

Iranian Journal of Public Health has been continuously published since 1971, in two languages (English and Persian). From 2001 issue, the Journal is published only in English language.

Iran J Public Health is published by **Tehran University of Medical Sciences (TUMS)**. It is the official Publication of the **Iranian Public Health Association** and the **School of Public Health, TUMS, Iran**.

CURRENT ISSUE

Vol 51 No 6 (2022)

REVIEW ARTICLE(S)

Clinical Manifestation and Epidemiological Finding of *Trichomonas vaginalis* Infection in Unusual Areas of Body in Neonates: A Systematic Review

Mahdiyeh Taheri, Reza Ghasemikhah

[XML](#) | [PDF](#) | **downloads:** 116 | **views:** 106 | **pages:** 1201-1209

[Abstract](#) ▾

Effects of Herbal Medicines on the Prevention and Treatment of Contact Dermatitis: A Systematic Review

Sedigheh Rastegar, Ghazaleh Heydarirad , Zeinab Aryanian , Maryam Shekofteh , Azam Shahbodaghi , Shirin Fahimi, Azadeh Goodarzi , Sanaz Poshtmahi

[XML](#) | [PDF](#) | **downloads:** 83 | **views:** 78 | **pages:** 1210-1222

[Abstract](#) ▾

Turmeric for Treatment of Irritable Bowel Syndrome: A Systematic Review of Population-Based Evidence

Emad Jafarzadeh, Shahram Shoeibi , Yaser Bahramvand, Elham Nasrollahi, Armin Salek Maghsoudi, Fatemeh Yazdi, Sepideh KarkonShayan, Shokoufeh Hassani

[XML](#) | [PDF](#) | **downloads:** 49 | **views:** 76 | **pages:** 1223-1231

[Abstract](#) ▾

Graft and Patient Survival Rate among Iranian Pediatric Recipients of Kidney Transplantation: A Systematic Review and Meta-Analysis

Ahmad Shajari , MohammadMoein Ashrafi , Hamideh Shajari  , Ali Derakhshan 

[XML](#) | [PDF](#) | **downloads:** 50 | **views:** 31 | **pages:** 1232-1244

[Abstract](#) ▾

ORIGINAL ARTICLE(S)

The Association between Suicidal Ideation and Albuminuria in Korean Adults

Soo Jung Choi , Taehyun Nam , In Cheol Hwang

[XML](#) | [PDF](#) | **downloads:** 82 | **views:** 69 | **pages:** 1245-1250

[Abstract](#) ▾

Effect of Dapagliflozin Combined with Cognitive Behavior Training on Quality of Life and Cognitive Function in Elderly Patients with Type 2 Diabetes Mellitus Complicated with Mild Cognitive Impairment

Ying Zhao , Rui Zhang , Su Wang

[XML](#) | [PDF](#) | **downloads:** 42 | **views:** 40 | **pages:** 1251-1258

[Abstract](#) ▾

Factors Associated with Non-Adherence to Glaucoma Treatment in a Korean Nationwide Survey

In Cheol Hwang , Heuy Sun Suh , Seulggie Choi

[XML](#) | [PDF](#) | **downloads:** 40 | **views:** 41 | **pages:** 1259-1264

[Abstract](#) ▾

Violence against Pregnant Women in Indonesia

Agung Dwi Laksono  , Ratna Dwi Wulandari

[XML](#) | [PDF](#) | **downloads:** 53 | **views:** 72 | **pages:** 1265-1273

[Abstract](#) ▾

Association between Indoor Environment, Blood Trace Elements, and Immune Globulin among Workers from Vegetables Plastic Greenhouses in Yinchuan, China

Honghui Li , Jiangping Li , Wei Sun , Lijun Dong , Lingqin Zhu , Zhen Jiang , Huifang Yang

[XML](#) | [PDF](#) | **downloads:** 28 | **views:** 26 | **pages:** 1274-1282

[Abstract](#) ▾

Dependence of Body Mass Index on Some Dietary Habits: An Application of Classification and Regression Tree

Magdalena Platikanova , Antoaneta Yordanova , Petya Hristova

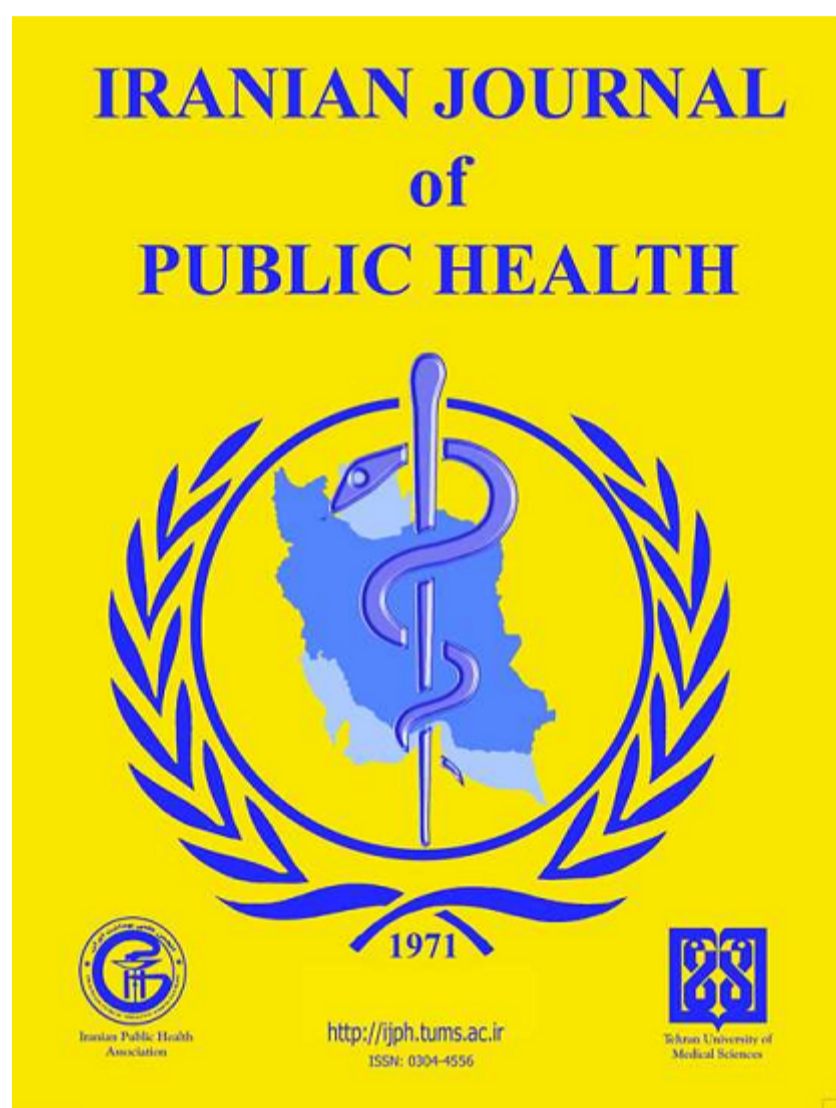
[XML](#) | [PDF](#) | **downloads:** 33 | **views:** 39 | **pages:** 1283-1294

