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Relationship between Behavior and the Use of Personal Protective Equipment to  
Pesticide Consumer Farmers in Tonrong Rijang Village Baranti District Sidenreng  
Rappang District Zaenab<sup>1</sup>, Ashari R<sup>1</sup>, Nurmin<sup>1</sup> <sup>1</sup>Health Polytechnic of Ministry of Health  
in Makassar, Indonesia ABSTRACT Agriculture is one of the most important areas.

However agricultural life is closely related to the use of pesticides that can cause health  
problems. To minimize health problems is one effort that can be done with the use of a  
complete Protective Tools. The type of research used is an analytical survey with Cross  
Sectional approach with the population of rice farmers in Tonrong Rijang Village Baranti  
Subdistrict Sidenreng Rappang Regency as many as 334 HH with sample 67 HH.

Determination of the number of samples in this study was determined by using Cluster  
method and data retrieval was done using Random Sampling Method. Data processing  
is done by using Chi Square test with SPSS 25, Microsoft excel, and Microsoft word. The  
results of this study explain that farmers with high knowledge level of 44 people (66%),  
who have high Protective toolsusage as many as 21 people (31%) and who have the use  
of PPE while as many as 23 people (34%).

Farmers with a moderate level of knowledge of 23 people (34%), who had high  
Protective toolsusage of 7 people (11%) and those with PPE were 16 (24%). Farmers who  
have a high attitude (good) as many as 55 people (82%) who use high Protective toolsas  
many as 21 people (31%), while those using PPE were as many as 34 people (51%).

Farmers who have moderate attitude (less good) as many as 12 people (18%) who use  
high Protective toolsas many as 7 people (10%) and who use PPE while as many as 5

people (8%). Based on result of chi square test that obtained is p value 0,173 (p value > 0,05) on knowledge and p value 0,2 (p value > 0,05) at attitude. So it can be concluded that there is no relationship between behavior with the use of personal protective equipment on pesticide user farmers in Tonrong Rijang Village Baranti Sub-District Sidenreng Rappang.

Keywords: Farmer, Personal Protective Equipment, Knowledge, Attitude  
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Introduction Agriculture is one of the most important fields in fulfillment of a need for a society where Indonesia is an agricultural country that is predominately live in agriculture. The number of farmers reached 40% of the total workforce in Indonesia or about 46.7 million.

With the growing population every year, people start to think to improve the results of its production in the agricultural sector, one of the ways they are the pesticide use to decrease the disruptor factors of production such as pests. [6]. Massive use of pesticides can cause health problem mainly on farmers sprayers. One of the impacts caused due to the use of pesticides are poisoning on rice farmers.

One of the efforts to prevent pesticide poisoning on farmers is by the use of complete Protective self tools, such as masks, work clothes, boots, and gloves. [8] The World Health Organization (WHO) said that the negative impact of pesticides for public health is highly toxic and dangerous. Direct contact with this acute toxicity risk pesticides or chronic.

Headache, nausea, vomiting and so forth even irritation on the skin and blindness are symptoms of acute poisoning from pesticides. Data from the World Health Organization 878 Indian Journal of Public Health Research & Development, July 2019, Vol.10, No. 7 (WHO), 1-5 million cases of pesticide poisoning occur in workers in the agricultural sector where the majority of cases occur in developing countries that 20,000 inhabitants got fatal effect due to the use of pesticides[3]. Materials and Method 1.

**The location of the research:** The location of the research conducted in the village of Tonrong Subdistrict Baranti Flint District Sidenreng Rappang. The area of Tonrong village of Flint around 340 ha/m<sup>2</sup> with 1,318 inhabitants with 338 families. 2. Population and Sample: The population in this research is the entire rice farmers in the village of Tonrong Sub-district Baranti Flint District Sidenreng Rappang which is 334 Family.

Determined using the method of Cluster and Data retrieval is performed using a

Random Sampling Method based on the Joseph Muri Suharsimi Arikunto method[1] [4]. Sample were taken from 20% of the total population. Because the population is more than 100 people in the village of Tonrong Flint with calculation as follows: z Dusun Mattonrong Salo : 191 KK z Dusun Tonrong Rijang : 143 KK z 191 KK x 20 % : 38 KK z 143 KK x 20 % : 29 KK + 67 KK 3.

