

## TYPE OF ARTICLE

# RISK FACTORS RELATED TO CONTACT DERMATITIS IN WORKERS DUE TO PESTICIDE EXPOSURE IN PALM OIL PLANTATIONS

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## ABSTRACT

**Background:** Pesticides are the most widely used chemicals to control pests and diseases in Indonesia, especially in plantations, including oil palm plantations. Exposure to pesticides can cause health problems and death. One of the most common health problems caused by exposure to pesticides is contact dermatitis. **Purpose:** The purpose of this research was an analytic observational with a cross-sectional design. **Methods:** This research was conducted in palm oil plantations in Banyuasin Regency on April - October 2016, with a sample of 60 respondents; the samples were taken randomly. The results of the analysis found contact dermatitis (62%), incomplete use of personal protective equipment (58.3%), eating/drinking/smoking during application (61.7%), and not decontaminating after exposure to pesticides (76.7%). The statistical test results showed that length of work, respiratory exposure, use of personal protective equipment, and decontamination after spraying were associated with contact dermatitis ( $p < 0.05$ ). Workers cause contact dermatitis after spraying, not cleaning the body, and not using personal protection completely and according to standards. Therefore, companies must provide a special room for cleaning the body, and personal protective equipment must be available completely and according to standards. The method describing the design or the design of the research, the research target (population, sample and data sources), techniques and data collection instruments and describes the techniques or data analysis procedures. **Results:** The results can be described like the following example : "This research showed that there was an relationship between variable X ( $p = 0,000$ ; OR = 45,25; 95% CI = 13,23 < OR < 154,72) and disease Z". **Conclusion:** The conclusion should be describe in 1 sentence.

## INTRODUCTION

This template is designed to assist Author in preparing manuscript. The manuscript sent contains the title, name (team) of the author(s), e-mail address(s) (team) of the author(s), correspondence address, abstract in Indonesian and English. Articles consist of abstracts, introduction, methods, results, discussion, conclusions, acknowledgement (if any), and references. Manuscripts must have  $\leq 10$  pages with 1 space. The manuscript is written using a Microsoft Word or PDF computer program with Times New Roman font size 11 within A4 page size and moderate size margin. The title is in English uses 14 New Times Roman. Indonesian titles use Times New Roman, italic with size 11. The origin of the institution and the e-mail address (team) of the researcher are listed under the English title using 11 Times New Roman.

Introduction consisting of background of the problem, and identification of problems that focused on the explanation of why the variable needs to be investigated or about research gap and research purposes. The introduction can be described maximum 20% of total page.

## METHODS

The method used is described in detail. Describing the design or the design of the research, the research target (population, sample and data sources), techniques and data collection instruments and describes the techniques or data analysis procedures

Method include the design, population, sample, data sources, techniques/instruments of data collection and data analysis procedures. Methods should make readers be able to reproduce the experiment. Provide sufficient detail to allow the work to be reproduced. Method already published should be indicated by a reference: only relevant modifications should be described. Do not repeat the details of established methods. Include if there is an ethical test result (number, location and date of ethical test). The methods can be described maximum 20% of total page.

## RESULTS

The result are contains of the output of the research, it should be clear and concise. The result should describe or summarize the authentic findings, valid, and in accordance with the objectives and methods of research.

Examples of writing the statistic:

The risk of secondhand smoke exposure on the incidence of anemia in pregnant mothers OR = 4.09; 95% CI (1.07 < OR < 16.26).

Results showed that the environmental risks of TB incidence is  $p = 0.02$  with  $\alpha = 0.05$ .

