Overview of Knowledge Levels of Osteoarthritis in Communities in Banjarwaru, Gilangharjo, Pandak, Bantul, Yogyakarta

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Abstract. Osteoarthritis (OA) is the most common degenerative joint disease and is a significant health problem worldwide. Osteoarthritis can occur in all joints. This study aims to determine the level of knowledge about Osteoarthritis in the community. This research method uses quantitative research, with a simple descriptive method. This study's population is the community in Banjarwaru, Gilangharjo, Pandak, Bantul, Yogyakarta. Measurements used to measure the description of the level of public knowledge using six questions including definitions, risk factors and symptoms of Osteoarthritis. The results showed that from 75 respondents, there were 37 people had a high level of knowledge about the definition and symptoms of Osteoarthritis. Fifty-seven people knew that Osteoarthritis was included in the category of not contagious diseases. As many as 34 people, 47 people, and 28 people knew the risk factors for sex, age and weight in the onset of Osteoarthritis. Based on the results of the study, it can be concluded that the community has the right level of knowledge about the definition and symptoms of Osteoarthritis. An excellent level of knowledge about the age factor in the risk of Osteoarthritis and Osteoarthritis diseases included in the category of not contagious diseases.

1. Introduction

Osteoarthritis (OA) is a chronic, progressive degenerative joint disease characterized by deterioration of the cartilage (cartilage) in the joints, causing the bones to rub against each other and causing stiffness, pain and impaired movement. This disease generally affects the weight-bearing joints such as the knees, hands, feet and spine and relates to the shoulders and hips [1]. OA, particularly in the knee, is a significant cause of disability in the elderly characterized by progressive loss of articular cartilage leading to joint pain and disability [2].

Osteoarthritis has a multifactorial etiology due to local and systemic factors [3]. Common risk factors include obesity, lack of exercise, genetics, bone density, work-related injuries, trauma and gender [1].

The global prevalence of knee OA is expected to increase by 2025 by 40%, primarily due to the elderly and obese population [2]. According to the results of Basic Health Research (Riskesdas) in 2007, 2013, and 2018, there is an increasing trend in the prevalence of joint disease/rheumatism/gout (osteoarthritis) which is predicted to continue and is considered by many as a public health crisis [4]. Riskesdas data for 2018 states that the prevalence in the province of the Special Region of Yogyakarta has increased compared to 2013, which was 22.7% [4].

Bantul Regency Health Profile data states that osteoarthritis is included in the category of joint stiffness disease which is in the fourth rank of 4,253 cases out of the ten most disease distributions on outpatient services at Panembahan Senopati Bantul Hospital in 2017 [5].

Based on the results of observations and interviews conducted by researchers, joint pain is a common disease experienced by residents. Still, the majority of sufferers do not understand joint pain

(osteoarthritis). As a result of the lack of information and knowledge about osteoarthritis, residents often experience similar symptoms and recurrences.

Based on the preceding, it is necessary to research to describe the level of knowledge about osteoarthritis in the community in Banjarwaru Village, Gilangharjo, Pandak, Bantul, Yogyakarta.

The research objective was to determine the score of the level of public knowledge in the Banjarwaru, Gilangharjo, Pandak, Bantul, Yogyakarta village about the definition and symptoms of osteoarthritis, osteoarthritis risk factors and about osteoarthritis as a not contagious disease.

Gilangharjo is a village in Pandak District, Bantul, Yogyakarta Special Region, Indonesia. This village has an area of ± 726 hectares, consisting of 15 Pedukuhan and 91 RT. Gilangharjo Village is generally a village with a typology of rice fields. Some hamlets do have clay soil, but in general, it is still productive for agriculture and gardening [6].

Gilangharjo village is bordered by Ringinharjo village to the north, Sidomulyo to the south, Triharjo to the west and Sumbermulyo village to the east. Gilangharjo Village has 15 hamlets, one of which is the Banjarwaru Village [7].