Data Analysis: Data analysis was done using the table along with the discussion and concluded by using the Chi Square test using SPSS with 25, Microsoft excel, and Microsoft word. Finding 1. The relationship between knowledge of the farmers with the use of protective self Table 1: Distribution of Respondents based on knowledge of the Protective tools Knowledge Amount Percentage(%) High 44 66 Moderate 23 34 Low 0 0 Total 67 100 Source: Primary Data 2018 Table 2: The relationship between knowledge of the farmers with the use of the Protective Tools Penggunaan Protective Tools Amount P Value Low Moderate Higt Knowlege High 0 23 21 44 0.173 Moderate 0 16 7 23 Low 0 0 0 0 Total 0 39 28 67 Source: Primary Data 2018 2.

The relationship between the attitudes of Farmers with the use of protective self Table 3: Distribution of Respondents based on their attitude to Protective Tools Attitude Amount Percentage (%) High 55 82 Moderate 12 18 Low 0 0 Total 67 100 Source: Primery Data 2018 Indian Journal of Public Health Research & Development, July 2019, Vol.10, No.

7 879 Tabel 4: Relation between attitude with the us of Protective tools Protective toolsuses Amount P Value Low Moderate High Attitude High 0 34 21 55 0.2 Moderate 0 5 7 12 Low 0 0 0 0 Amount 0 39 28 67 Source: Primary Data 2018 Table 5: Respondent distribution base on the use of protective tools Protective toolsuses Amount Percentage (%) High 28 42 Moderate 39 58 Low 0 0 Total 67 100 Source: Primary Data 2018 Discussion 1.

The relationship between knowledge of the farmers with the use of protective tools: Based on the results of the study indicate that there is no significant relationship between knowledge with the use of protective toolson farmers in the village of Tonrong Sub-district Baranti District Sidenreng Rappang. It is based on the results of a test of chi square p is the value obtained 0.173 (p value 0.05 >).

The results of this research shows that most farmers had a high level of knowledge 44 people (66%) and moderate level of knowledge are 23 people (34%). Where a Farmer has a high level of knowledge as much as 44 people (66%), which have a high use of Protective toolsas many as 21 people (31%) and who have moderate use of the Protective toolsare 23 people (34%).

Farmers who have a moderate level of knowledge as much as 23 people (34%), which have a high use of Protective tools as much as 7 persons (11%) and who have the use of the Protective tools are as much as 16 people (24%). The results of this study are inconsistent with research Faris Khamdani [5] about the relationship between Knowledge and attitudes with the use of the tool of self protector Spray Pesticides on farmers in the village of Angkatan Kidul 2009 obtained a result that respondents who have less knowledge and do not wear full personal protection as much as 32 people or 94.1%, while respondents who have a knowledge of good and simply not wearing full personal protection a number of 13 people or 28.3%.

Respondents with less knowledge and wear full personal protection is 2 persons or 5.9% while the respondents had the good knowledge and enough wearing Protective tools people or 71.7%. The results of this research in line with the Shobib research [7] about the relationship between knowledge and attitudes with the practice of using Protective tools themselves at the peasant pesticide users in the village Curut Penawangan Kec years 2013 from Grobogan Regency the results of statistical tests knowledge with practice obtained p value 0,658 ( $p > 0.05$ ) showed no meaningful relationship between knowledge with practice of using Protective tools on farmers users of pesticides.

Behavior or practices of farmers in the use of the Protective tools influenced many factors, although the good farmer's knowledge of the use of Personal Protection when interacting with pesticides, but in practice it may not be appropriate, the availability of the protective tools, comfort, season and weather that did not allow, and it because follows the behavior of people or fellow farmers, so knowledge is not necessarily influential or relate to a person's behavior or practices.

In this study the majority of farmer > 50 year old with working period of > 10 years and most of the farmers did not finish Elementary School and some of them have to high school education level. Farmers who did not finish elementary school most have moderate knowledge levels, while farmers who had education up to secondary school have a high knowledge.

Farmers who 880 Indian Journal of Public Health Research & Development, July 2019, Vol.10, No. 7 have moderate knowledge are (farmers who did not finish elementary school) most of them do not use the complete self protective tool, whereas farmers who have the knowledge are farmers who have high education up to Secondary School Upper Intermediate mostly use Protective tools themselves.

This shows that formal education provides a major influence in the open insight and

understanding of the new values that exist in the environment. Someone with a high level of education will be easier to understand the changes that occur in their environment and the person will absorb those changes if he feels it is beneficial for him.

Someone who never attended formal education estimated will more easily accept and understand about health messages through this extension as well as the mass media [5]. Farmers' knowledge needs to be improved in order to pay more attention to the use of protective self, especially about the negative effects or dangers that can be caused from pesticides if they do not use Protective tools themselves, provide guidance and simulation about the use of Protective tools themselves with good and true, such as hats, masks, gloves, long sleeve shirt, long pants and boots and danger from not using protective tools and the need for protective about the posters themselves at the peasant must be used in order to remind farmers and farmers' awareness of the importance of safety and health in the work. 2.

