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Identification of Swimming Pool Sanitation in Banyuwangi (Study in Swimming Pool X at Glagah)

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ABSTRACT

Public place is a location that often visited people all of ages. It makes public place as a susceptible place by source of various disease. Swimming pool is one of the public place that needs to be monitored and sanitation management to keep the hygiene. Swimming pool sanitation is to prevent the transmission of disease for visitors that caused by swimming pool environment which is not appropriate with terms of health. The purpose of this research is to know the description of sanitation of swimming pool X Glagah in Banyuwangi. This research used observation and interview technique. The research was on June, 2017, took place in swimming pool X Glagah in Banyuwangi. The observation and Interview performed using an research instrument. The research instrumen based on Minister of health of Republic of Indonesia Regulation No. 416 of 1990 about requirement and monitoring water quality, and Minister of Tourism of Republic of Indonesia No. 16 of 2015 about swimming pool business standard. The observation instrument contains five variables. There are water quality of swimming pool, sanitasion facility, health of building and environment, health of room, and evaluation for employees. There are three variables on interview instrument. There are product, services, and management. The result showed the total value of water quality of swimming pool variable (127), sanitation facility (63), health of building and environment (105), health of room (5), evaluation for employees (3). The result of interview showed the total value of product variables (8), services (13), and management (32). Swimming pool X Glagah in Banyuwangi is in good condition with value 253,2. The suggestions for swimming pool X Glagah ind Banyuwangi manager to make a good fence to prevent the development of insect and rodent with put the automatically insect and rodent catcher around the fence, add the trashcan, clean the toilet and wall of swimming pool every day, and separate the dangerous materials warehouse with other material.

Keywords : Sanitation, swimming pool, Environtment

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INTRODUCTION

The swimming pool is a sports place as well as a tourist attraction that is much in demand and often visited by the community. The visitors consist of various ages ranging from toddlers, children, adults to the elderly. The large number of visitors causes the pool to potentially cause disease transmission. Therefore, efforts are needed to maintain hygiene and sanitation.

Poor sanitary conditions in the swimming pool environment can be caused by a lack of hygiene management. The cleanliness of the swimming pool environment is an important thing that needs attention because it is related to health aspects, especially the disease transmission factors in the swimming pool environment (Mukono, 2000: 107). The quality of polluted swimming pool water can also be a means of spreading seeds of disease and health problems. Swimming pools must meet 5 environmental health requirements that include the swimming pool environment and swimming pool buildings, building layout requirements, building construction requirements, swimming pool completeness requirements and building requirements and swimming pool facilities (Permenkes, 1991).

Similar research has been conducted by Dwi (2016) who has conducted research on the description of different swimming pool sanitation in Banyuwangi. The variables studied include places, buildings, swimming pools, infrastructure facilities, and support. The results of his study showed that the sanitation of the Banyuwangi X swimming pool is in good condition (82.7%) while the variable place, building, swimming pool and support have not yet met the requirements. The result of Setiowati's study (2011) states that all swimming pools in Jember Regency do not meet health requirements. This is due to the variable management of waste water and feces, the unavailability of bathrooms. While the completeness variable is not available first aid rooms, hand washing places and chemical storage warehouses. From these studies, environmental observations of sanitation X swimming pools in Banyuwangi need to be carried out. Swimming pool X in Banyuwangi is a swimming pool that is used as a public tourist spot so it is more likely to become a place of spread of disease. The sources of danger in swimming pools include swimming pool water, buildings, pollution and various diseases that can be transmitted from various sources of danger. This study aims to describe the environmental sanitation of swimming pool X in Glagah Banyuwangi.

METHOD

This research uses descriptive observational method with cross sectional design. The study was conducted in June 2017 in the X Glagah swimming pool in Banyuwangi. Data collection techniques used in this study were observation and interview techniques. The assessment of swimming pool sanitation status is based on the Minister of Health Regulation number 416 of 1990 concerning the requirements and supervision of water quality as well as the Regulation of the Minister of Tourism of the Republic of Indonesia Number 16 of 2015 concerning swimming pool business standards. There are five variables contained in the observation instrument, among others, pool water quality, sanitation facilities, environmental and building health, room health, and assessment for employees. Each variable is given a weight and a sub-variable is given a score. Weights for each variable are 33% swimming pool water quality, 24% sanitation facilities, 35% environmental and building health, 5% room health, and 3% employees. Scores on sub-variables are between 1-4. After that the calculation of the value of each variable is as follows:

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Value = Score x Quality
Total assessed value = Σ (sub-variable score x variable quality)
Total maximum value = Σ (max sub variable score x variable quality)
Results total value = (total assessed value ÷ maximum total value) × 100
Meanwhile in the interview instrument there are three variables including product, service, and management. Each sub-variable is given a value of 4 if it is answered 'yes', and given a value of 1 if it is answered 'no'. For the total assessment, it is calculated based on 80% of the observation scores and 20% of the interview evaluations. The results of the assessment are then grouped into 4 conditions: very good (273-334), good (210-272), sufficient (147-209), and less (84-147).

