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Determining the Cut-Off Score of the Malay Version of Women Abuse Screening Tool (WAST) for Intimate Partner Violence Screening in Malaysia

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Abstract
This study aimed to determine the optimal cut-off score for the Malay version of the Women Abuse Screening Tool (WAST) for screening of intimate partner violence (IPV) in Malaysia. A total of hundred participants enrolled in an online cross-sectional study. The overall accuracy of Malay WAST is 0.779. The sensitivity and specificity of WAST are 59.6% and 76.7% respectively, measured at the cut-off score of 15. The prevalence of IPV among the participants was 44%, with higher rates among females, Malays, and Muslims. The Malay WAST is a reliable tool for screening cases of IPV in Malaysia.

Keywords: Intimate partner violence; Women Abuse Screening Tool; Specificity; Malaysia;

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1.0 Introduction

Intimate partner violence (IPV) is a serious global public health problem worldwide. It is a form of violence that occurs within a romantic relationship, including physical, psychological, or sexual harm committed by a current or former partner or spouse (Zhang, et al., 2022). Intimate partner is possible either between two people of the same sex or two people of opposing sexes (Breiding, 2015). In Malaysia, psychological abuse has been identified as the most common form of IPV (Shahar, et al., 2020). Screening for IPV in healthcare settings has been found to increase the identification of abuse, but unfortunately, many countries lack standardized screening tools.

2.0 Literature Review

IPV can be identified using various screening tools. Some are designed for use by healthcare professionals in clinical settings, while others can be self-administered by individuals in the community. Therefore, selecting the most appropriate screening tool is essential to ensure reliable and accurate detection of IPV.

2.1 Clinical and Community Screening of IPV

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In clinical settings, the Women Abuse Screening Tool (WAST), Abuse Assessment Screen (AAS), and Humiliation, Afraid, Rape, and Kick (HARK) are among the most commonly used tools for identifying intimate partner violence (IPV). These tools are known for their strong psychometric properties (Rothman et al., 2022). A systematic review by Feltner et al. (2018), which examined five different IPV screening tools, found that WAST was highly effective, with a reliability score between 0.82 and 0.95 and a specificity ranging from 89% to 97.1% (Al Ubaidi et al., 2021). Another tool, HITS (Hits, Insults, Threaten, and Scream), was also studied and showed good results for identifying IPV among Iranian women in psychiatric clinics and family practices, with a reliability of 75% and a specificity of 94.3% (Shirzadi et al., 2020).

For community screening, WAST stands out as the tool with the strongest psychometric properties, effectively covering all aspects of IPV and validated against reliable standards (Arkins et al., 2016). In community settings, WAST has a reliability score of 0.81 and a specificity of 96.8% (Iskandar et al., 2015). The WAST-Short, a shorter version of the tool, has even higher reliability and specificity, with scores of 0.86 and 100%, respectively. Other tools for community IPV screening include the Ongoing Abuse Screen (OAS), with a reliability of 0.60 and specificity ranging from 90% to 100%; the Ongoing Violence Assessment Tool (OVAT), with a reliability of 0.60 and specificity between 83% and 86%; and the Danger Assessment (DA), which has a reliability range from 0.66 to 0.86 and a specificity of 58% (Gómez-Fernández et al., 2019).

2.2 Women Abuse Screening Tool (WAST)

The WAST is a tool used to assess experiences of physical, sexual, and emotional abuse over the past year. It consists of two parts: WAST-Short, which includes the first two questions and helps screen for abuse, and WAST-Long, which includes the remaining six questions and provides details on the frequency and severity of abuse. Studies have shown that the English version of the WAST is highly reliable and accurate, correctly identifying all non-abused women and 92% of those who have been abused (MacMillan et al., 2009).

A recent review highlighted the WAST's strong performance in screening for intimate partner violence (IPV) within communities. It's been proven effective at evaluating different forms of IPV and has been validated against reliable standards (Arkins et al., 2016). Using the WAST can help pinpoint women who are experiencing abuse and connect them with vital support services. Additionally, the WAST has been successfully translated into various languages and adapted for use in different settings.