[Abstract](#) ▾

Construction and Application of a Three-Level Linkage System for the Prevention and Treatment of Pressure Sores in Geriatric Patients in the Henan Province, China

OPEN ACCESS

This journal is a member of, and subscribes to the principles of, the Committee on Publication Ethics (COPE).



2.1 2021 CiteScore

40th percentile

Powered by 



MAKE A SUBMISSION

Iranian Journal of Public Health has been continuously published since 1971, in two languages (English and Persian). From 2001 issue, the Journal is published only in English language.

Iran J Public Health is published by **Tehran University of Medical Sciences (TUMS)**. It is the official Publication of the **Iranian Public Health Association** and the **School of Public Health, TUMS, Iran**.

CURRENT ISSUE

Vol 51 No 6 (2022)

REVIEW ARTICLE(S)

Clinical Manifestation and Epidemiological Finding of *Trichomonas vaginalis* Infection in Unusual Areas of Body in Neonates: A Systematic Review

Mahdiyeh Taheri, Reza Ghasemikhah

[XML](#) | [PDF](#) | **downloads:** 116 | **views:** 106 | **pages:** 1201-1209

[Abstract](#) ▾

Effects of Herbal Medicines on the Prevention and Treatment of Contact Dermatitis: A Systematic Review

Sedigheh Rastegar, Ghazaleh Heydarirad , Zeinab Aryanian , Maryam Shekofteh , Azam Shahbodaghi , Shirin Fahimi, Azadeh Goodarzi , Sanaz Poshtmahi

[XML](#) | [PDF](#) | **downloads:** 83 | **views:** 78 | **pages:** 1210-1222

[Abstract](#) ▾

Turmeric for Treatment of Irritable Bowel Syndrome: A Systematic Review of Population-Based Evidence

Emad Jafarzadeh, Shahram Shoeibi , Yaser Bahramvand, Elham Nasrollahi, Armin Salek Maghsoudi, Fatemeh Yazdi, Sepideh KarkonShayan, Shokoufeh Hassani

[XML](#) | [PDF](#) | **downloads:** 49 | **views:** 76 | **pages:** 1223-1231

[Abstract](#) ▾

Graft and Patient Survival Rate among Iranian Pediatric Recipients of Kidney Transplantation: A Systematic Review and Meta-Analysis

Ahmad Shajari , MohammadMoein Ashrafi , Hamideh Shajari  , Ali Derakhshan 

[XML](#) | [PDF](#) | **downloads:** 50 | **views:** 31 | **pages:** 1232-1244

[Abstract](#) ▾

ORIGINAL ARTICLE(S)

The Association between Suicidal Ideation and Albuminuria in Korean Adults

Soo Jung Choi , Taehyun Nam , In Cheol Hwang

[XML](#) | [PDF](#) | **downloads:** 82 | **views:** 69 | **pages:** 1245-1250

[Abstract](#) ▾

Effect of Dapagliflozin Combined with Cognitive Behavior Training on Quality of Life and Cognitive Function in Elderly Patients with Type 2 Diabetes Mellitus Complicated with Mild Cognitive Impairment

Ying Zhao , Rui Zhang , Su Wang

[XML](#) | [PDF](#) | **downloads:** 42 | **views:** 40 | **pages:** 1251-1258

[Abstract](#) ▾

Factors Associated with Non-Adherence to Glaucoma Treatment in a Korean Nationwide Survey

In Cheol Hwang , Heuy Sun Suh , Seulggie Choi

[XML](#) | [PDF](#) | **downloads:** 40 | **views:** 41 | **pages:** 1259-1264

[Abstract](#) ▾

Violence against Pregnant Women in Indonesia

Agung Dwi Laksono  , Ratna Dwi Wulandari

[XML](#) | [PDF](#) | **downloads:** 53 | **views:** 72 | **pages:** 1265-1273

[Abstract](#) ▾

Association between Indoor Environment, Blood Trace Elements, and Immune Globulin among Workers from Vegetables Plastic Greenhouses in Yinchuan, China

Honghui Li , Jiangping Li , Wei Sun , Lijun Dong , Lingqin Zhu , Zhen Jiang , Huifang Yang

[XML](#) | [PDF](#) | **downloads:** 28 | **views:** 26 | **pages:** 1274-1282

[Abstract](#) ▾

Dependence of Body Mass Index on Some Dietary Habits: An Application of Classification and Regression Tree

