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Pascasarjana Universitas Negeri Padang
Jln. Prof. Dr. Hamka Air Tawar Padang
E-mail : ijthrs@ppj.unp.ac.id
Phone :+62 751 / 0811664883

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EFFECTIVENESS OF SELF-SCREENING INSTRUMENT IN ASSESSING THE CONDITION OF PARTICIPANTS IN OUTDOOR ACTIVITIES

Endang Sepdanius*, Anton Komaini, Muhamad Sazeli Rifki
Faculty of Sport Science, Padang State University, West Sumatra, Indonesia
endangsepdanius@fik.unp.ac.id, antonkomaini@fik.unp.ac.id, muhamadsezelirifki@fik.unp.ac.id

Abstract

Special attention is given to participants in outdoor activities to remain safe. Preparation is the main thing to keep our health physically and psychologically. Therefore we need an instrument to assess personal health condition easily and precisely. The results obtained are used to make a decision to continue the activity or consult with the doctor first before doing the activities. The aim of this research is to see the effectiveness the self-screening instrument that developed. This research did in three step as: (1) preliminary study phase, (2) Expert validation phase, (3) testing phase. The number of participant that contributed in this research were 826 participants consist of three expert, 100 participants in small scale test and 723 participants in large scale test. The result of expert's judgment showed that self-screening instrument has content validity. The result of small-scale test showed that 19 questions were valid and in large-scale test, information was obtained in a short time about the condition of the participants, that 97.1% of the total participants who did not have problems. While 2.9% of the total participants has problems that needed consultation and recommendations from doctors. Based on these results, it can be seen that effectiveness of self screening instrument in screening participants quickly and precisely so that they can prevent the occurrence of problems related to the situation of participants.

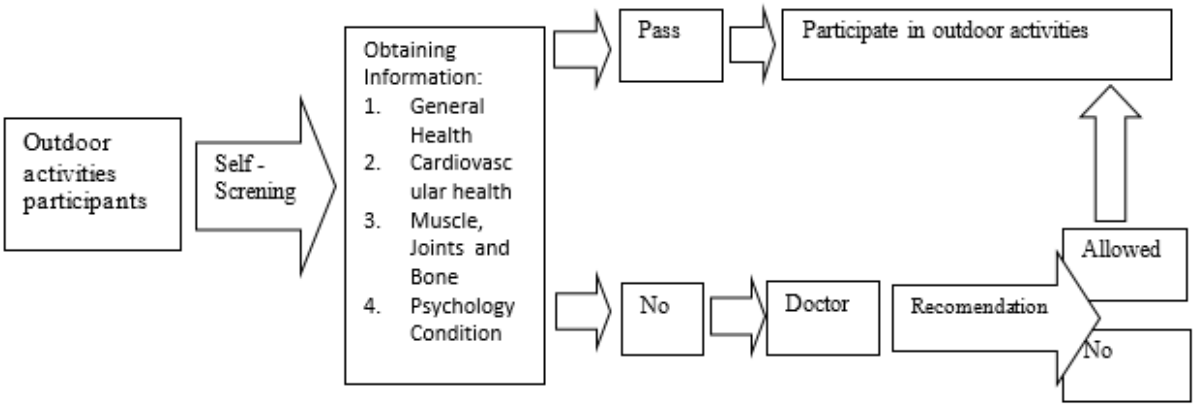
Keyword: *Self Screening, Outdoor Activities*

1. INTRODUCTION

Outdoor activities are physical activities carried out in the outside. This activity is usually carried out in locations far from settlements and areas that have natural conditions that are difficult to achieve. Areas that are often used for outdoor recreational activities are mountainous areas, areas that have rivers, forests, beaches, lakes and others. Activities carried out are usually in the form of recreational sports or physical activities that have an element of education which during activities are faced with feelings of joy, challenge, or risk, such as in rafting, climbing, adventure and so on. Research result explains that accidents and many incidents occur in outdoor physical activity [1]. In addition to having the potential for injury or loss of life and difficulties for participants involved, these incidents can also produce negative publicity and potentially be very damaging to health. therefore it needs special attention in carrying out this outdoor activity[2].

Generally, Outdoor physical activity is carried out with a large number of participants. Therefore the implementation needs to be accompanied by a facilitator so that during the activity the participants feel safe and in control[3]. A good facilitator is able to provide security and comfort during the activity. The facilitator makes every effort to be related to the safety of the participants of the activity, including increasing the prevention of the occurrence of risk by screening to ensure the health conditions of each individual participant[4]. For this reason, management and processes in determining the participants can take part in activities[5]. Therefore, the participants must understand that the recreational activities outside the room they live in must be in accordance with their respective physical conditions. Before carrying out recreational activities, it is necessary to collect data related to theirself, both physically and psychologically. The importance of this participation is to show the health condition of the participants as a recommendation for following physical activities[6].