2.2.1 Challenges in using WAST

In Malaysia, the WAST has been translated into Malay and has demonstrated good reliability (Yut-Lin & Othman, 2008). However, inconsistencies in scoring methods and cut-off values used by different researchers could impact the estimated prevalence of IPV, leading to either underestimation or overestimation. For instance, some studies rate the frequency of respondents' feelings and experiences on a scale from 0 (never) to 2 (often) (MacMillan et al., 2009), while the original WAST uses a scale from 1 (never) to 3 (often) (Brown et al., 1996). As a result, the total WAST score ranges from 8 to 24 on the original 1 to 3 scale and from 0 to 16 on the 0 to 2 scale.

Another limitation of the WAST is the inconsistent application of cut-off scores depending on the study setting. Sociocultural differences may necessitate different cut-off scores. For example, a study in Bahrain by Al-Ubaidi et al. (2021) used a WAST cut-off score of 13 or higher on the 1 to 3 scale to indicate IPV, while a study in Indonesia used a cut-off score of 10 or higher (Iskandar et al., 2015). Similarly, studies using the 0 to 2 scale found that a score of 4 or more indicated IPV in Ontario, Canada (MacMillan et al., 2009), while in France, a score of 5 or more was used (Guiguet-Auclair et al., 2021). Given these sociocultural differences, using the original WAST cut-off score in Malaysia may compromise the accuracy of IPV prevalence reporting.

2.2.2 IPV Diagnosis

IPV is not an illness that requires a diagnosis. However, this detrimental condition demands standardized tools to enhance precise communication in research and intervention to address this condition. At the global level, the World Health Organization (WHO) Multi-country Study on Women's Health and Domestic Violence (or called WHO Multi-country study) has been widely adopted by many countries to assess IPV (Vyas, et al., 2023). An important element of the tool is that it assesses all forms of violence, including psychological, physical, sexual violence and controlling behaviour. The internal consistency reliability of the Malay version of the WHO Multi-country study was good with Cronbach's α value ranging from 0.767 to 0.858 across domains (Saddki, et al., 2013). In over 20 countries in the Asia-Pacific region, as well as in many other countries around the world, the WHO multi-country study has been replicated or adapted (UNFPA, 2020). This proved that the WHO Multi-country study has been considered the gold standard for population-based studies of IPV (Vyas, et al., 2023)

3.0 Aims and Objectives

The study aimed to develop a reliable and culturally relevant screening questionnaire that can detect cases of IPV in the community. Our objective was to determine the optimal cut-off score for the Malay version of WAST based on sensitivity, specificity, and Kappa value. This would ensure more reliable and culturally relevant results. In addition, this study also aimed to investigate the prevalence of IPV across different demographic factors and examine the association between demographic factors and IPV status of the participants.

4.0 Methodology

4.1 Study design

This is a cross-sectional study online survey that collected data through a convenience sampling technique.

4.2 Data collection

The survey was distributed via Google Forms through social media platforms, including Facebook, Instagram, Twitter, and WhatsApp. It was disseminated to the general public, as well as to rehabilitation centres, homes, and shelters. The inclusion criteria required participants to be 18 years or older, able to understand Malay, to have experienced or be currently experiencing IPV at the time of the study, and to have internet access to complete the online form. Participants were excluded if they were under 18, did not consent, had no intimate partner experience, incomplete responses, or duplicate entries.

On the main introductory page of the survey, potential participants were provided with detailed information about the study's risks, benefits, and procedures. Those who agreed to participate were invited to complete the questionnaire. Implied consent was obtained when participants proceeded to the next page, where the survey began. Data collection occurred from July 2023 to May 2024.

4.3 Study Measurement Tools

A structured questionnaire written in Malay language was used in this study. The questionnaire consists of three parts. The first part of the questionnaire is the socio-demographic information of the participants which includes gender, ethnicity, employment, marital status and total household income, smoking, alcohol intake and drug intake.