Magdalena Platikanova , Antoaneta Yordanova , Petya Hristova

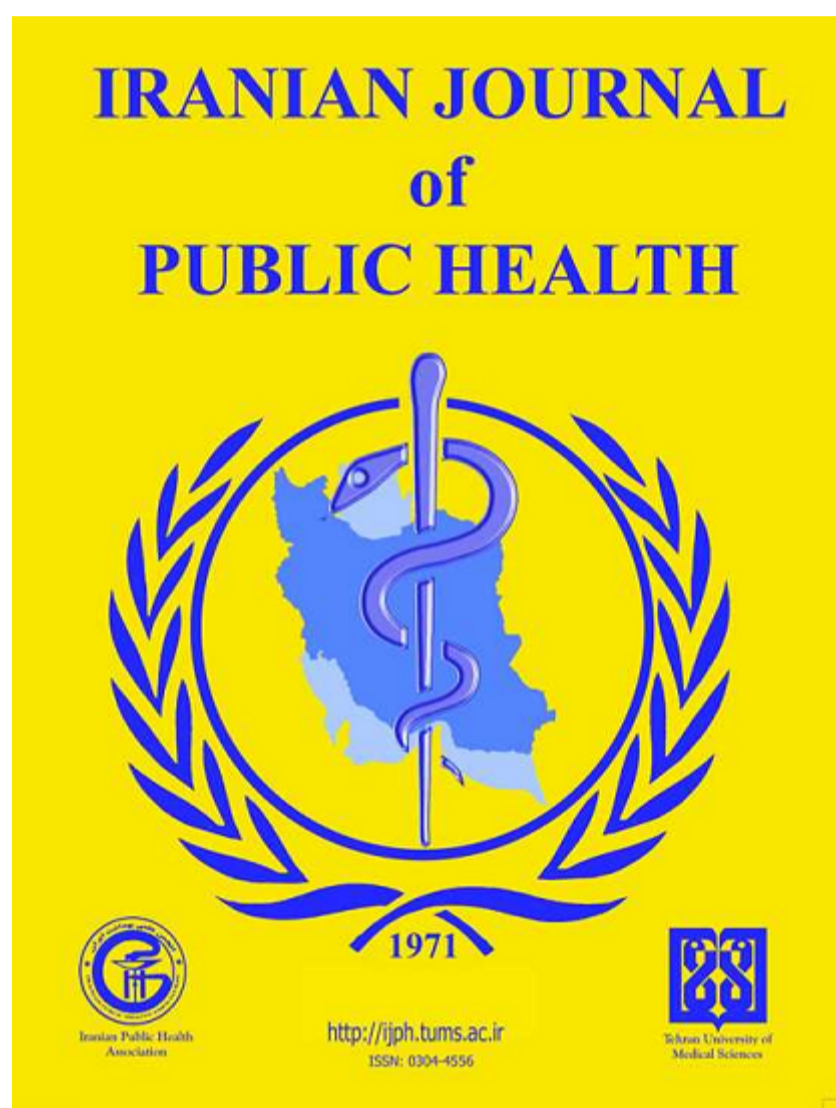
[XML](#) | [PDF](#) | **downloads:** 33 | **views:** 39 | **pages:** 1283-1294

[Abstract](#) ▾

Construction and Application of a Three-Level Linkage System for the Prevention and Treatment of Pressure Sores in Geriatric Patients in the Henan Province, China

OPEN ACCESS

This journal is a member of, and subscribes to the principles of, the Committee on Publication Ethics (COPE).



2.1 ²⁰²¹
CiteScore

40th percentile

Powered by 



MAKE A SUBMISSION

[Register](#)[Login](#)

Iranian Journal of Public Health

[HOME](#)[ABOUT](#)[CURRENT](#)[ARCHIVES](#)[INDEXING & ABSTRACTING](#)[FOR AUTHORS](#)[SUBMISSIONS](#)

Editorial Board

Chairman & Editor-in-Chief:

Dariussh Daneshvar Farhud, MD, Ph.D., MG.

School of Public Health, Tehran University of Medical Sciences, Tehran, Iran.

Editor:

Mohammad Bagher Rokni, Ph.D.

Department of Medical Parasitology and Mycology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran.

Co-Editor:

Soraya Ahadzadeh, MSc.

Administrative Assistant:

Taban Dobareh, Ass. D.

Editorial Assistant:

Rezvan Bizhani, BSc.

Layout Designer-Head:

Ladan Rokni, Ph.D.

Misconduct Checker:

Negar Bizhani, Ph.D. Candidate

Iranian Editorial Board:

Abolghassem Djazayeri, Ph.D.

Department of Nutrition & Biochemistry, School of Nutritional Sciences Dietetics, Tehran University of Medical Sciences, Tehran, Iran.

Abolhassan Nadim, Ph.D.

Member of Iranian Academy of Medical Sciences, Tehran, Iran.

Alireza Mesdaghinia, Ph.D.

Department of Environmental Health, Tehran University of Medical Sciences, Tehran, Iran

Bagher Larijani, Ph.D.

Department of Endocrinology & Metabolism, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

Bijan Sadrizadeh, Ph.D.

Senior Advisor to the Minister of Health & Medical Education of Iran.

Farideh Zaini, Ph.D.

Department of Medical Mycology, Tehran University of Medical Sciences, Tehran, Iran.

Gebraeil Nasl Saraji, Ph.D.

Department of Occupational Health, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran

Kourosh Holakouie Naieni, Ph.D.

Department of Epidemiology & Biostatistics, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran.

Mehdi Assmar, Ph.D.

Department of Medical Parasitology, Pasteur Institute of Iran, Tehran, Iran.

Mohammad Bagher Rokni, Ph.D.

Department of Medical Parasitology and Mycology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran.

Mohammad Reza Pourmand, Ph.D.

Department of Pathobiology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran.

Mostafa Moin, Ph.D.