In getting the data quickly, it is necessary to have an appropriate instruments in assessing the conditions of the participants. The assessment process is usually carried out by paramedics such as doctors and other experts. Medics use assessment instruments before deciding to make a decision. There are many instruments used such as preparticipant and physical evaluation [7]. However, some of the instruments used are very time-consuming in assessing each participant because the instruments used to assess participants in depth. Therefore, an instrument is needed that can quickly assess the conditions of the participants themselves individually. Instrument can be used in the initial stage of assessment before entering the stage of assessment from the doctor. The participants who were not related to the indicators in the instrument were declared capable of participating in outdoor activities. Whereas participants who are associated with indicators in the instrument are recommended first to carry out a doctor's examination and after that they can undergo physical activity / outdoor recreation after the recommendation is issued may or may not take part in the activities of the examining doctor. The following is the role of self screening shown in Figure 1.



Self screening expected to be used efficiently and effectively in assessing and deciding someone to join in carrying out outdoor activities. The indicators in the assessment are based on two main indicators related to the problems that occur during outdoor activities. The indicators of assessment in the instrument are physiological and psychological. Physiologically, outdoor activities are very influential on changes in body function. These changes can be dangerous for the safety of participants if a participant is in a bad condition or in a state of illness. In addition, psychological conditions also determine the safety of participants. Psychologically disturbed conditions can also endanger the safety of participants when carrying out outdoor activities. Examples of problems faced are excessive fear of heights, darkness, water and others. These psychological factors can inhibit outdoor activities if not handled properly. These two indicators need to be detected as early as possible before plunging into outdoor activities to avoid problems.

2. OBJECTIVE

Obtaining a self-screening instrument for outdoor activities that has validity and effectiveness in assessing the health condition of participants in outdoor activities.

3. METHODE

3.1 Scope of research

The approach of this research is development research approach. This development research is based on research on the development of Borg and Gall (Borg WR & Gall MD 1983) which is simplified in three stages, namely: (1) Preliminary study phase, (2) expert validation, (3) phase testing.

3.2 Development Procedure

The preliminary phase study is carried out to get all information related to the problems that occur during outdoor activities by carrying out direct observation of the field and record all events that occur

during the activity. Then, the results obtained are used to draw conclusions on the problems found and find solutions to these problems. The problem found is often ignoring the physical and psychological preparation process. This can be seen from the absence of special tools that are used to screen participants in a quick and precise manner by each individual. Based on this problem, the development of a personal screening instrument by participants involved in outdoor activities was carried out.

The phase expert validation is the phase to get the content validity of the instrument developed. The main role in this phase is experts who assess the instrument whether these instruments have fulfilled the contents of physical and psychological indicators. The experts who assessed were from doctors, psychiatrists and instruments. All suggestions and input received from these experts are to achieve the content validity.

Testing phase is carried out by the item validity test and instrument effectiveness test. The item validity test is used to see valid instrument items. While the instrument effectiveness test is used to see whether this instrument has been able to obtain information in accordance with the objectives of the problems that existed before.

3.3 Particpant of the Research

The subject of this study involved 826 participants who were divided into expert trials and two stages of product testing, namely small-scale trials and large-scale trials. The subjects of the research trial were participants from outdoor activities carried out by Mitra Solution, which amounted to 100 participants from the self-development program of Integrated Teacher Professional Education (PPGT) of Universitas Negeri Padang who underwent outdoor activities. 353 Participants from the Health and Recreation Department Faculty of Sports Science Puniversitas Negeri Padang, and 370 participants from the participant camp activities at the Faculty of Sport Sciences, Universitas Negeri Padang.

Table 1 Participant of the Research

Trial	Number of Participant	Male	Female
Small Scale Trial	100	63	37
Large Scale Trial	720	638	82

3.4 Techniques of Data Analysis

In analyzing the data the researcher used descriptive analysis techniques. To test the validity of items using correlation analysis techniques while to analyze the effectiveness of the instrument used a percentage analysis technique.

4. RESULT

4.1 Preliminary Study Phase

The initial data collection activity is carried out to obtain information related to indicators that need to be identified during preparation for outdoor activities. The results of observations found that the weak information about personal data related to the conditions of participants in outdoor activities. The absence of this data makes the facilitator and participants do not know each other's personal conditions, so that in carrying out outdoor activities unwittingly can threaten the participants' personalities with the worst risks that can occur.

The discovery of the problem, then the next action is drafted an instrument to assess personal conditions. Based on the results of discussions with several experts including sports doctors, general practitioners, physicians, recreational practitioners, and experts in making instruments, it is concluded that the indicators in this instrument focus on physiological and pisycological areas. The next step is to identify several important factors in preventing health problems during outdoor recreation activities. Among them are about general health, heart health, muscle health, joints and bones and psychological states (excessive fear of something). In addition, the instrument is also designed to be able to collect general information related to name, age, consumption of drugs and allergies to something.