The second part of the questionnaire is the WAST questions. The internal reliability of the Malay WAST was good with Cronbach's α value 0.873. The first 2 questions of WAST come with 3 choices of answers; a lot of tension/great difficulty (3), some tension/some difficulty (2) and no tension/no difficulty (1). The rest 6 questions of WAST also come with 3 scales of answer, from never (1) to often (3), which gives a total of WAST scores ranging from 8 to 24. The third or the last part of the questionnaire is the WHO Multi-country Study questions.

4.4 Statistical analysis

Data analyses on responses from participants who answered all parts of the questionnaire were done using SPSS version 26. Two approaches were applied to determine the optimal cut-off score of the Malay WAST in this study. First, the optimal cut-off score is the value whose sensitivity and specificity are closest to the area under the ROC curve (AUC). The higher the sensitivity and 1-specificity, the better the measurement tool's performance. Second, specificity should be prioritized over sensitivity due to incomplete interview data (Ghazali et al., 2014). Thus, internal consistency of Malay WAST, Receiver Operating Characteristic (ROC) curve, true-positive rate (sensitivity), true-negative rate (specificity) and Kappa coefficient value were calculated by comparing the status of IPV based on WAST scoring and the status of IPV based WHO Multi-country Study (Ghazali, et al., 2014).

The prevalence of IPV was obtained through descriptive statistics for each sociodemographic and presented as frequency and percentages. The Chi-squared test (χ^2) was then applied to determine whether the differences in the frequency of respondents who experienced IPV and who did not, were associated with their sociodemographic which is categorical, while Spearman rank correlation analysis was performed to determine the relationship between experiencing IPV and depression score which was measured using a continuous scale.

4.5 Ethical consideration

Participation in this study was strictly anonymous and voluntary. Data collected and analysed were aggregate data without any link to the detailed identification of the participant. Disclosure regarding the violence did not provide any means for help or assistance. However, a statement of the need for help-seeking and reporting the incidence of IPV was provided on the last page of the survey. This study was approved by the UiTM research ethics committee in June 2023; REC/06/2023 (PG/FB/12).

5.0 Findings

We analysed the internal consistency of the Malay Version of our questionnaire, finding it has a good Cronbach's alpha of 0.873. Several cut-off scores were considered in identifying the optimal cut-off score of the Malay WAST. The sensitivity, specificity and Kappa coefficient for determining the level of agreement between the WAST and IPV classification based on the WHO Multi-country Study were calculated for all possible cut-off scores as presented in Table 1.

Table 1: Sensitivity, Specificity and Kappa values for different cut-off WAST score
(Source: Result of Analysis of Current Studying)

Cut-off score	Sensitivity (positive rate)	Specificity (negative rate)	Kappa
9	1.000	0.605	0.636
10	1.000	0.628	0.658
11	0.877	0.651	0.541
12	0.825	0.651	0.483
13	0.719	0.698	0.413

14	0.649	0.721	0.362
15	**0.596**	**0.767**	**0.351**
16	0.579	0.767	0.333
17	0.211	0.860	0.064
18	0.105	0.930	0.031
19	0.053	0.930	-0.015
20	0.000	0.977	-0.200
21	0.000	1.000	0.000

Figure 1 displays the ROC curve with an AUC of 0.779 and a standard error of 0.054, indicating that the Malay WAST can identify IPV cases with a 77.9% true positive rate (Arbach & Bobbio, 2018). Based on the two approaches for selecting the optimal cut-off score discussed in methodology, and the values in Table 1, a cut-off score of 15 or 16 is optimal, as both yield a specificity of 76.7%, which closely aligns with the 77.9% AUC. Although both scores have similar specificity, a cut-off score of 15 showed better agreement (Kappa coefficient = 0.351). Therefore, setting the cut-off score at 15 is the better option. Figure 2 further illustrates the sensitivity and specificity at this cut-off score.