2. Methods

2.1. *Study design*

The research was conducted at the Banjarwaru Village, Gilangharjo, Pandak, Bantul, Yogyakarta. Research time June - July 2020. This research was conducted with quantitative research design, with a simple descriptive method, namely the researcher describes the public's knowledge about osteoarthritis.

The subjects in this study were 290 people in Banjarwaru, Gilangharjo, Pandak, Bantul, Yogyakarta village based on data from the head of the local hamlet. Based on the calculation using the formula above, the number of respondents in the Banjarwaru, Gilangharjo, Pandak, Bantul, Yogyakarta village was 75 respondents.

2.2. *Operational Definition of Variables*

1. Community Knowledge

Community knowledge is the knowledge that respondents have about osteoarthritis. How to measure: there are six questions in the questionnaire related to knowledge about osteoarthritis. Measurement with a Likert scale whose values are: tofu is given a value of 3 (three), does not know the value of 2 (two) and does not know the value of 1 (one).

2. Age

Age is the biological age of the subject involved in the research subject obtained through interviews. Age is expressed in years.

3.Body Mass Index (BMI)

Body mass index measuring instruments are adult weight scales and wall meters. How it works to determine BMI: patients are measured first their weight with a scale then their height is measured and entered into the formula:

$$\text{BMI} = \frac{\text{Weight (Kg)}}{\text{Height (Meter}^2\text{)}}$$

Table 1. The Results of classification interpretation of BMI calculation

classification	BMI
Underweight	< 18.5
Normal range	18.5-22.9
At-Risk	23-24.9
Obes I	25-29.9
Obes II	≥ 30

2.3. *Data analysis*

After all the data was collected, the researcher processed the data with a computer program, then analyzed it.

3. Results and Discussion

This research was conducted in May - July 2020 at the Banjarwaru Village, Gilangharjo, Pandak, Bantul, Yogyakarta. The research began by arranging permits in the village, which was the research location (Figure 2).

Figure 2. Research licensing process

This research uses quantitative research, with a simple descriptive method to obtain an overview of the level of knowledge about osteoarthritis in the community at the research location. The study began by applying for a permit at the research location. Respondents were randomly selected and asked to fill out a questionnaire (Figure 3).

Figure 3. The process of filling out the questionnaire by the community

A total of 75 respondents filled out the questionnaire. Respondents consisted of 48% male and 52% female (Figure 4).

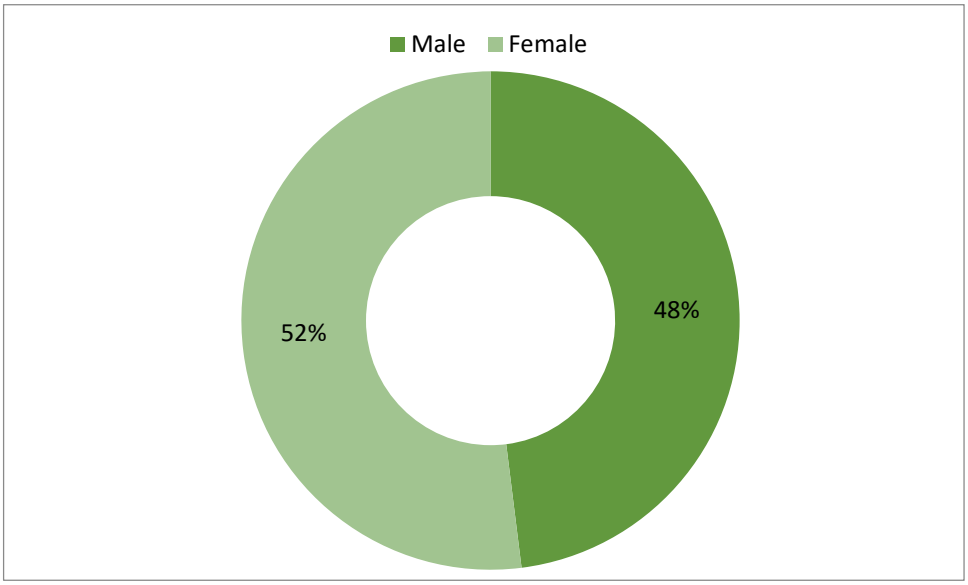

Figure 4. Profile of respondents based on gender

Respondents come from different educational backgrounds. A total of 14% respondents had a Diploma & Undergraduate educational background, 43% of the respondents had a high school education background, 16% of the respondents had a junior high school background, and 27% had an elementary education (Figure 5).

