specific occupational health information and the majority of formal education levels at the secondary level (Azizah et al., 2024). The ease of accessing correct information greatly affects a person's ability to receive and interpret scientific information, ultimately encouraging them to make rational health decisions. In addition, health education provided by medical personnel also plays a vital role in helping the community determine the right preventive measures (Linawati et al., 2021).

The results of this study are in line with the study conducted by Wulandari et al. (2020) from the Faculty of Medicine, Lambung Mangkurat University. The study examined the relationship between individual characteristics and knowledge about COVID-19 prevention in South Kalimantan. Of the 1,190 respondents, around 30.8% (366 people) had poor knowledge, while 69.2% (824 people) had good knowledge. The study also found a meaningful relationship between gender and knowledge ( $p = 0.013$ ), where men tended to have lower knowledge than women.

One of the suspected causes is long working hours and limitations in accessing health information. This condition is similar to the findings of cart fried rice traders in Denpasar, who are mostly male and work late into the night. This situation makes it difficult for them to participate in counseling activities or seek information about the prevention of musculoskeletal disorders. As a result, minimal rest time and high workload make their attention more focused on earning a living than maintaining shoulder health (Wulandari et al., 2020).

### **Preventive behavior of *adhesive capsulitis***

The results of descriptive statistical analysis showed that the respondents' adhesive capsulitis prevention behavior was relatively low, namely as many as 22 people (55.0%) of the total respondents. This data indicates that the majority of cart fried rice traders have not implemented adequate preventive measures. Precautions that are still lacking include

stretching, short breaks during work, and the inability to regulate work posture. Indirectly, this causes the load on the shoulder joint to be in a static position or relative immobilization for a long period of time, thus increasing the risk of injury.

Primary prevention efforts have an important role in reducing the risk of adhesive capsulitis, considering that this condition can develop gradually and limit shoulder function if neglected. Biomechanically, prolonged immobilization of the passive shoulder that stabilizes the load or holds the pan is one of the main triggers of adhesive capsulitis. This condition causes adhesions and contractions in the joint capsule, which accelerates the degenerative and inflammatory process of fibrosis towards passive shoulder stiffness (Thamrin, 2021). In addition, low preventive behavior is a direct reflection of low knowledge, as knowledge serves as a basis for individuals to identify disease risks and stimulate the willingness to change work habits (Linawati et al., 2021).

The results of the study are in line with the research of Fadhilah et al. (2023), researching the relationship between ergonomic risk factors and musculoskeletal complaints in convection workers, found that a high level of ergonomic risk with improper work behavior indicators reached 60.4% of the total respondents, and obtained a low percentage of preventive behavior as much as 55.0%. Low preventive behavior has been shown to be associated with an increased risk of ergonomics. The demands of work in the field are the main obstacles in the implementation of preventive behavior. The study also found a significant association with *musculoskeletal* complaints in convection workers, with a value of  $p = 0.000$  and a strong correlation coefficient of  $r = 0.605$ . This study *statistically* confirms that low preventive behavior and poor work posture are significantly correlated with an increase in *musculoskeletal complaints* (Fadhilah et al., 2023).

### **The relationship between knowledge and *adhesive capsulitis* prevention behavior**

The results of the Spearman correlation test based on Table 5.4 show a significant relationship between knowledge and adhesive capsulitis prevention behavior in cart fried rice traders in Denpasar City. The value of the strong correlation coefficient  $r = 0.828$  and the significant value of  $p = 0.000$ . The high correlation coefficient value indicates that the lower the knowledge the respondent has, the lower the preventive behavior applied. The direction of positive correlation indicates a one-way relationship, i.e. knowledge will encourage preventive behavior.

Knowledge is an early cognitive factor that affects an individual's awareness and perception of health risks. When a person knows the mechanism of adhesive capsulitis and the risk to shoulder function, then a person will be encouraged to take protective measures, such as stretching, adjusting posture at work, and taking adequate rest. Thus, this study confirms that low knowledge has a significant relationship with low preventive behavior, resulting in an increased risk of adhesive capsulitis in cart fried rice traders in Denpasar City.

Education level is also closely related to knowledge about diseases. Individuals with higher education are generally able to understand health information better, so they have a broader knowledge and are more positive about disease prevention efforts. Experience is also a contributing factor, because through experience, a person is encouraged to learn and improve his understanding of health. The social environment also influences knowledge. People who live in a positive and supportive environment are better able to make the right decisions in

implementing disease prevention behaviors (Sunaryanti & Iswahyuni, 2020). Knowledge is also related to the attitude of the individual.

When a person has enough knowledge and is able to understand health information well, this will form a positive attitude towards health. This positive attitude makes individuals more active in participating in prevention programs and recommendations of health workers. Good knowledge also increases public awareness of the importance of healthy living behaviors. For example, people who understand how diseases are transmitted will be more aware to wash their hands regularly as a form of prevention.

Furthermore, health education has a big role in increasing public perception of disease risks and the benefits of preventive behavior. Awareness of the dangers of disease encourages people to make wiser decisions, while concern for health strengthens the motivation to act. When knowledge, awareness, and concern increase simultaneously, people will be more motivated to adopt healthy living behaviors and be responsible for their health (Harahap et al., 2024).

The results of this study are in line with the research of Rante (2020), researching the relationship of public knowledge to clean and healthy living behaviors during the COVID-19 pandemic in the community, finding that most respondents had low knowledge about clean and healthy living behaviors during the pandemic as many as 54 people (90%) out of 60 total respondents. This study illustrates that low public understanding and awareness is the main inhibiting factor in the implementation of clean and healthy living behaviors optimally. Through the fisher's exact test statistical test, a value of  $p = 0.000$  was obtained, where this value was much smaller than the significant limit ( $\alpha = 0.05$ ).

Statistically, this study proves that low knowledge is significantly related to low clean and healthy living behaviors during the pandemic, so educational interventions are needed to minimize the risk of COVID-19 transmission (Rante, 2020). In a study by Kurniasih & Widianingsih (2013) on the relationship between knowledge and prevention behavior of tuberculosis transmission in patients with pulmonary tuberculosis at the Polyclinic of Prof. Dr. Sulianti Saroso Hospital, it was said that 96.7% of respondents had low knowledge and low preventive behavior against tuberculosis transmission. The results of bivariate analysis using linear regression showed a significant relationship between knowledge and pulmonary tuberculosis prevention behavior. This condition shows that low knowledge can affect preventive behavior, so that it has the potential to increase the risk of tuberculosis transmission to people around (Kurniasih & Widianingsih, 2013).

This research was only conducted on cart fried rice traders, thus causing difficulties in the process of collecting data in the field due to the mobile and uncentralized nature of the business. The limitations of relevant previous research literature are a limiting factor in the deepening of the analysis of this topic. In addition, this study does not have an illustration of the location of the shoulder that has an adhesive capsulitis injury in cart fried rice traders, so the understanding of pain is limited.

## **CONCLUSION**

This study concludes that knowledge about adhesive capsulitis among cart-based fried rice vendors in Denpasar City is relatively low (50.0%), as is preventive behavior (55.0%), with a strong, positive, and significant relationship between the two—indicating that lower

knowledge correlates with poorer preventive practices. For future research, studies should compare cart vendors with those in stalls or restaurants to assess differences in job characteristics and ergonomics, objectively measure the prevalence of active and passive shoulder complaints to expand clinical data, incorporate variables on daily activities outside work for a fuller picture of physical workload and injury risks, and include detailed anatomical descriptions of vulnerable joint areas in high-shoulder-activity roles to better pinpoint risks.

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