Director of Research Center for Immunology, Asthma and Allergy, Tehran University of Medical Sciences, Tehran, Iran.

Talat Mokhtari Azad, Ph.D.

Department of Pathobiology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran.

International Advisory Board:

Al Swailem AM,

Chairman of the National Committee of Bio and Medical Ethics, Saudi Arabia.

Bittles AL,

Biomedical and Sport Sciences, Edith Cowan University, Perth, Australia.

Erdelen WR,

Assis. Director General for Natural Sciences, UNESCO, Paris, France.

Hay RJ,

Dean, Faculty of Medicine and Health Sciences, Queens University, Belfast, Ireland.

Jean MS,

Chair of the Ethics and Integrity in Research Committee of the Quebec Health Research, Canada.

Kalache A,

Ageing and Life Course Programmer, WHO, Geneva, Switzerland.

Karim Mehtab S,

Head Reproductive Health Program, Aga Khan University, Karachi, Pakistan.

Katz M,

Sen.Vice Presid. for Research & Global Prog, March of Dimes Birth Defects Found, USA.

Kim TY, Ph.D.

Hankuk University of Foreign Studies, Seoul, Korea.

Mandil AM,

Department of Epidemiology, High Inst. of Publ. Health, Alexandria, Egypt.

Mannucci PM,

Department of Medicine, Maggiore Hospital, University of Milan, Italy.

Park SH,

Director, Asia Contents Institute, Konkuk University, Korea.

Penchaszadeh VB,

Mailman School of Public Health, Columbia University, USA.

Raoult D,

Unité des Rickettsies, Faculté de Médecine, Marseille, France.

Singh JR,

Dean of Academic Affairs, Guru Nanak Dev University, Amritsar, India.

Ten Kate LP,
Editor, Community Genetics, Amsterdam, Netherlands.

Telegdy G,
Department of Pathophysiology, University of Szeged, Hungary.

Tuomilehto J,
Dept. of Public Health, University of Helsinki, Finland.

Yamasaki H,
Dept. of Parasitology, Asahikawa Medical Collage, Japan.

Yong Xiang L,
President, Chinese Academy of Science, Beijing, China.

SO WY,
Korea National University of Transportation, Chungju-si, Republic of Korea.

2020 Impact Factor: **1.429**

2021 CiteScore: **2.1**

pISSN: **2251-6085**

eISSN: **2251-6093**

Chairman & Editor-in-Chief:

Dariush D. Farhud, MD, Ph.D., MG.





Violence against Pregnant Women in Indonesia

Agung Dwi Laksono¹, *Ratna Dwi Wulandari²

1. National Research and Innovation Agency, Jakarta, Indonesia
2. Faculty of Public Health, Universitas Airlangga, Campus C Muhyosari, Surabaya 60115, Indonesia

*Corresponding Author: Email: ratna-d-w@fkm.unair.ac.id

(Received 15 Feb 2021; accepted 26 Apr 2021)

Abstract

Background: Generally, violence against women, especially during pregnancy, can increase the risk of pregnancy and childbirth complications. Besides, multiple trauma may occur because it affects not only the woman but also the fetus. The present study analyzed the factors associated with violence against pregnant women in Indonesia.

Methods: This cross-sectional study involved participants consisted of 2,553 pregnant women (aged 15-49) from the 2017 Indonesian Demographic and Health Survey data. The dependent variable was violence, while the independent variables included the characteristics of the households, respondents, and husbands/partners. In the final stage, the author calculated determinants using binary logistic regression.

Results: The higher the wealth status of pregnant women, the lower the likelihood of domestic violence. The pregnant women who jointly owned a house with their husbands/partners were more likely to be violated than those who did not. Pregnant women in the high parity category were at greater risk of experiencing violence than those in the primiparous category. A husband/partner at a younger age increased the likelihood of violence among pregnant women. Finally, the pregnant women whose husbands/partners had primary/secondary education were more likely to experience violence than those whose husbands/partners had no education.

Conclusion: The study concluded five variables were statistically and significantly associated with violence against women in Indonesia: wealth status, homeownership, parity, husband/partner's age, and the education level of the husbands/partners.

Keywords: Violence risk; Pregnant women; Household survey; Quantitative study; Indonesia

Introduction

A pregnant woman requires optimal physiological and psychological living environments to give birth to a healthy baby safely (1,2). However, violence against women, especially during pregnancy, can significantly increase the risk of pregnancy and childbirth complications. Besides, multiple trauma may occur because it affects the woman and the fetus (1,2). Violence against pregnant

women can cause depression (3,4) and increase maternal mortality (5-7).

Globally, the proportion of violence against women is estimated to be relatively high, even though the reported number of violent cases is somewhat low. The findings of previous research have also immensely varied. For example, in China, the prevalence of violence against women was



15.6% (8), while a systematic review in Ethiopia found a higher prevalence of such violence at 26.1% (9). Meanwhile, in Nigeria, violence against pregnant women was as high as 44.6% (10).

Moreover, countries with relatively low numbers of reported violence against women are often related to the region's cultural characteristics. For instance, in a society where violence against women matters, the number of reported cases is very low (11). Interestingly, a community with traditional gender roles that consider women inferior has similar findings (12,13). Violence against women tends to be more generous in rural areas than in urban ones (14,15). Access to information, counseling, and health services are more available in the latter (16–18).

In the Indonesian context, some local cultures allegedly legitimize violence against pregnant women. For example, in Papua's Muyu tribe, women planning to give birth must leave their respective houses and live in huts that are quite far away. The belief that laboring women's blood can bring misfortune and cause illnesses among them (19,20). In another example, in the Gayo tribe in Aceh, pregnant women are forced to work in the fields and perform complicated tasks such as heavy lifting. In this regard, the Gayo people believe that the harder they work, the easier the childbirth (21).