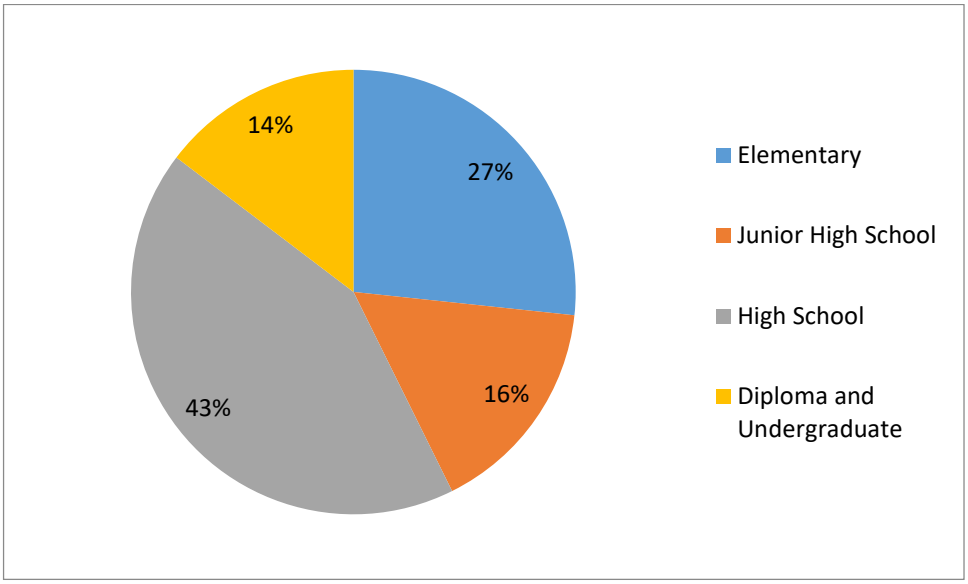

Figure 5. Educational profile of respondents

Besides, respondents also have a variety of jobs, and the age range is between 20 - 80 years. This age range was chosen because it is considered to have sufficient ability to understand and answer questions on the questionnaire given. The age of the Indonesian people is classified into three criteria, namely young age (0-14 years), productive age (15-64 years), and old age (> 65 years) [8]. The

respondents who filled out the questionnaire consisted of 62 people of productive age and 13 older adults (Figure 6).