4.2 Expert Validation

Validation is carried out by three experts, namely a sports doctor, physicist and expert in making instruments. Instrument is stated to have content validity by fulfilling the indicators needed to obtain information. However, there are a number of items that need to be fixed according to the advice of experts. namely: 1) Make the questions become statement items, 2) Language must be explained so that it is easily understood and understood by everyone, 3)

Improve the composition of the statements in accordance with the indicators, 4) provide assessment instructions at the end of the statement so participants can assess the condition of the participants respectively, 5) give the participant signature column that the participant has filled out the self screening instrument form correctly.

4.3 Small scale testing

In a small scale test attended by 100 participants of outdoor activities carried out by Mitra Solution from the self-development program of Integrated Teacher Professional Education (PPGT), Universitas Negeri Padang. Data is collected to obtain general information and determine the validity of the instrument. The following are presented data related to general information.

Table 2 General information on participants in activities

	Frequenci	Percentage
Medicines Consumption		
Yes	4	4%
No	96	96%
Allergy		
Medicines	0	0%
Powder/Dust	2	2%
Food	5	5%
Insects	0	0%
None	93	93%

Based on table 2 above explains that 96% of participants did not take medicines to overcome certain health problems, however, 4% of participants consumed certain medicines to overcome health problems. For information on allergies as many as 93% do not experience allergies while 2% experience allergic problems triggered by powder/dust and 5% of participants experience allergic problems triggered by food.

Table 3 Validity of Instrument

100 Respondents	General oHealth						Cardiovascular Health				Muscle, joint & bone conditions			Excessive state of obstruction					
	Butir																		
	2	3	6	7	8	10	11	14	15	16	17	18	19	20	21	27	28	29	31
r count	0.45	0.37	0.44	0.68	0.55	0.44	0.37	0.40	0.46	0.17	0.33	0.43	0.54	0.49	0.51	0.21	0.19	0.43	0.56
t count	4.96	3.89	4.88	9.10	6.46	4.90	3.93	4.27	5.06	1.71	3.41	4.67	6.43	5.55	5.92	2.12	1.92	4.72	6.68
t Table (95%, 98)	1.661																		
Validity	Valid																		

This stage is carried out the item uses a t test with a confidence level of 95%. The results obtained are 19 items declared valid including 6 items on general health indicators, 4 items on cardiovascular health indicators, 3 items on indicators related to the condition of muscles, joints and bones and 6 points on indicators of a state of excessive fear of something.

4.4 Effectiveness testing

The effectiveness test was followed by 723 participants in two outdoor activities. Obtained data include general information, results of screening participants, and details of problems related to indicators.

Table 4 General information on participants

	frequenscy	Percentage
Medicines Consumption		
Yes	21	2.9%

No	702	97.1%
Allergy		
Medicines	2	0.3%
Powder/dust	5	0.7%
Food	19	2.6%
Insects	7	1.0%
None	690	95.4%

Based on table 4 above It was found that 97.1% of the participants were not taking certain medicines while 2.9% of participants were taking certain medicines. Other information obtained was that 96% of participants were not allergic to anything. While 4% of participants claimed to be allergic including 2 participants (0.3%) claimed to be allergic to medicines, 0.7% (5 people) were allergic to powder/dust, 2.6% (19 people) were allergic to certain foods , and 1% (7 people) are allergic to insects.

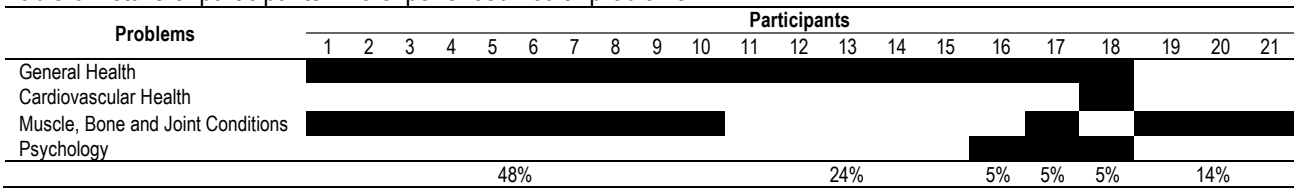
Based on the large-scale trials, the conditions of the participants in the outdoor activities were divided into two categories: problematic categories and non-problematic categories. The following percentage is shown in table 5.