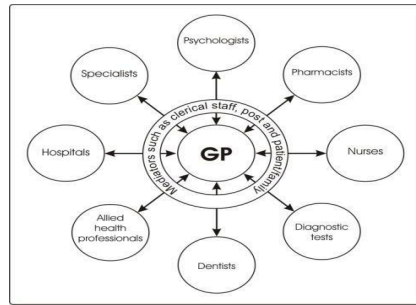
*Odds Ratio, Chi square*

### Tables and Image Format Rules

Tables or image are put in results no more than six. Tables are sequentially numbered with the table title and number above the table. Elements of a table should be single-spaced. Tables are referred in the text by the table number. eg: Table 1, Image 1 sort by text. Do not show vertical line in the table. There is only horizontal line should be shown within the table. Total maximum of table and figure is 6. The explanation of Table, figure, or mathematic formula must be placed before the Table, figure, or mathematic formula.

### Figure (Image)

The image is placed after the narration of the image. Images can't be framed. Legend or captions are at the bottom of the image. It should not be on either the right or left side of the image. The description or title of the image is under the corresponding picture. The image resolution must be high, so as not to break the image, it should not use a screen shoot result.



**Figure 1.** Title of Figure (Capital Each Word except conjunctive words)

XXXXXXXXXXXXXXXXXXXXX (See figure 1)

## Table

The table must be typed 1 space and numbered according to the appearance in the text. Laying the narrative table or image is before the table or image. Narrative is not a repetition of the contents of a table or image narrated but adapted to the purpose of the study. Putting a table or 1 column at the top or bottom of the writing should not be in the middle of the writing. The title in the table is typed in center, the variable description is left flat, and the number is right. Cutting the table is permitted if it exceeds one page with the table requirements starting from the top then not enough to need additional space and given further information on the head of the table.

Xxxxx (See table 1). X xxxxx (See table 2).

**Table 1**

Title of table (Capital Each Word except conjunctive words)

	Disease	Non-Disease
Exposure	##	##
Non-Exposure	##	##

Source: Kementerian Kesehatan RI, 2022

**Table 2**

Title of table (Capital Each Word except conjunctive words)

Variabel	Frekuensi (n)	Persentase (%)
<b>Age (years)</b>		
20-35	XX	XX,XX
<20 and >35	XX	XX,XX
<b>Aaaaaaa (unit)</b>		
Ggggggggg	XXX	XX,XX
Hhhhhhhhh	XX	XX,XX
<b>Bbbbbbb (unit)</b>		
Ggggggggg	XXX	XX,XX
Hhhhhhhhh	XX	XX,XX
<b>Ccccccc (unit)</b>		
Ggggggggg	XXX	XX,XX
Hhhhhhhhh	XX	XX,XX
<b>Dddddddddd</b>		
Ggggggggg	XXX	XX,XX
Hhhhhhhhh	XX	XX,XX
<b>Eeeeeeeeeee</b>		
Ggggggggg	XXX	XX,XX

Hhhhhhhhhh	XX	XX,XX
<b>Ffffffffffffffff</b>		
Gggggggggg	XXX	XX,XX
Hhhhhhhhhh	XX	XX,XX
<b>Iiiiiiiiiiiiiiii</b>		
Gggggggggg	XXX	XX,XX
Hhhhhhhhhh	XX	XX,XX
<b>Jjjjjjjjjjjjjj</b>		
Gggggggggg	XXX	XX,XX
Hhhhhhhhhh	XX	XX,XX
<b>Kkkkkkkkkkkk</b>		
Gggggggggg	XXX	XX,XX
Hhhhhhhhhh	XX	XX,XX
<b>Llllllllllllll</b>		
Gggggggggg	XXX	XX,XX
Hhhhhhhhhh	XX	XX,XX
<b>Mmmmmmmmmmm</b>		
Gggggggggg	XXX	XX,XX
Hhhhhhhhhh	XX	XX,XX
<b>Mmmmmmmmmmm</b>		
Gggggggggg	XXX	XX,XX
Hhhhhhhhhh	XX	XX,XX
<b>Mmmmmmmmmmm</b>		
Gggggggggg	XXX	XX,XX
Hhhhhhhhhh	XX	XX,XX
<b>Mmmmmmmmmmm</b>		
Gggggggggg	XXX	XX,XX
Hhhhhhhhhh	XX	XX,XX

(Continued)

**Table 2**  
Continued

Variabel	Frekuensi (n)	Persentase (%)
<b>Oooooooooo (unit)</b>		
Gggggggggg	XX	XX,XX
Hhhhhhhhhh	XX	XX,XX
Total	XX	XX,XX

Writing decimal numbers, two numbers behind the comma. Images cannot be framed and must be of high resolution. Table or image reference sources are placed under tables/images with 1 Times New Roman size 9 space.