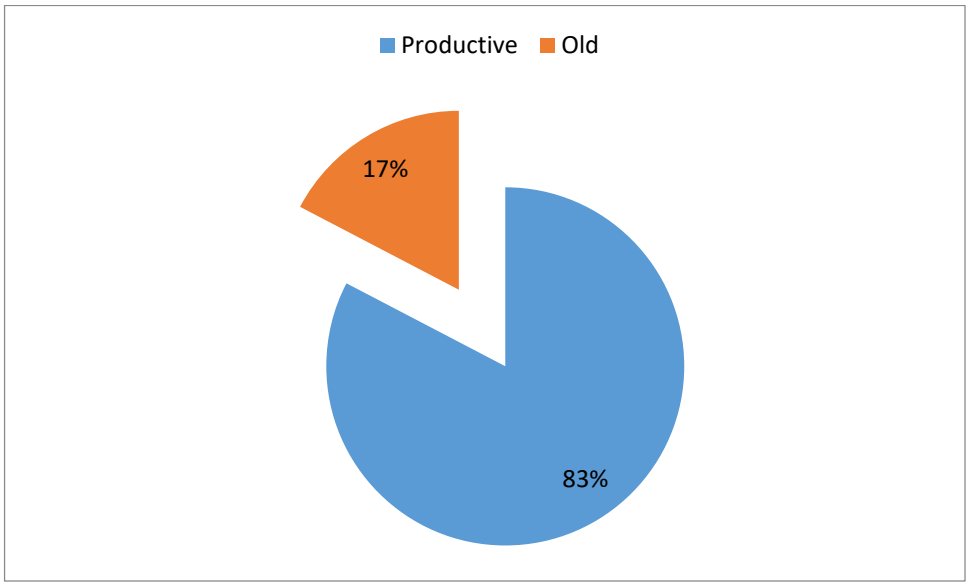

Figure 6. Profile of respondents by age category

The questions on the questionnaire are expected to describe the level of public knowledge about the definition, risk factors, and symptoms of OA and knowledge that OA is a not contagious disease. This knowledge is essential for society because it is expected to increase public awareness of OA in themselves and their families. This awareness is needed so that people can increase awareness of the risk of OA so that they can avoid it. Also, with the high level of public awareness, it is hoped that it can increase public awareness to conduct health checks at health service providers immediately. By carrying out the first examination, the correct diagnosis can be made earlier, so that the progress of the disease can be suppressed and does not cause severity and improve the quality of life of the community. Appropriate treatment can also be done more quickly when the diagnosis is made earlier.

One risk of developing OA is excess body weight, characterized by a BMI of more than 25 [9] [10]. BMI is obtained from the ratio of body weight (in kg) to height (in m). People tend not to realize that they have entered the category of obesity/overweight. Of the 75 respondents, 22.67% were categorized as being at risk for obesity, while 24% were categorized as obese one and obese 2 (Figure 7).

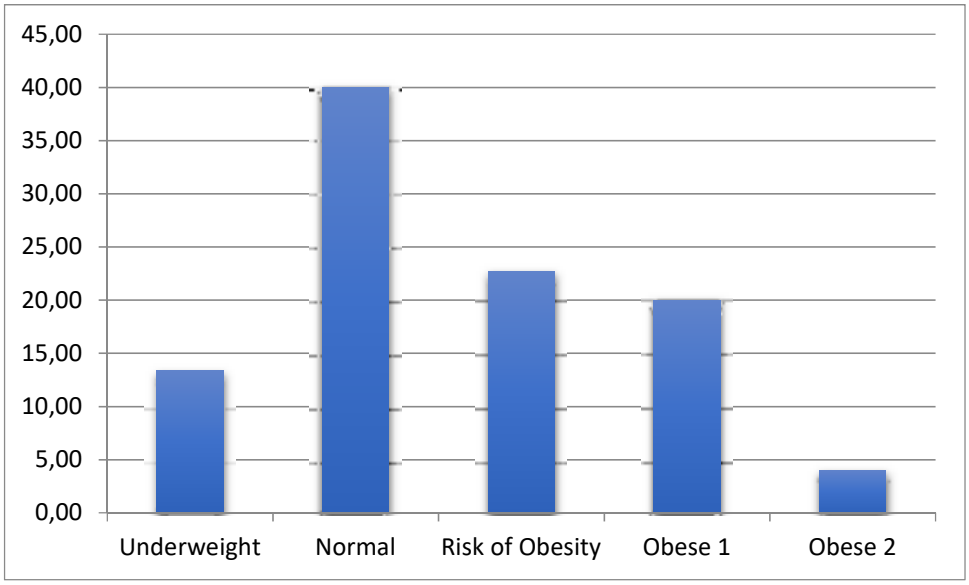

Figure 7. Profile of respondents' weight categories based on BMI

The results showed that the level of public knowledge about the definitions and symptoms was quite good. It is indicated by as many as 49.33% of respondents answered to know, while 50.67% responded less and did not know (Figure 8). OA is a joint disorder in the form of cartilage lesions, bone remodeling, new bone formation at joint edges (osteophytes) or joint inflammation [11]. OA usually occurs in joints that support weight, such as joints in the spine, hip joints, knees, and ankles. Therefore, one of the early symptoms felt by people with OA is a pain in large joints such as the knee [1] [12].