Table 5 Results of screening of outdoor activities using Self Screening instruments

Participant Conditions	**Frequensi**	**Percentages**
Problem	21	2.9%
Non-Problem	702	97.10%
n=	723	100%

Based on the table above explained that 97.1% of participants did not experience interference health, while 2.9% of participants were included in the problematic category so need to consult and get recommendations from the doctor before taking part in outdoor activities. The condition of the 21 participants (2.9%) who experienced health problems are as follows:

Table 6 Details of participants who experienced health problems



Based on the table above it can be explained that each participant not only has 1 problem but also has 2 even three problems at once. Participants who had problems related to general health and muscle, bone and joint conditions were 10 people (48%). Participants who only experienced general health problems were 5 people (24%), participants who had general and psychological health problems as many as 1 person (5%), participants who had general health problems, muscle, bone and joint and psychological conditions as many as 1 person (5%) and 1 person (5%) who had general health, cardiovascular health and psychological problems and 3 people who had only muscle, bone and joint problems (14%).

5. DISCUSSION

Health is an individual factor that is a major risk factor in outdoor recreational activities (Salmon et al. 2014). Without having excellent health, activities do not go well. In addition, disturbed health can pose a more dangerous risk when forcing to continue recreational activities in the outdoor. This is usually ignored by the participants in the reclamation activities. There are those who know the health conditions of

their respective but also many people who do not know the conditions of each of them. Therefore, to help the recreational activity participants recognize the health conditions independently then remind that the need to consult first with the doctor.

Self-screening developed has been effective in filtering participants based on health conditions physiologically and psychologically. The results of the effectiveness test conducted were obtained by 21 participants understanding the disorder and it was recommended first to consult a doctor. Problems that occur are caused by general health disorders, cardiovascular health, disorders of muscles, bones and joints and in psychological disorders. In addition, self-screning also gets general information that is used by the medical staff to prepare medicines and medicines in an effort to anticipate problems that occur in the field.

General health can reduce body function so that it is not able to work optimally. Therefore, participants in outdoor activities need to know the current state of health. General health in screening has the following questions: 1) the doctor advised me not to do heavy physical activity, 2) I was experiencing health problems at this time, 3) I had been hospitalized, 4) I had experienced a blow making confusion and still feeling sick until now, 5 I have experienced seizures, 6) I have experienced an unbearable cold. These questions are important questions in identifying hazards that may occur during the activity. The situation in the question is an illustration of the condition of participants who are vulnerable to severe physical activity and carried out outdoors.

Cardiovascular health is the next important indicator in assessing whether someone is allowed to take part in outdoor recreation or not. Cardiovascular Health is a vital part of human activity. Cardiovascular health is influenced by the cardiovascular system which consists of heart and blood vessels [8]. Poor cardiovascular health for outdoor recreation participants can have a deadly impact if you don't get the right treatment. Therefore, there are several questions related to the heart state of the participants in the self-screning instrument. namely: 1) I had fainted during or after a heavy exercise, 2) I had experienced insecurity / tightness in my chest during heavy physical activity / exercise, 3) the doctor told me that I had a heart problem, 4) I feel very short of breath when exercising / doing heavy physical activity. These questions are questions that are able to indicate that participants must first consult a doctor to get recommendations for physical activity in the outside

The condition of muscles, bones and joints is the next most important part that needs to be screened. This section is the main part of the movement during outdoor recreational activities. Participants moving in all directions need a means of motion. In Kinesiology, muscle is an active means of motion that moves bones and joints as a passive movement [9]. Therefore, this needs to be considered carefully because it is dangerous if participants do movements with high intensity or require a large effort, it is feared to make participants injured. The following questions were asked to identify the condition of muscles, bones and joints, namely: 1) I had experienced muscle injuries that made me unable to do physical activity, 2) I had a broken bone that made me unable to do physical activity, 3) I had experienced a joint dislocation which made me unable to do physical activity. These questions if the participant answers "yes" then the participant must answer the next question related to "what" when "and does it still hurt".

Finally, psychological conditions are indicators that are identified and encountered in outdoor activities. The psychological taken and made into the question is a condition of excessive fear of something. This factor is taken because it considers all the elements found in outdoor activities. The valid questions are excessive fear of darkness, animals, narrow confinement, water, height, and fear of others. This particular question is intended for the type of excessive fear that is not covered. The participants are advised to fill by themselves.

6. CONCLUSION

Outdoor activities are fun activities but require special attention to health. Good attention to physical and psychological health because this determines whether the activity goes well or not. The developed self-screening instrument proved to be able to gather information about the health of participants in outdoor activities quickly and precisely. Participants were able to assess themselves whether they could continue the outdoor activities or first check with the doctor to get recommendations. It can be concluded that the instruments developed were valid and proved to be effective in screening the health conditions of participants in outdoor activities.

SUGGESTION

Further research is needed related to the use of self screening in reducing the number of accidents

and hazards toward participant of outdoor activities in Indonesia.

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