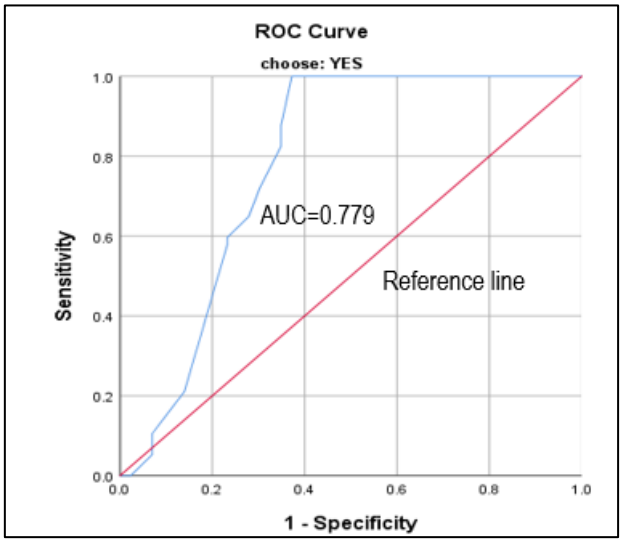

Fig. 1. ROC Plot of Sensitivity vs 1- Specificity, AUC = 0.779 (std error:0.054)
(Source: Result of Analysis of Current Studying)

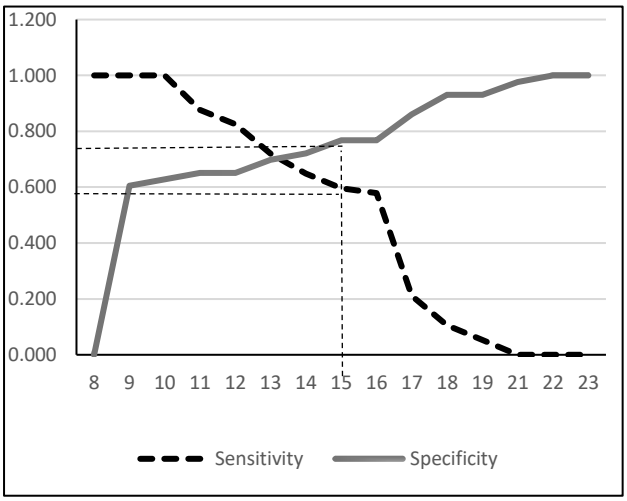

Fig. 2. Plot of Sensitivity and Specificity for different cut-off scores.
(Source: Result of Analysis of Current Studying)

By setting the WAST cut-off score at 15, the study revealed that the overall prevalence rate of IPV among the participants was 44% with the prevalence rate of females (48%) higher than males (34%). Among other demographic factors, the highest prevalence rates of IPV were observed among Malays (70.5%), Muslims (78%), married individuals (75%), those who were employed (75%), those with secondary or tertiary education (47.7%), individuals from middle-income families (50%), those who had never been in an intimate relationship with more than one person (56.8%), non-smokers (50%), and those who had never consumed alcohol (54.5%). However, according to the Chi-Square test, only alcohol intake showed a significant association with IPV status ($p<0.05$). Detailed profiles of the

participants based on demographic factors and their IPV status are presented in Table 2.

Table 2: Crosstabulation Table of the Respondents for IPV Status versus Sociodemographic
(Source: Result of Analysis of Current Studying)