### Mathematic Formula

Writing mathematical formulas is recommended to use Mathtype or Equation Editor in Word and written left justified. The rules of the math formula are Math Size 11. Cambria Font Writing formulas cannot be separated from the narration, the formula designation uses a colon without spaces (:).

This study uses the formula X (1994) shown as follows:

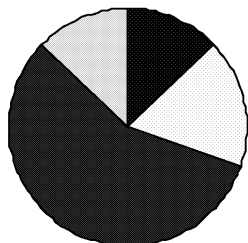
$$X = \frac{dy}{dx} \times \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = c \quad X = \frac{dy}{dx} \times \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = c$$

## Graph

Diagram of either a bar or a circle diagram, use a borderless 2-dimensional diagramming. Legend or caption is placed below the diagram.

The source image (if not the result of the research) is placed under the legend / description of the diagram. The title of the diagram is under the description or source of the diagram in question. The diagram is included in the image category. Example:

Figure 2, showing xxxxxxxxxxxx xxxxx or xxxxxxxxxxxxxx (See figure 2).



■ 1st Qtr □ 2nd Qtr ■ 3rd Qtr □ 4th Qtr

Source: Kementerian Kesehatan RI 2022

Figure 2. Title of Figure

Source of tables and figures must be written if only sourced from other people not from the results of their own research. The maximum number of tables and images allowed is 6 pieces

Table of 1 column must be put at upper or lower part of page (cannot be put at the center of page). If in 1 table contain more than 2 variables, you should give different color background (white and grey).

Both large tables and images 1 column must be place at the top or bottom of the page. It should not be placed in the middle of the page, so, that the reader is not confused in the reading order.

If figure need big space, you can make the figure 1 column. Figure of 1 column must be put at upper or lower part of page (cannot be put at the center of page).

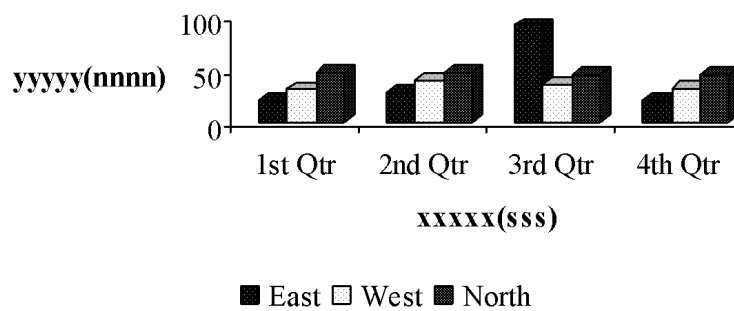
All of the figure and table use format text Times New Roman 11 except the source of the figure and table that use Times New Roman 9.

**Table 4**

Title of table (Capital Each Word Except conjunctive words)

Characteristic	Incidence of “X” Illness				<i>p value</i>	OR (95% CI)
	Yes		No			
	n	%	n	%		
<b>Age (years old)</b>						
X	XX	XX	YY	XY	X,XX	OR (lower limit CI<OR<upper limit)
Y	XX	XX	YY	XY		
<b>Sex</b>						
Female	XX	XX	YY	XY	X,XX	OR (lower limit CI<OR<upper limit)
Male	XX	XX	YY	XY		
Total	XX	100	YY	100		

Source: Dinkes Kota Surabaya, 2016



Source: Kementerian Kesehatan RI, 2022

**Figure 3.** Title of Figure (Capital Each Word except conjunctive words)

## DISCUSSION

The discussion contains the interpretation of results, linking the results of research with theories and previous findings are relevant. The discussion is not repeating the results.