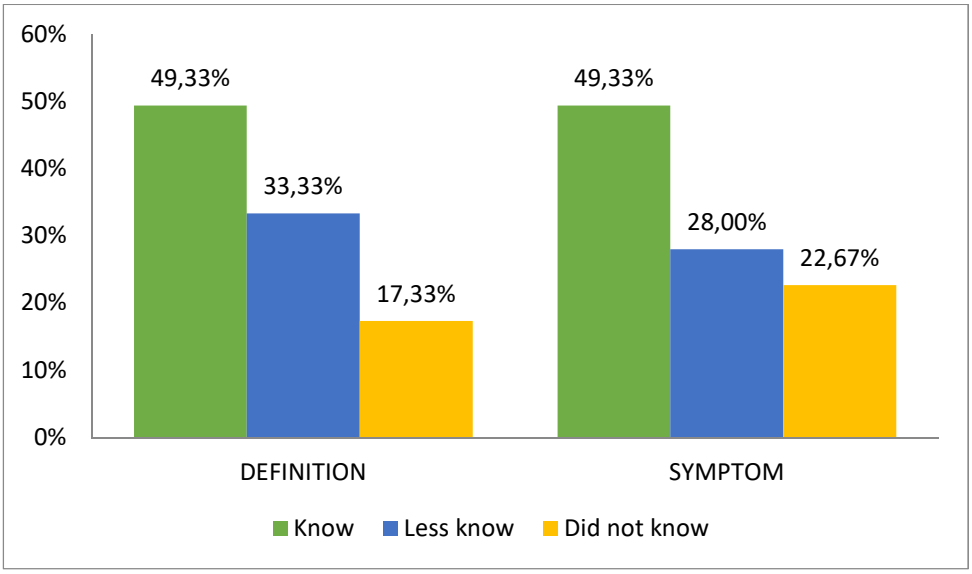

Figure 8. Percentage of public knowledge about the definition and early symptoms of OA

Respondents' knowledge that OA is not a contagious disease is excellent. This was shown by 76% of respondents who stated that OA was not contagious disease, while 24% said they did not and did not know (Figure 9). OA is not an infectious disease that can be transmitted from one person to another [13]. Even OA is not included in the category of genetically inherited diseases [11].