The present study analyzed the factors associated with violence against pregnant women in Indonesia based on the previous research. The authors hoped policymakers could use the study results to reduce violence against pregnant women in the country.

Methods

Data Source

Data source was the 2017 Indonesian Demographic Data Survey, part of the global Demographic and Health Survey conducted by the Inner City Fund program. The study involved 2,553 pregnant women (aged 15-49 yr).

Data Analysis

The dependent variable was the occurrence of physical violence against pregnant women. In this case, the reasons for such violence included: going outside without telling their husbands/partners, neglecting their children, arguing with their husbands/partners, refusing to have sex, and burning the food. Physical violence consists of two categories: having experience with such violence and having no history of such violence. The independent variables included the type of residence, wealth status, homeownership, age group, marital status, education level, work status, parity, and recent sexual activity. The research also involved the husbands/partners' age group, education level, and work status of the husbands/partners.

All of the variables were dichotomous. We also used the Chi-square test to examine the relationship between the dependent and independent variables. In the final stage, we employed a binary logistic regression to determine the factors associated with violence among pregnant women in this study. The research carried out all of the statistical analyzes by using SPSS 22 software (IBM Corp., Armonk, NY, USA).

Ethics approval

We obtained permission from the Inner City Fund International (<https://dhsprogram.com/data/new-user-registration.cfm>) to use 2017 Indonesian Demographic and Health Survey, which received ethical approval from the National Ethics Committee. Besides, all of the respondents provided their written consent. Moreover, this study erased all respondents' identities to ensure their anonymity.

Results

As shown in Table 1, the pregnant women who experienced violence were more dominant in rural areas, had the lowest wealth status, and had joint ownership of their houses. These three characteristics were significantly related to the incidence of violence against pregnant women in this study.

Table 1: The descriptive statistics regarding the household characteristics of the pregnant women in this study (n=2,553)

Variables	Violence				P-value
	No		Yes		
	n	%	n	%	
Place of residence					***<0.001
• Urban	794	50.1	408	42.2	
• Rural	792	49.9	559	57.8	
Wealth status					***<0.001
• Poorest	443	27.9	351	36.3	
• Poorer	291	18.3	192	19.9	
• Middle	290	18.3	192	19.9	
• Richer	249	15.7	121	12.5	
• Richest	313	19.7	111	11.5	
Owns a house					*0.046
• Does not own	636	40.1	344	35.6	
• Alone only	284	17.9	172	17.8	
• Jointly	666	42.0	451	46.6	

Note: * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

According to Table 2, the pregnant women who experienced violence were more dominant in the 30–34 age group and were married/living with their husbands/partners. As for their education level, the majority of pregnant women who experienced violence had secondary education. As for the other variables, unemployed, multiparous, and sexually active (over the last 4 wk), pregnant women experienced violence from their husbands/partners. Regarding their husbands/partners, the incidence of violence primarily occurred in the 35–39 age group and those employed and had secondary education.

As shown in Table 3, five variables were statistically and significantly associated with violence against pregnant women in this study: wealth status, homeownership, parity, husband's age, and the education level of the husbands/partners.

The higher the wealth status of pregnant women, the lower the likelihood of domestic violence.

Second, the pregnant women joint ownership of their houses were 1.300 times more likely to experience violence than those with no home ownership (COR 1.300; 95% CI 1.074–1.574). Interestingly, those who lived alone did not significantly differ from those who did not own a house.

Third, the high parity women were 1.242 times more likely to experience violence than the primiparous women (COR 1.242; 95% CI 1.006–1.533). Having more children increased the likelihood of violence among pregnant women in this study.

Fourth, a husband/partner at a younger age increased the likelihood of violence among pregnant women in Indonesia.

Table 2: The descriptive statistics regarding the characteristics of the pregnant women in this study (n=2,553)

Variables	Violence				P-value
	No		Yes		
	n	%	n	%	
Age group					0.193
• 15-19	9	0.6	9	0.9	
• 20-24	118	7.4	85	8.8	
• 25-29	388	24.5	256	26.5	
• 30-34	487	30.7	293	30.3	
• 35-39	452	28.5	264	27.3	
• > 40	122	8.3	60	6.2	
Marital status					0.564
• Never in union/Widowed/Divorced	10	0.6	8	0.8	
• Married/Living with partner	1576	99.4	959	99.2	
Education Level					***<0.001
• No education	17	1.1	23	2.4	
• Primary	420	26.5	308	31.9	
• Secondary	906	57.1	536	55.4	
• Higher	243	15.3	100	10.3	
Work status					0.852
• No work	924	58.3	567	58.6	
• Work	662	41.7	400	41.4	
Parity					*0.034
• Primiparous	458	28.9	242	25.0	
• Multiparous	1128	71.1	725	75.0	
Recent sexual activity					0.762
• Never had sex/Not active in the last 4 wk	450	28.4	269	27.8	
• Active in last 4 wk	1136	71.6	698	72.2	
The age group of husband					**0.005
• < 24	32	2.0	34	3.5	
• 25-29	194	12.3	141	14.7	
• 30-34	416	26.4	229	23.9	
• 35-39	465	29.5	288	30.0	
• 40-44	326	20.7	162	16.9	
• 45-49	113	7.2	74	7.7	
• > 49	30	1.9	31	3.2	
Education Level of husband					***<0.001
• No education	22	1.4	6	0.6	
• Primary	425	27.0	318	33.2	
• Secondary	889	56.4	550	57.4	
• Higher	240	15.2	85	8.9	
Work status of husband					*0.041
• No work	6	0.4	10	1.0	
• Work	1570	99.6	949	99.0	

Note: * $P<0.05$; ** $P<0.01$; *** $P<0.001$

Table 3: Binary Logistic Regression of violence among pregnant women in Indonesia, 2017 (n=2,553)