Sociodemographic		IPV, n (%)			Statistical Analysis	
		No (n=56)	Yes (n=44)	Total	χ^2	*p*-value
Gender	Female	35 (62.5)	**33 (75.0)**	**68**	1.769	0.183
	Male	21 (37.5)	11 (25.0)	32		
Religion	Islam	47 (83.9)	**31 (78.0)**	78	3.898	0.420
	Hindu	4 (7.1)	4 (9.1)	8		
	Others	2 (3.6)	3 (6.8)	5		
	No Religion	3 (5.4)	6 (13.6)	9		
Ethnic	Malay	47 (83.9)	**31 (70.5)**	78	8.464	0.076
	Chinese	1 (1.8)	7 (15.9)	8		
	Indian	5 (8.9)	5 (11.4)	10		
	Others	3 (5.4)	1 (2.3)	4		
Marital status	Single	4 (7.1)	7 (15.9)	11	4.217	0.377
	Married	48 (85.7)	**33 (75.0)**	81		
	Widow/Widower	3 (5.4)	3 (6.8)	6		
	Separated	1 (1.8)	0 (0.0)	1		
	Divorce	0 (0.0)	1 (2.3)	1		
Employment	Working	47 (83.9)	**33 (75.0)**	80	5.003	0.172
	Not Working	2 (3.6)	7 (15.90	9		
	Retired	3 (5.4)	1 (2.3)	4		
	Study	4 (7.1)	3 (6.8)	7		
Education	Primary	1 (1.8)	2 (4.5)	3	3.544	0.315
	Secondary	19 (33.9)	**21 (47.7)**	40		
	Tertiary Education	35 (62.5)	**21 (47.7)**	56		
	No Education	1 (1.8)	0 (0.0)	1		
Family Monthly Income	Low-income	25 (44.6)	18 (40.9)	43	0.571	0.752
	Middle-income	28 (50.0)	**22 (50.0)**	50		
	High-income	3 (5.4)	4 (9.1)	7		
Max number of Partners at a time	1	43 (76.8)	**25 (56.8)**	68	6.079	0.193
	2	10 (17.9)	11 (25.0)	21		
	3 or more	3 (5.4)	8 (11.0)	11		
Smoking	Not smoking	36 (64.3)	**22 (50.0)**	58	2.137	0.344
	Not everyday	11 (19.6)	13 (29.5)	24		
	Everyday	9 (16.1)	9 (20.5)	18		
Alcohol intake	Never	47 (83.9)	**24 (54.5)**	71	13.394	**0.020***
	More than 1 year ago	1 (1.8)	6 (13.6)	7		
	1-2 times a year	2 (3.6)	6 (13.6)	8		
	1-3 times a month	2 (3.6)	2 (4.5)	4		
	1-2 times a week	2 (3.6)	5 (11.4)	7		
	Almost everyday	2 (3.6)	1 (2.3)	3		

** Association between sociodemographic factors and IPV status significant at a 5% level of significance*

5.0 Discussion

The incidence of IPV in Malaysia varies significantly, with prevalence rates ranging between 4.94% and 35.9% (Shahar, et al., 2020). Furthermore, the National Health and Morbidity Survey (NHMS) in Malaysia revealed that nearly 500,000 women in the country have experienced violence by their partners, indicating a significant prevalence of IPV (Ova, 2023). Factors associated with IPV in Malaysia include lower education background, lower socio-economic status, history of substance abuse, exposure to prior abuse or violence, violence-condoning attitudes, controlling behaviour by husbands or partners, substance abuse, involvement in fights, and lack of social support (Shahar, et al., 2020). However, only alcohol intake was found to have a significant association with IPV status in this study.

Getting accurate estimates of IPV prevalence is vital for properly allocating resources and shaping effective policies. If prevalence rates are off because of varying cut-off scores, it could lead to misallocation of resources, ineffective policies, and inadequate support for victims. The best cut-off score for IPV screening tools like WAST may differ between cultures due to variations in social norms, cultural values, and perceptions of IPV. Using a cut-off score designed for one culture in another might not accurately reflect the true prevalence of IPV in that new context. Therefore, it's crucial to adapt and validate these tools to fit specific cultural settings to ensure they provide accurate and reliable results.

For the Malay version of the WAST, a cut-off score of 15 has been found to be optimal, with a sensitivity of 59.6% and a specificity of 76.7%. The Kappa coefficient at this score is 0.351, indicating a fair level of agreement with the IPV classification from the WHO Multi-country Study. This differs from the original English version, which uses a cut-off score of 13. This discrepancy likely stems from cultural and linguistic differences that can impact how the tool performs. Despite this, the Malay WAST has a Cronbach's alpha of 0.873, demonstrating its reliability for use in Malaysia.

Furthermore, the overall accuracy of Malay WAST indicated by the AUC in the ROC is 0.779 which indicates that the Malay WAST can diagnose IPV cases in Malaysia with 77.9% true positives. Overall, the study demonstrates the importance of adapting and validating

screening tools like the WAST for different cultural contexts and populations to ensure accurate and reliable results.