The reference source is 80% proportion coming from the last 5 years of the journal and 20% from other sources e.g., books, relevant rules. The aspirations of insight are universal, preferably an international-scale source compared to the national scale and not derived from the relevant college environment because it is considered very local aspirated. Results and discussion can be described at  $\pm 55\%$  of the total page.

### Research Limitations (Optional)

It is for sure that your research will have some limitations and it is normal. However, it is critically important for you to be striving to minimize the range of scope of limitations throughout the research process. Also, you need to provide the acknowledgement of your research limitations in conclusions chapter honestly.

It is always better to identify and acknowledge shortcomings of your work, rather than to leave them pointed out to your by your dissertation assessor. While discussing your research limitations, don't just provide the list and description of shortcomings of your work. It is also important for you to explain how these limitations have impacted your research findings.

Your research may have multiple limitations, but you need to discuss only those limitations that directly relate to your research problems. For example, if conducting a meta-analysis of the secondary data has not been stated as your research objective, no need to mention it as your research limitation.

## CONCLUSION

Conclusion answer the problem and purpose of research. Drawing conclusions, widespread demarcation, and the emergence of a new theory that is well established is more meaningful than superficial conclusions. Conclusions are made in paragraph form not in bulleting or numbering systems. The conclusion is only 1-2 paragraphs.

## CONFLICT OF INTEREST

It explains about a situation in which a person or organization is involved in multiple interests, financial or otherwise, and serving one interest could involve working against another. Typically, this relates to situations in which the personal interest of an individual or organization might adversely affect a duty owed to make decisions for the benefit of a third party.

## AUTHOR CONTRIBUTIONS

It is explained about individual author contributions. All those who meet the authorship criteria are listed as writers, i.e., all authors declare that they are participating actively in research and article writing and partly responsible for the content of writing, including in the preparation and writing of concepts, designs, analysis, or revision of the article. The role(s) of all authors should be listed. Example: ZS: Conceptualization,

Methodology, Software PY.: Data curation, Writing- Original draft preparation. WY: Visualization, Investigation. Jan Jansen: Supervision.: AK: Software, Validation.: SQ: Writing- Reviewing and Editing

## ACKNOWLEDGMENTS

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## REFERENCES

Writing references to text according to APA 6th edition rules. The maximum number of referrals is 30 sources, provided that at least 80% of references are sources originating from journals with the last 5-year publications, while the remaining 20% can come from books with the last 10-year publications or other sources that are still relevant. All references or citations referred to in the article text must be included in the reference. References use the APA 6th Edition Style rule. Reference writing is recommended using reference applications such as Mendeley. Writing references to text is at least 20 references and a maximum of 30 references. References are prioritized from the latest journals (80% of the latest journals and 20% from other sources such as books, theses, theses, dissertations, reports, and regulations with the year still relevant). Enter the last name of the author and first initials. The maximum of 7 people is followed by a 3-point mark ("...") then the name of the last author. The website address is only allowed to be included in the source that comes from the official web page, while other sources if any can include the digital object identifier (doi) address.

**CITATION:**

## Institution

[illegible]

## 1 Author

The research that conduct by Gonzales (2004) xxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxx xxxxx.xxxx xxxxx  
Xxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxx xxxxxxx xxxxxx (Verma, 2009).

## 2 Authors

The research that conduct by Lombardo & Buckeridge (2007) xxxxx xxxxxxxxxxx xxxxxxxxxxx xxxxxxx xxxxxxx  
Xxxxxxxxxxxxxxxxx xxxxxxx xxxxxxx xxx xxxxxxx xxxxxxx xxxx xxxxxxx xxxxxxx x (Hevner & Chateerjee, 2012).