RESULT

Swimming pool X Banyuwangi is located in Glagah District, Banyuwangi Regency. This pool is a recreation park and also a bath which is open to the public which stands on a land area of approximately 5 hectares. To reach the X Glagah swimming pool in Banyuwangi, you can use rural or public transportation that passes through this area. Operating hours every day from 07.00 to 16.00. There are 20 employees working in this bath. In their daily operations for security, they are assisted by 5 personnel from the Koramil and Polsek. At certain times, for example holidays, new years, and so on, additional funds are needed mainly from security forces, sub-districts and villages, as well as the community that reaches 80-100 people. The following are the results of the observation evaluation in the X Glagah swimming pool in Banyuwangi:

Table 1. Results of observations of swimming pool water quality variables

Variable	Quality	Sub Variable	Score	Value
Swimming pool water quality	33%	Physics	4	100
		Swimming pool	3	15
		Volume	4	12
Total			11	127

Table 2. Results of observations on Observations of Sanitation Facility Variables

Variable	Quality	Sub Variable	Score	Value
Sanitation Facility	24%	Water supply	4	12
		Waste disposal	1	3
		Shower rinse	4	12
		Public toilets	3	9
		Food stalls	2	6
		Trash can	2	6
		Shelter	4	12
		Insect and rodent entry prevention equipment	1	3
Total			17	63

Table 3. Observation Results of Observation of Environmental and Building Health Variables

Variable	Quality	Sub Variable	Score	Value
Environmental and Building	35%	Location	4	20
		Environtment	2	10

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Health	Building	4	20
	Division of space	4	8
	Floor	4	12
	Wall	1	2
	Roof	1	2
	Palate	1	2
	Door	4	8
	Lighting	4	8
	Pool construction	3	9
	Pool area	2	4
Total		34	105

Table 4. Room Observation Result Variable Observation assessment results

Variable	Quality	Sub Variable	Score	Value
Health room	5%	Room condition	1	1
		Employee break room	1	1
		Bathroom, latrine and peturasan (toilet)	1	2
		Warehouse	1	1
Total			4	5

Table 5. Employee Observation Variable assessment results

Variable	Quality	Sub Variable	Score	Value
Employee	3%	Every employee has a valid health certificate from a doctor	1	3
Total			1	3

Table 6. Results of interview evaluations

Aspect	Element	Sub Element	Information	Score
Product	Place	Land area of at least 2000 m2 with clear boundaries	Yes	4
	Trainer	A quality swimming trainer is available	Yes	4
Service	SPO	Information is available in the form of important telephone numbers and operational schedules	Yes	4
		Cash and / or non-cash payments	Yes	4
		Handling visitor complaints	Yes	4
	Other Services	Providing accident insurance for visitors by specifying the nominal value	No	1
Management	Organization	Business profile consists of vision, mission, structure, and job description	No	1

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		Complete business plan	No	1
	Management	Implementation of documented occupational health and safety (K3) programs	No	1
		Carry out documented management performance evaluations	Yes	4
	Human Resources	Employee uniforms are available	Yes	4
		Carry out career planning and development	Yes	4
		Has water treatment and engineering competence	Yes	4
		Implement a competency management improvement training program	Yes	4
		Carry out an employee performance appraisal program	Yes	4
		Health and accident insurance protection	Yes	4
Total				53

DISCUSSION

Based on table 1 it is known that the total value of swimming pool water quality is 127 with a total score of 11. In the sub-physics variable swimming pool water in X Glagah swimming pool in Banyuwangi has no odor, there are no floating and clear objects. This is in accordance with the regulation of the Minister of Health of the Republic of Indonesia No. 416 regarding the requirements and supervision of water quality which explains that the physical parameters of swimming pool water quality are odorless, no floating objects, and are clear. The X Glagah swimming pool in Banyuwangi has an area of> 900 m2. A good swimming pool is one that has an area of> 900 m2, because it facilitates the movement of people who will swim so as not to jostle with other visitors. Swimming pools with water quality standards vary in depth. Children's pool with a depth of 30-60 cm and an adult pool with a minimum depth of 60 cm (Permenpar, 2015). The height of the children's pool in the X Glagah swimming pool in Banyuwangi is between 40 to 50 cm and the height of the adult pool is> 60 cm.