With the implemented cut-off score of 15, the study found an IPV prevalence rate of 44% among participants, significantly higher than the national average reported in earlier studies (Shahar, et al., 2020). This discrepancy highlights the importance of using context-specific screening thresholds to avoid underestimation. Demographic analysis showed higher IPV prevalence among women (48%) than men (34%), and across groups including Malays, Muslims, married and employed individuals, and those with secondary or tertiary education. Despite these patterns, only alcohol intake showed a statistically significant association with IPV status ($p < 0.05$). This suggests that, while IPV appears to be more common among certain demographic groups, alcohol use may be a more direct contributing factor.

6.0 Conclusion & Recommendations

The study achieved its objectives by determining that a cut-off score of 15 is optimal for the Malay version of WAST in detecting IPV. It can be concluded that the Malay version of the WAST is a useful tool for identifying intimate partner violence (IPV) cases in Malaysia, achieving good sensitivity (59.6%) and specificity (76.7%) with a cut-off score of 15. Among the participants, the overall prevalence of IPV was 44%, with women experiencing higher rates (48%) compared to men (34%). Factors related to IPV status included being Muslim, married, employed, having secondary or higher education, and belonging to the middle-income group. However, there are some limitations to consider. The study's small sample size and reliance on an online survey might not fully capture the hidden nature of IPV. To improve accuracy, future research should aim for larger sample sizes and consider face-to-face data collection. Despite these limitations, the study supports the effectiveness of the Malay WAST as a screening tool for IPV in Malaysia.

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Paper Contribution to Related Field of Study

The WAST has been widely used to identify IPV cases in both healthcare settings and through self-administration in the general community. However, due to the sociocultural differences between Malaysia and other countries, applying the original WAST cut-off score may compromise the accuracy of reporting IPV prevalence in Malaysia. This study, therefore, contributes by establishing an optimal cut-off score for determining IPV cases specific to the Malaysian context.

References

Al Ubaidi, B., Tawfeeq, F., Ayed, H., Hasan, S., & Alahmed, F. (2021). Intimate partner violence in the Kingdom of Bahrain: Prevalence, associated factors and WAST screening in primary health centres. *J Family Med Prim Care, 10*(8), 2893-2899. doi:10.4103/jfmpc.jfmpc_2401_20.

Arbach, K., & Bobbio, A. (2018). Intimate partner violence risk assessment in community health facilities: A multisite longitudinal study. *Psychosocial Intervention, 27*(2), 105-112. doi:10.5093/pi2018a13.

Arkins, B., Begley, C., & Higgins, A. (2016). Measures for screening for intimate partner violence: a systematic review. *J Psychiatr Ment Health Nurs, 23*(3-4), 217-235. doi:10.1111/jpm.12289.

Breiding, M. J. (2015). *Intimate Partner Violence Surveillance: Uniform Definitions and Recommended Data Elements*. Retrieved from https://www.govinfo.gov/app/details/GOVPUB-HE20-PURL-gpo194367.

Brown, J. B., Lent, B., Brett, P. J., Sas, G., & Pederson, L. L. (1996). Development of the Woman Abuse Screening Tool for use in family practice. *Family medicine, 28*(6), 422-428.

Feltner, C., Wallace, I., Berkman, N., Kistler, C. E., Middleton, J. C., Barclay, C., . . . Jonas, D. E. (2018). Screening for Intimate Partner Violence, Elder Abuse, and Abuse of Vulnerable Adults: Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA, 320*(16), 1688-1701. doi:10.1001/jama.2018.13212

Ghazali, S. R., Elklit, A., Balang, R. V., Sultan, M. A., & Chen, Y. Y. (2014). Determining The Cut-Off Score for A Malay Language Version of The Centre for Epidemiologic Studies Depression Scale (CESD). *ASEAN Journal of Psychiatry, 15*(2), 146-152.