### **3-5 Author**

XXXXXXXX XXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXX XXXXXXX XXXXX XXXX (Cara, Snowden, & Snowden, 2009).  
The research that conduct by Strong, Wald, Miller, & Alwan (2005) XXXXXXXXXXXXXXX XXXXX XXXXXXXXXXX

### More than 5 Author

The research that conduct by Adamson et al (2005) xxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxxx  
Xxxxxxxxxxxxxxxxx xxxxx xxxxxxxxxx xxxxxxxxxx xxxxxxx xxxxxxx xxxxxx xxxxxxx (Topp et al., 2013).

## Regulation

Indonesian Health Ministry (2017) xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxx xxxxxx xxxxxxxx xxxxxx  
xxxxxxxxxxxxx.

XXXXXXXX XXXXX XXXXXXXXXXXXXXXXXXXX XXXXXXX XXXXXXX XXXXXXX (Ministry of Health Singapore, 2013).

**REFERENCE:**

## **Reference for Textbooks:**

### **1 Author**

Verma, M. (2009). *Cancer epidemiology*. USA: Humana Press.

### **2 Authors**

Hevner, A., & Chateerjee, S. (2012). *Integrated series in information systems*. (Weasley, Ed) (2nd ed., Vol. 28). USA: Springer.

### **3-7 Authors**

Topp, S. M., Chipukuma, J. M., Chiko, M. M., Matongo, E., Bolton-Moore, C., & Reid, S. E. (2013). *Integrating HIV treatment with primary care outpatient services: opportunities and challenges from a scaled-up model in Zambia*. USA: Open University Press.

### **More than 7 Authors**

Adamson, J., Barrett, G., Biddulph, J. P., Bowling, A., Brown, J., Carter, S., ... Twigg, L. (2005). *Handbook of health research methods: investigation, measurement and analysis*. (A. Bowling & S. Ebrahim, Eds.). USA: Open University Press.

## **Reference for E-Books:**

Hevner, A., & Chateerjee, S. (2012). *Integrated series in information systems* (2nd ed., Vol. 28). USA: Springer. <https://doi.org/10.1007/978-1-4419-6108-2>

## **Reference for Translated Books:**

Gonzales, R. (2004). *Pembuatan citra digital* (2nd ed.) (Handayani, S translator). Yogyakarta: Andri Offset.

## **Reference for Book Section**

Notoadmodjo in Safitri (2016) □ **PROHIBITED**

## **Reference for Proceeding**

Wyatt, J. C., & Spiegelhalter, D. (2010). Field trials of medical decision-aids: potential problems and solutions. *Proceeding of 15th Symposium on Computer Applications in Medical Care*. Washington. <https://doi.org/10.1007/978-1-60327-492-0>

## **Reference for Report**

Ministry of Health RI. (2013). *Indonesia basic health research (Riskesdas) at 2013*. Ministry of Health RI. Jakarta.

## **Reference for Undergraduate Thesis, Thesis, and Disertation**

Firdiansyah, M. H. (2014). Hubungan antara rasio kadar kolesterol total terhadap high-density lipoprotein (hdl) dengan kejadian penyakit jantung koroner di RSUD Dr Moewardi. *Undergraduated Thesis*. Surakarta: Fakultas Kedokteran Universitas Muhammadiyah Surakarta.

## **Reference for Journal**

Topp, S. M., Chipukuma, J. M., Chiko, M. M., Matongo, E., Bolton-Moore, C., & Reid, S. E. (2013). Integrating HIV treatment with primary care outpatient services: opportunities and challenges from a scaled-up model in Zambia. *Health Policy and Planning*, 28(4), 347–357. <https://doi.org/10.1093/heapol/czs065>

## **Reference for Regulation**

Indonesian Health Ministry. (2017). *Indonesian health minister regulation number 1091 concerning the implementation of immunization*. Jakarta: Indonesian Health Ministry.



**Reference for State or World Institution**

CDC. (2017). Epi info. USA: Centers for Disease Control and Prevention. Retrieved January 22, 2018, from <https://www.cdc.gov/epiinfo/index.html>

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