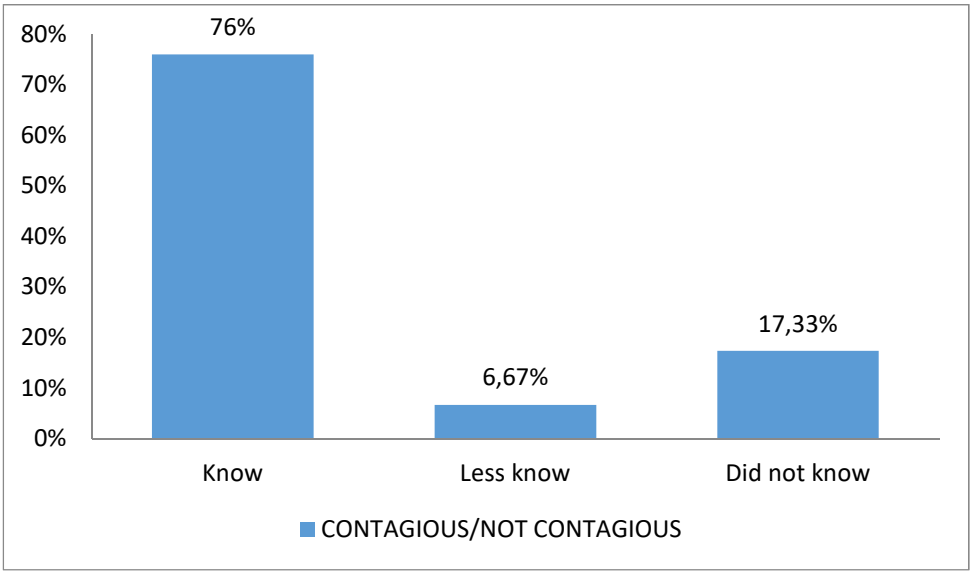

Figure 9. Percentage of public knowledge about OA is not contagious

The age factor is a risk factor for OA [10]. As many as 62.67% of respondents already know this well (Figure 10). The occupational risk of OA increases by as much as 40% in humans over 70 years of age. However, the cause of age being a vital risk factor for OA is not absolute. It is suspected that changes in biomechanics and biochemistry of articular cartilage play a role in the onset of OA in the elderly [14].

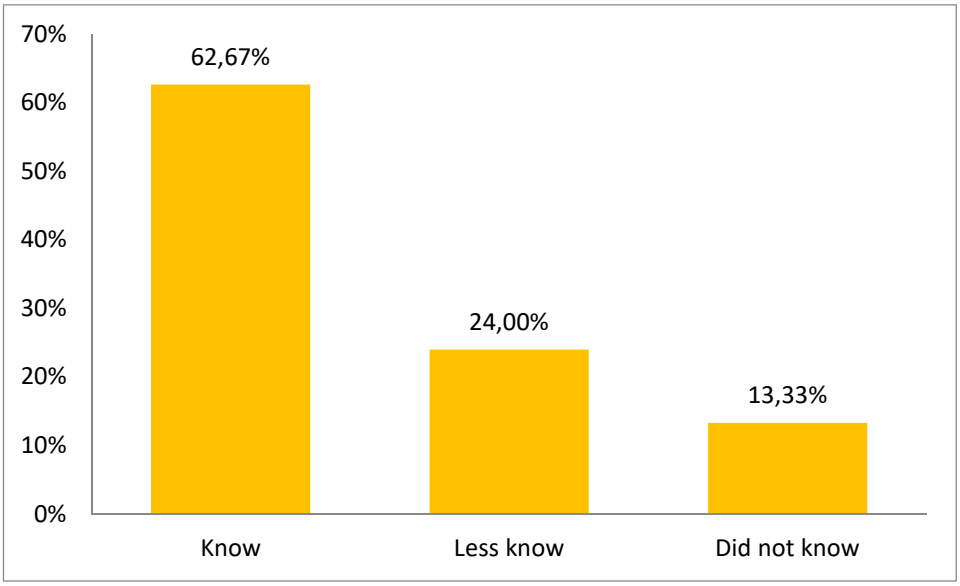

Figure 10. Percentage of public knowledge about risk factors for age

The prevalence of OA in women is higher than in men. As many as 45.33% of respondents already know this (Figure 11). Women are more at risk than men due to hormonal factors, especially in menopausal women [15]. The menopausal state causes a decrease in the production of estrogen and fat accumulation in the joints [9]. The incidence of OA is reported to increase at menopause [16].