Gómez-Fernández, M. A., Goberna-Tricas, J., & Payá-Sánchez, M. (2019). Characteristics and clinical applicability of the validated scales and tools for screening, evaluating and measuring the risk of intimate partner violence. Systematic literature review (2003–2017). *Aggression and Violent Behavior, 44*, 57-66. doi:https://doi.org/10.1016/j.avb.2018.11.006

Guiguet-Auclair, C., Boyer, B., Djabour, K., Ninert, M., Verneret-Bord, E., Vendittelli, F., & Debost-Legrand, A. (2021). Validation of the French Women Abuse Screening Tool to routinely identify intimate partner violence. *Eur J Public Health, 31*(5), 1064-1069. doi:10.1093/eurpub/ckab115.

Iskandar, L., Braun, K. L., & Katz, A. R. (2015). Testing the woman abuse screening tool to identify intimate partner violence in Indonesia. *Journal of interpersonal violence, 30*(7), 1208-1225. doi:10.1177/0886260514539844.

MacMillan, H. L., Wathen, C. N., Jamieson, E., Boyle, M. H., Shannon, H. S., Ford-Gilboe, M., . . . McNutt, L. A. (2009). Screening for intimate partner violence in health care settings: a randomized trial. *JAMA, 302*(5), 493-501. doi:10.1001/jama.2009.1089.

Ova. (June 20, 2023). NHMS Survey: Almost Half A Million Women In Malaysia Have Experienced Intimate Partner Violence. Retrieved from OVA Galen Centre for Health & Social Policy: https://ova.galencentre.org/nhms-survey-almost-half-a-million-women-in-malaysia-have-experienced-intimate-partner-violence/

Rothman, E. F., Campbell, J. K., Hoch, A. M., Bair-Merritt, M., Cuevas, C. A., Taylor, B., & Mumford, E. A. (2022). Validity of a three-item dating abuse victimization screening tool in a 11–21 year old sample. *BMC Pediatrics, 22*(1), 337. doi:10.1186/s12887-022-03397-w.

Saddki, N., Sulaiman, Z., Ali, S. H., Tengku Hassan, T. N., Abdullah, S., Ab Rahman, A., . . . Baharudin, Z. (2013). Validity and reliability of the Malay version of WHO Women's Health and Life Experiences Questionnaire. *Journal of interpersonal violence, 28*(12), 2557-2580. doi:10.1177/0886260513479029.

Shahar, H. K., Jafri, F., Mohd Zulkefli, N. A., & Ahmad, N. (2020). Prevalence of intimate partner violence in Malaysia and its associated factors: a systematic review. *BMC Public Health, 20*(1). doi:10.1186/s12889-020-09587-4.

Shirzadi, M., Fakhari, A., Tarvirdizadeh, K., & Farhang, S. (2019). Psychometric Properties of HITS Screening Tool (Hurt, Insult, Threaten, Scream) in Detecting Intimate Partner Violence in Iranian Women. *Shiraz E-Medical Journal, 21*(3), e91924. doi:https://doi.org/10.5812/semj.91924.

UNFPA. (2020, July). Violence Against Women - Regional Snapshot (2020 - kNowVAWdata. Retrieved from United Nations: https://asiapacific.unfpa.org/en/resources/violence-against-women-regional-snapshot-2020-knowvawdata.

Vyas, S., Jansen, H. A. F. M., Gardner, J., Tuladhar, S., Hammond, K., & Diemer, K. (2023). An analysis of changes in the prevalence and patterns of intimate partner violence against women in seven Asian countries. *BMC Women's Health, 23*(1), 399. doi:10.1186/s12905-023-02534-6.

Yut-Lin, W., & Othman, S. (2008). Early detection and prevention of domestic violence using the Women Abuse Screening Tool (WAST) in primary health care clinics in Malaysia. *Asia Pac J Public Health, 20*(2), 102-116. doi:10.1177/1010539507311899.

Zhang, J., Xu, Y., Zhang, R., Wang, Y., Li, X., Xu, Y., . . . Jiang, S. (2022). Witnessing Intimate Partner Violence and Cyberbullying Among Chinese Adolescents: The Mediating Effect of Self-Control and Moderating Effect of Parental Psychological Control. *Cyberpsychology, 16*(3). doi:10.5817/CP2022-3-5