<i>Predictor</i>	<i>Violence</i>			
	<i>P</i> -value	COR	Lower Bound	Upper Bound
Place of residence: Urban	0.670	0.958	0.788	1.165
Place of residence: Rural	-	-	-	-
Wealth status: Poorest	-	-	-	-
Wealth status: Poorer	0.438	0.907	0.708	1.161
Wealth status: Middle	0.389	0.893	0.689	1.156
Wealth status: Richer	*0.036	0.727	0.539	0.980
Wealth status: Richest	**0.001	0.572	0.411	0.796
Owns a house: Does not own	-	-	-	-
Owns a house: Alone only	0.060	1.261	0.990	1.607
Owns a house: Jointly	**0.007	1.300	1.074	1.574
Education Level: No education	-	-	-	-
Education Level: Primary	0.175	0.622	0.314	1.236
Education Level: Secondary	0.096	0.555	0.278	1.110
Education Level: Higher	0.130	0.561	0.266	1.185
Parity: Primiparous	-	-	-	-
Parity: Multiparous	*0.044	1.242	1.006	1.533
Age group of husband: < 24	-	-	-	-
Age group of husband: 25-29	0.291	0.745	0.432	1.286
Age group of husband: 30-34	*0.019	0.529	0.310	0.902
Age group of husband: 35-39	*0.040	0.569	0.333	0.974
Age group of husband: 40-44	**0.004	0.442	0.253	0.775
Age group of husband: 45-49	*0.024	0.501	0.275	0.914
Age group of husband: > 49	0.454	0.756	0.363	1.574
Education Level of husband: No education	-	-	-	-
Education Level of husband: Primary	*0.011	3.426	1.330	8.820
Education Level of husband: Secondary	**0.009	3.561	1.379	9.196
Education Level of husband: Higher	0.091	2.352	0.873	6.336
Work status of husband: No work	-	-	-	-
Work status of husband: Work	0.070	0.371	0.127	1.084

Note: * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

Finally, the husbands/partners with primary/secondary education were more likely to commit violence against their pregnant partners than those with no education. Meanwhile, the husbands/partners with higher education did not significantly differ from those with no education.

Discussion

Overall, the higher the wealth status of pregnant women, the lower the probability of experiencing

violence in the households. The work also reinforces the close relationship between violence against women and poverty. In this regard, the everyday pressures of life can cause men to release their frustrations on their wives/partners, as shown in previous research in West Java (22) and related studies in Egypt, South Sudan, and Afghanistan (11,23,24). Meanwhile, in the Indonesian context, hundreds of ethnic groups with diverse cultures value men more than women (19,21,25). Women often experience domestica-

tion. Played only to deal with domestic problems. Not for matters that are bigger or have a broader impact (26). In some cases, violence against women is considered normal, and it does not need to be resolved in the realm of law (27).

Multivariate tests have shown no significant relationship between the incidence of violence in pregnant women and education. Interestingly, previous studies in Iran and Ethiopia found that the higher the education level of husbands, the less likely the pregnant women experienced violence, which is in contrast to the present study's findings (28–31). Previous studies have often found that education is a positive determinant of health sector performance (32–35). Conversely, poor education is a barrier to quality performance in the health sector (36,37).

Regarding the variable of homeownership, this study found that pregnant women joint ownership of their houses were more likely to experience violence than those with no home ownership. In the Indonesian context, this condition also occurred in households where the couples lived with parents-in-law or extended families of their husbands/partners (8,38–40). A smaller role of ownership of a house means less autonomy or independence. This situation encourages violence to occur in extended families who live in one household (41).

As for the women's parity in this study, those with more children increased the likelihood of violence in households. The findings were especially apparent in the families in which the women were seen as inferior. Besides, the older the women, the more they were dependent on the men. In this regard, divorce was not an option, and the possibility of finding another relationship was limited due to their age and appearance (42–44). Consequently, they failed to seek appropriate help and remained in their respective households (23).

The study results found a husband/partner at a younger age increased the likelihood of violence among pregnant women in Indonesia. This condition indicates that a more youthful does not demonstrate maturity. Younger people tend to have more volatile emotions. This analysis rein-

forces the reasons for giving an age limit for marriage at a more mature age (45,46).

Finally, regarding education level, this study found that the husbands/partners with primary/secondary education had a higher likelihood of committing violence against their pregnant wives/partners than those with no education. However, these findings slightly contradict the analysis of the poverty variable in which a low education level can result in poverty and affect both partners' health status. Moreover, this study showed that violence against women in Indonesia is not linear with the husbands' education level, mostly since the patriarchal system plays a significant role in Indonesia's various ethnic groups (47,48).

Perhaps this is because the husband feels more educated or superior to his wife. In Indonesia's context, the opportunity to have a better education is always favored by boys, so that women often play a subordinate role (26,49). Men dominate their political leadership involvement, moral authority, social rights, and property control (9,50,51). For this reason, the government needs a more balanced effort. Efforts to encourage policies that provide more expansive space or opportunities for women. Opportunity to pursue higher education so that equality can be more realized (52).

Conclusion

First, the higher the wealth status of pregnant women, the lower the likelihood of domestic violence. Second, the pregnant women who jointly owned a house with their husbands/partners were more likely to be violated than those who did not. Third, pregnant women in the high parity category were at greater risk of experiencing violence than those in the primiparous category. Finally, the pregnant women whose husbands/partners had primary/secondary education were more likely to experience violence than those whose husbands/partners had no education. Four variables were statistically and significantly associated with violence against women in

Indonesia: wealth status, homeownership, parity, and the education level of the husbands/partners. The authors hoped policymakers could use the results to reduce violence against pregnant women in the country.

Journalism Ethical considerations

The authors have entirely observed ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and falsification, double publication and submission, redundancy, etc.).

Acknowledgements

The author would like to thank Inner City Fund International, who has agreed to allow the 2017 IDHS data to be analyzed in this article.