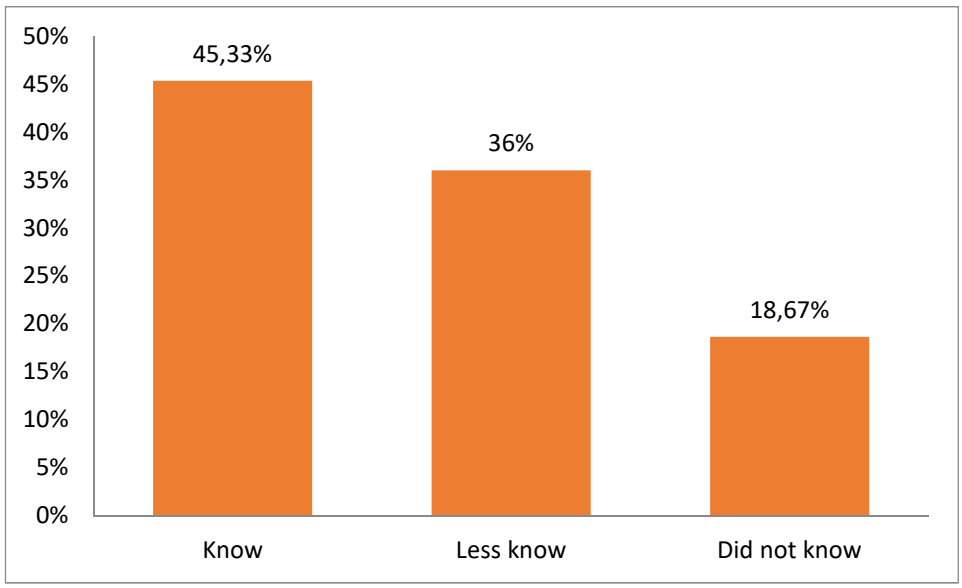

Figure 11. Percentage of public knowledge about gender risk factors

Public awareness is deficient regarding the risk factors for excess body weight on the onset of OA. A person with excess weight (BMI> 23), especially those who are obese (BMI> 25), has a higher risk of developing OA [10]. This is because excess body weight puts a more significant burden on the joints. Large loads can cause lesions in the joint cartilage leading to OA [3]. As many as 37.33% of respondents knew that overweight people had a higher risk of developing OA, but 62.67% tended not to know this (Figure 12). This ignorance causes people to be unaware of the very high risk of OA for themselves and families who have a BMI> 23 [17].

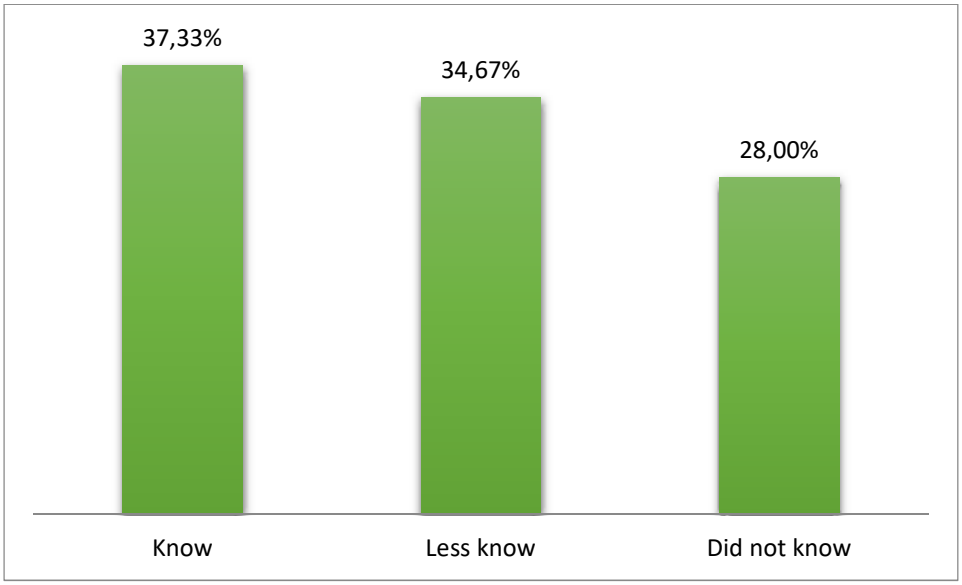

Figure 12. Percentage of public knowledge about risk factors for body weight

4. Conclusion

The people of Banjarwaru Village have the right level of knowledge about the definition and symptoms of osteoarthritis. The community at Banjarwaru Village has an excellent level of knowledge about the age factor in the risk of osteoarthritis. The people of Banjarwaru Village have a high level of knowledge that osteoarthritis is included in the category of not contagious diseases.

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