The relationship between Attitude with the use of Protective tools from Pesticide Users in the village Tonrong Rijang: Based on the results of the study indicate that there is no significant relationship between the attitude to the use of protective tools to pesticide users on farmers in the village of Tonrong Rijang Sub-district Baranti District Sidenreng Rappang. It is based on the results of a test of chi square  $p$  is the value obtained by 0.2 ( $p$  value  $0.05 >$ ).

The results of this research shows that most of the farmers have a high attitude that as many as 55 people (82%) and moderate were 12 people (18%). Where a Farmer has a high attitude towards the use of the protective tools. Protective tool high user by as much as 21 people (31%), while the use of moderate user as many as 34 people (51%).

Farmers who have an attitude of moderate (less good) that uses high protective tools as much as 16 people (10%) and the use of the protective tools as many as 5 people (8%). Although most farmers have high attitude towards the use of protective tools, they still don't use protective tools themselves in action. There is still lacking of using protective tools.

So it can be seen that attitude does not necessarily reflect one's actions or the actions of someone often at odds with his attitude. The results of this research are consistent with 2013 Shobib research [7] about the relationship between knowledge and attitudes with the practice of wearing Protective tools in the village of Curut Penawangan Kec years 2013 from Grobogan Regency the results of statistical tests attitude with practice obtained  $p$  value 0,902 ( $p > 0.05$ ) showed no meaningful relationship between attitude with the practice of wearing protective tools to farmer that is pesticide users.

The results of this research are also in line with the research of Usman Rifai [6] about factors associated with compliance **with the use of Protective** tools themselves at the rice farmer in Dukuh Sodong Village Semarang Tahun Town Mijen Subdistrict Purwosari 2017. From the statistics, **there is no relationship between** the attitude of compliance **with the use of Protective** tools because in Dukuh Sodong. They assume that the wearing of protective tools can be interfere with work **as well as the** uncomfortable feeling while using protective tools.

Attitude is a tendency to hold actions against an object, with a way of stating the existence of signs for enjoying or not enjoying the object. Attitude is just part of human behavior. **Attitude is a reaction or response** is still closed from someone's response **to a stimulus or object**. The attitude shows in the real connotation of congruency reaction to certain stimuli in everyday life is the emotional nature of the reaction against the social stimulus[5].

This research show that the attitude of farmers in using protective tools is good, but despite the attitude of farmers already well there are several factors that affect **the use of Protective** Tools, such as comfort in work. **Most of the farmers are** not using protective gloves namely self as much as 59 respondents or 88% because farmers feel **Indian Journal of Public Health Research & Development**, July 2019, Vol.10, No. 7 881 uncomfortable while working (mix and spray) wear gloves.

The hand **is one of the** important aspects that need to be protected because farmers use the hands to take, mixing and spraying of pesticides, the use of gloves may also reduce the risk of entry of pesticides from the skin, as many as 54 respondents or 81% do not use boots in the works because it feels uncomfortable, besides the weather factor also affects the rainy season will be very hard work by wearing boots, and as many as 51 respondents or 76% did not wear a mask because it feels stuffy or difficulty breathing when spraying pesticides and the unavailability of the mask should be used.

In this study the majority of farmers have time work > 10 years and some farmers have time work ? 10 years. Farmers work with > 10 years **have a high attitude (good)** on **the use of protective** tools so well with farmers who have working period ? 10 years also has a great **attitude towards the use of protective** tools themselves.

However, both farmers with a working period of >10 years or farmers with work that has ?10 years high attitude in **the use of protective** tools themselves mostly have usages that are self protective tool in terms of are not use protective tools themselves. This shows that although the farmer who has a long working period though, that have



experience in doing his job has not been able to implement the full use of Protective tools in protecting himself when doing spraying.

Conclusion There is no relationship between the behavior with the use of protective tools themselves on rice farmers in the village of Tonrong rijang Sub-district Baranti District Sidenreng Rappang, where  $p$  value = 0.173 ( $p$  value 0.05 >) on knowledge and  $p$  value = 0.2 ( $p$  value 0.05 >) on attitude. Conflict of Interest: In this study between researchers and research subjects did not have a conflict of interest, because subjects did not have personal or informal relationships with researchers. Source of Funding: The source of funds in this study came from self funding in 2018.

Ethical Clearance: The ethics of this study were obtained from the Ethics Commission for Health Research, Health Polytechnic of Ministry of Health in Makassar, Indonesia.

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