Conflict of interest

The authors declare that there is no conflict of interests.

References

1. Ferdousy EZ, Matin MA (2015). Association between intimate partner violence and child morbidity in South Asia. *J Heal Popul Nutr*, 33(1): 16.
2. Tiruye TY, Chojenta C, Harris ML, Holliday E, Loxton D (2020). The Role of Maternal Intimate Partner Violence Victimization on Neonatal Mortality in Ethiopia. *J Interpers Violence*, in press.
3. Belay S, Astatkie A, Emmelin M, Hinderaker SG (2019). Intimate partner violence and maternal depression during pregnancy: A community-based cross-sectional study in Ethiopia. *PLoS One*, 14(7): e0220003.
4. Waddell N, Karatzias T (2019). The relationship between interpersonal trauma and substance misuse in pregnancy. *Br J Midwifery*, 27(9): 578–88.
5. Koch AR, Rosenberg D, Geller SE (2016). Higher Risk of Homicide among Pregnant and Postpartum Females Aged 10-29 Years in Illinois, 2002-2011. *Obstet Gynecol*, 128(3): 440–446.
6. Do Nascimento SG, Da Silva RS, De Moraes Cavalcante L, De Carvalho APR, Do Bonfim CV (2018). External causes of mortality in pregnant and puerperal women. *ACTA Paul Enferm*, 31(2): 181–186.
7. Meh C, Thind A, Terry AL (2020). Ratios and determinants of maternal mortality: A comparison of geographic differences in the northern and southern regions of Cameroon. *BMC Pregnancy Childbirth*, 20(1): 194.
8. Zheng B, Zhu X, Hu Z, et al (2020). The prevalence of domestic violence and its association with family factors: A cross-sectional study among pregnant women in urban communities of Hengyang City, China. *BMC Public Health*, 20(1): 620.
9. Alebel A, Kibret GD, Wagnew F, et al (2018). Intimate partner violence and associated factors among pregnant women in Ethiopia: A systematic review and meta-analysis. *Reprod Health*, 15(1): 196.
10. Orpin J, Papadopoulous C, Puthussery S (2020). The Prevalence of Domestic Violence Among Pregnant Women in Nigeria: A Systematic Review. *Trauma, Violence, Abus*, 21(1): 3–15.
11. El-Nimr NA, Gouda SM, Wahdan IMH (2020). Violence against women in a slum area in Helwan, Cairo, Egypt: A community based survey. *J Res Health Sci*, 20(1): e00466.
12. Fekadu E, Yigzaw G, Gelaye KA, et al (2018). Prevalence of domestic violence and associated factors among pregnant women attending antenatal care service at University of Gondar Referral Hospital, Northwest Ethiopia. *BMC Womens Health*, 18(1): 138.
13. Ribeiro MRC, Silva AAMD, Schraiber LB, et al (2020). Inversion of traditional gender roles and intimate partner violence against pregnant women. *Cad Saude Publica*, 36(5): 00113919.
14. Kian FR, Alikamali M, Aliei MM, Mehran A (2019). Patterns of intimate partner violence: A study of female victims in urban versus rural areas of southeast Iran. *Shiraz E Med J*, 20(10): e69680.
15. Azene ZN, Yeshita HY, Mekonnen FA (2019). Intimate partner violence and associated factors among pregnant women attending antenatal care service in Debre Markos town

- health facilities, Northwest Ethiopia. *PLoS One*, 14(7): e0218722.
16. Laksono AD, Wulandari RD, Soedirham O (2019). Urban and Rural Disparities in Hospital Utilization among Indonesian Adults. *Iran J Public Health*, 48(2): 247–55.
 17. Laksono AD, Wulandari RD (2020). Urban-Rural Disparities of Facility-Based Childbirth in Indonesia. In: *4th International Symposium on Health Research (ISHR 2019)*. Denpasar: Atlantis Press; p. 33–9.
 18. Suharmiati, Laksono AD, Astuti WD (2013). Policy Review on Health Services in Primary Health Center in the Border and Remote Area (Review Kebijakan tentang Pelayanan Kesehatan Puskesmas di Daerah Terpencil Perbatasan). *Bull Heal Syst Res*, 16(2): 109–116.
 19. Laksono AD, Soerachman R, Angkasawati TJ (2016). Case Study of Muyu Ethnic's Maternal Health in Mindiptara District-Boven Digoel (Studi Kasus Kesehatan Maternal Suku Muyu di Distrik Mindiptana, Kabupaten Boven Digoel). *J Reprod Heal*, 07(03): 145–155.
 20. Laksono AD, Faizin K, Raunsay EM, Soerachman R (2014). *Muyu women in exile (Perempuan Muyu dalam Pengasingan)*. Jakarta: Lembaga Penerbitan Balitbangkes.
 21. Pratiwi NL, Fitrianti Y, Nuraini S, et al (2019). Concealed Pregnant Women or Kemel of Gayo Ethnic in Blang Pegayon District, Gayo Lues District, Aceh. *Bull Heal Syst Res*, 22(2): 81–90.
 22. Muljono P, Sarwoprasodjo S, Mintarti M (2016). Developing the family protection model to reduce the family domestic violence in west Java, Indonesia. *Int J Econ Perspect*, 10(4): 29–40.
 23. Murphy M, Ellsberg M, Contreras-Urbina M (2020). Nowhere to go: Disclosure and help-seeking behaviors for survivors of violence against women and girls in South Sudan. *Confl Health*, 14(1): 6.
 24. Gibbs A, Corboz J, Chirwa E, et al (2020). The impacts of combined social and economic empowerment training on intimate partner violence, depression, gender norms and livelihoods among women: An individually randomised controlled trial and qualitative study in Afghanistan. *BMJ Glob Heal*, 5(3): e001946.
 25. Nisak SS, Sugiharti L (2020). Gender inequality and women poverty in Indonesia. *Int J Innov Creat Chang*, 11(9): 375–387.
 26. Roziqin A (2020). Gender Equality Based Education in Central Java Province. *SOCLA J Ilmu-Ilmu Sos*, 16(2): 202–210.
 27. Niza I, Sakban A (2017). Settlement of Cases of Domestic Violence outside the Court (Penyelesaian Kasus Kekerasan dalam Rumah Tangga di Luar Pengadilan). *CIVICUS*, 5(1): 21–30.
 28. Valadbeigi T, Gharaei HA, Rajabi A, et al (2017). The relationship between physical violence during pregnancy and stillbirth and neonatal mortality. *J Adv Pharm Educ Res*, 7(4): 450–459.
 29. Gebrezgi BH, Badi MB, Cherkose EA, Weldehaweria NB (2017). Factors associated with intimate partner physical violence among women attending antenatal care in Shire Endaselassie town, Tigray, northern Ethiopia: A cross-sectional study, July 2015. *Reprod Health*, 14(1): 76.
 30. Tiruye TY, Harris ML, Chojenta C, Holliday E, Loxton D (2020). Determinants of intimate partner violence against women in Ethiopia: A multi-level analysis. *PLoS One*, 15(4): e0232217.
 31. Ashenafi W, Mengistie B, Egata G, Berhane Y (2020). Prevalence and associated factors of intimate partner violence during pregnancy in eastern ethiopia. *Int J Womens Health*, 12: 339–58.
 32. Wulandari RD, Laksono AD (2020). Education as predictor of the knowledge of pregnancy danger signs in Rural Indonesia. *Int J Innov Creat Chang*, 13(1): 1037–1051.
 33. Laksono AD, Wulandari RD, Kusriani I, Ibad M (2021). The effects of mother's education on achieving exclusive breastfeeding in Indonesia. *BMC Public Health*, 21(1): 14.
 34. Ipa M, Widawati M, Laksono AD, Kusriani I, Dhewantara PW (2020). Variation of preventive practices and its association with malaria infection in eastern Indonesia: Findings from community-based survey. *PLoS One*, 15(5): e0232909.
 35. Megatsari H, Laksono AD, Ibad M, et al (2020). The community psychosocial burden during the COVID-19 pandemic in Indonesia. *Helixyon*, 6(10): e05136.