The X Glagah swimming pool in Banyuwangi has instructions for using the swimming pool such as the depth of the pool and swimming procedures. These instructions function for information for visitors and adjust to the ability to swim so as to minimize the occurrence of drowning or unwanted events. There are pool ladders in each pool in both the children's pool and in the adult pool. This ladder is made of stainless steel. Safety guard chairs for swimming pool users (Life Guard) are available in each swimming pool so that swimmers' activities can always be monitored by officers to minimize water accidents. There is also the provision of swimming equipment and the Health / Safety and First Aid Post for Accidents (P3K). The volume of swimming pool water is always fully

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filled with water and the maximum number of swimmers is proportional to the surface area of the pool water divided by 3. It is always noted by the manager for the convenience of visitors.

From table 2 it can be seen that the total value of the sanitation facility variable is 63 with a score of 17. The X Glagah swimming pool in Banyuwangi has a clean and odorless shower rinse, the floor is waterproof and non-slippery and the water flows smoothly and continuously. Sewerage is available but does not use a closed system and does not yet have a wastewater treatment facility. Provision of water in the X Glagah swimming pool in Banyuwangi meets the quality requirements for clean water that is physically odorless, clear, and tasteless. This is in accordance with the requirements for clean water quality in the Minister of Health Regulation number 416 of 1990. Water supply at each activity site has been continuous, available in sufficient quantities and distribution using a piping system.

Public toilets in the X Glagah swimming pool in Banyuwangi are available in a number of 16 (sixteen) toilets with separate divisions between women and men. The toilet at the X Glagah swimming pool in Banyuwangi is not directly related to the kitchen and has a waterproof floor, is not slippery and has a sloping floor towards the drain. However, the situation is not clean and smelly. Conditions that are less clean and smell can cause health problems. According to Bahtiar (2006) bathrooms and toilets must be clean, the amount must be sufficiently available, adjusted and must be separate between men and women.

The results of observations of food outlets / counters are available around the X Glagah swimming pool area in Banyuwangi with clean conditions and there is a garbage dump. From table 2 it can be seen that the sub-variable value is 2 with a score of 6. Meanwhile, landfills in public areas X Glagah swimming pool in Banyuwangi are still not sufficient with the overall swimming pool area. Laying the trash can also does not match the distance between one trash can and another far enough.

The trash can in the X Glagah swimming pool in Banyuwangi complies with the requirements, which are made of strong, lightweight, rustproof, waterproof, easy to fill and empty. The condition of the trash has a lid and has the number and volume in accordance with the production of waste per day. Based on SNI No. 19-2454-2002 regarding the operational procedures for managing municipal waste, at the stage of waste disposal using bins or plastic bags the amount of which is adjusted to the level of volume, waterproof and not easily damaged. Trash collection at X Glagah swimming pool in Banyuwangi is easily accessible by garbage transport vehicles and the frequency of emptying / transporting rubbish is at least 3x24 hours. According to the Ministry of Public Works in 2013, emptying of garbage is done every day with a frequency of at least 1 time, easy to reach and does not disrupt traffic flow. The X Glagah swimming pool in Banyuwangi is not equipped with insect and rodent entry prevention equipment so that it is only given a score of 1 with a score of 3.

Based on table 3 the total score of the X Glagah swimming pool location in Banyuwangi is 4 with a value of 20. The X Glagah swimming pool location in Banyuwangi is not located in a flooded area and is protected from chemical pollution. This is in accordance with the standards set by the Regulation of the Minister of Health of the Republic of Indonesia Number 061 / Menkes / Per / I / 1991 ie the location of the swimming pool is not located in the area of environmental pollution. Meanwhile the X Glagah swimming pool environment in Banyuwangi is clean, and has a strong fence, but it is still possible as a nesting site or breeding ground for insects and rats. With a strong fenced but still unable to prevent entry and breeding of other intruding animals. The buildings in the X Glagah

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swimming pool area in Banyuwangi are already sturdy and strong, but it is still possible as a breeding ground for insects and rats.

The division of space in the X Glagah swimming pool in Banyuwangi has been used according to its function. The floor in the swimming pool is clean and not slippery. The floor is made of strong material, waterproof, and flat surface. The construction of the wall in the X Glagah swimming pool in Banyuwangi is not clean, not brightly colored, but has a surface that is always in contact with water-tight water. The X Glagah swimming pool in Banyuwangi does not yet have a roof and ceiling that can allow the vector to come from above. Door construction can be opened and closed or locked properly, but cannot prevent the entry of disturbing animals. The good condition of the door is that it is tightly closed without any gap so that disturbing animals cannot enter. The lighting in the Taman Suruh Swimming Pool is bright enough on each part and does not cause glare. The lighting system in the X Glagah swimming pool in Banyuwangi uses natural lighting in the pool and artificial lighting in several rooms.

The volume of pond water is always fully filled with water and the maximum number of swimmers is proportional to the surface area of the water. The walls and floor of the pool are strong, waterproof and flat surface, the corners of the construction base are curved and there is no direct relationship between clean water and dirty water. There are clear signs of the depth of the swimming pool and a foot wash tub with a size of 1.5m x 20cm is available. The pool area has a clear separation between the pool area and other areas so that people who are not interested cannot enter. There is a clear divider between the swimming pool area and other areas. There is no diving or sliding board in accordance with applicable technical requirements and does not endanger the swimmer.

Based on table 4 the room / room health score is 4 with a score of 5. Employee space is not available so employees cannot rest comfortably during recess. So that if it continues it can interfere with employee health, stress easily, tired, and reduce employee productivity. Employee toilet, toilet and toilet are not available. Meanwhile, warehouses for food, hazardous materials, office equipment, household appliances, etc. are mixed together. The storehouse of hazardous materials must be separated from other objects so that cleanliness cannot be maintained. This is in line with Dwi's research (2016) in his research stating that the warehouse of hazardous materials with other ingredients in the X Glagah swimming pool in Banyuwangi is mixed into one.

From table 5 it can be seen that the employee has a value of 1 with a score of 3. Each employee in the Banyuwangi swimming pool does not have a health certificate from a valid doctor. A health certificate from a doctor is important to know the health conditions of employees so that employees can work productively without being hindered by their respective health conditions. There are 3 aspects of the Banyuwangi X swimming pool interview instrument including products, services, and management. The area of the X Glagah swimming pool in Banyuwangi has exceeded the criteria of 2000 m2 which is 5 hectares. At the X Glagah swimming pool in Banyuwangi, there is already a quality swimming trainer available so that visitors can minimize the occurrence of water accidents.

Information boards regarding important telephone numbers from pool managers, police, fire engines, ambulances, and hospitals are available so visitors can contact the available numbers in the event of an unwanted event. Payment for admission at the X Glagah swimming pool in Banyuwangi is available in cash and non-cash. The manager of X Glagah swimming pool in Banyuwangi has also handled

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complaints from visitors but accident insurance is not yet available for visitors who have accidents.

The X Glagah Swimming Pool in Banyuwangi does not have good organizational management. This can be seen from the lack of vision and mission, organizational structure, business plans and the implementation of the Occupational Safety and Health (K3) program. The K3 program is expected to be able to reduce the number of work accidents that often occur (Hidayah, 2013). However, in the X Glagah swimming pool in Banyuwangi a management performance evaluation has been carried out. Employees at the X Glagah swimming pool in Banyuwangi already have water treatment and engineering so they can help visitors in the event of a water accident. Human resources have also implemented competency training programs, and implemented employee performance appraisal programs. Employees at the X Glagah swimming pool in Banyuwangi already have health and accident insurance coverage.

CONCLUSION

The observations made showed that the sanitation of the X Glagah swimming pool was in good condition. However, there are still some variables that do not meet the requirements, among others, sanitation facility variables, environmental and building health variables, room health variables and employee variables. The interview results show that in the X Glagah pool in Banyuwangi there is no organizational structure, vision and mission as well as further business plans.

There is a need for improvement made by the pool manager of X Banyuwangi which includes 1) the variable sanitation facilities should be checked and cleaned condition every hour so that it is clean and odorless. Garbage bins provided in the X Glagah swimming pool should provide sufficient bins for the entire area so that the placement between bins is in accordance with the distance of other bins. 2) environmental and building health variables walls should be cleaned every day so that they are clean and not mossy. 3) variable health of the room / room at least the pool manager provides space for employees, so they can rest and relax when they are tired. The storehouse of hazardous materials should be separated from the storehouse of other ingredients. 4) employee variables should each employee be required to have a health certificate from a doctor that is still valid.

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