36. Laksono AD, Wulandari RD (2022). The Barrier to Maternity Care in Rural Indonesia. *J Public Heal*, 30(1): 135–140.
37. Rohmah N, Yusuf A, Hargono R, et al (2020). Determinants of teenage pregnancy in Indonesia. *Indian J Forensic Med Toxicol*, 14(3): 2080–2085.
38. Abebe Abate B, Admassu Wossen B, Tilahun Degfie T (2016). Determinants of intimate partner violence during pregnancy among married women in Abay Chomen district, Western Ethiopia: A community based cross sectional study. *BMC Womens Health*, 16(1): 16.
39. Wagman JA, Donta B, Ritter J, Naik DD, et al (2018). Husband's Alcohol Use, Intimate Partner Violence, and Family Maltreatment of Low-Income Postpartum Women in Mumbai, India. *J Interpers Violence*, 33(14): 2241–2267.
40. Reeves E (2020). Family violence, protection orders and systems abuse: views of legal practitioners. *Curr Issues Crim Justice*, 32(1): 91–110.
41. Lestari D (2017). Home Violence against Women. *J Law Dev*, 35(3):367.
42. Putra IND., Creese H (2016). Negotiating cultural constraints: strategic decision-making by widows and divorcees (janda) in contemporary Bali. *Indones Malay World*, 44(128): 104–122.
43. Parker L, Creese H (2016). The stigmatisation of widows and divorcees (janda) in Indonesian society. *Indones Malay World*, 44(128): 1–6.
44. Parker L (2016). The theory and context of the stigmatisation of widows and divorcees (janda) in Indonesia. *Indones Malay World*, 44(128): 7–26.
45. Wulandari RD, Laksono AD (2020). The association of socioeconomic status on early marriage among women in Rural Indonesia (Hubungan status ekonomi terhadap pernikahan dini pada perempuan di perdesaan indonesia). *J Kesehat Reproduksi*, 11(2): 115–124.
46. Kasiati K, Isfentiani D (2020). Factors Encouraging Early Marriage Among Adolescent Girls in East Java of Indonesia. *SEAJOM Southeast Asia J Midwifery*, 6(1): 1–6.
47. Sakina AI, DHS A (2017). Highlighting Patriarchal Culture in Indonesia (Menyoroti Budaya Patriarki di Indonesia). *Share Soc Work J*, 7(1): 71–80.
48. Hayati N, Mulyati L, Arya N (2020). The experience of women victims of domestic violence in Kuningan: a phenomenological study (Pengalaman perempuan korban kekerasan dalam rumah tangga di Kuningan: studi fenomenologi). *Natl Nurs Conf*, 1(1): 13.
49. Laksono AD, Wulandari RD (2019). “Children are Assets”: Meta-Synthesis of ‘the Value of Children’ in the Lani and Acehnese Tribes. *J Reprod Heal*, 10(1): 11–20.
50. Sudarso, Keban PE, Mas’udah S (2019). Gender, religion and patriarchy: The educational discrimination of coastal madurese women, East Java. *J Int Womens Stud*, 20(9): 1–12.
51. Sikweyiya Y, Addo-Lartey AA, Alangea DO, et al (2020). Patriarchy and gender-inequitable attitudes as drivers of intimate partner violence against women in the central region of Ghana. *BMC Public Health*, 20(1): 682.
52. Ni’am S (2017). Gender Perspective Education in Indonesia (Considering and Measuring the Role of Gender in Education). *EGALITA*, 10(1): 1.