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2014
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EVALUATION OF THE ACCURACY OF A TWO-QUESTION SCREENING TOOL IN THE DETECTION OF INTIMATE PARTNER VIOLENCE IN A PRIMARY HEALTHCARE SETTING IN SOUTH AFRICA

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of

Master in Medicine (Family Medicine)

Johannesburg, 2014

DECLARATION

I, Amashnee Saimen, declare that this research report is my own work.

It is being submitted for the degree of Master of Medicine (Family Medicine) at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

Signed: 

Date: 8/06/2015

DEDICATION

This work is dedicated to my husband, Rob, for his support through my studies.

ABSTRACT

Intimate partner violence has been recognised as a global human rights violation. It is universally under-diagnosed and the institution of timeous multi-faceted interventions has been noted to benefit intimate partner violence victims. Currently the concept of using a screening tool to detect intimate partner violence has not been widely explored in a primary healthcare setting in South Africa, and for this reason the current study was undertaken. The objectives of this study were: 1) to determine the operating characteristics of a two-question screening tool for intimate partner violence (Women Abuse Screening Tool-short); and 2) to estimate the prevalence of intimate partner violence among women attending an Out Patient Department, using a validated questionnaire (Women Abuse Screening Tool).

Methods:

A cross-sectional study was conducted prospectively at the Out Patient Department of a Level 1 Hospital, with systematic sampling of 1 in 8 women over a period of 3 months. Participants were asked about their experience of intimate partner violence during the past 12 months. The Women Abuse Screening Tool-short, a two-question tool, was used to screen patients for intimate partner violence. To verify the result of the screening, women were also asked the remaining questions from the full Women Abuse Screening Tool.

Results:

Data were collected from 400 participants, with a response rate of 99.3%. Based on the results for the Women Abuse Screening Tool, the prevalence of intimate partner violence in the sample was 32%. The Women Abuse Screening Tool-short was shown to have the following operating characteristics: sensitivity 45.2% and specificity 98%.

Conclusion:

With its high prevalence, intimate partner violence is a health problem of note at this facility. The Women Abuse Screening Tool-short lacks sufficient sensitivity and therefore is not an ideal screening tool for this primary care ambulatory setting. The low sensitivity can be attributed to the participants' understanding of the screening questions, which utilize Eurocentric and nuanced definitions of intimate partner violence. Improvement in the sensitivity of the Women Abuse Screening Tool-short in this setting may be achieved by lowering the threshold for a positive result for intimate partner violence screening, and modification of the screening questions to better reflect intimate partner violence as understood by the local population.

ACKNOWLEDGEMENTS

I would like to extend my gratitude to all the participants of this study in particular those who bravely disclosed their experience of intimate partner violence.

I would like to thank the research assistants, Sr Gloria Mbele and Sr Adeline Selogiloe, for their assistance and enthusiasm during the data collection.

I would like to thank my supervisors, Dr E Armstrong and Dr C Manitshana, for their interest in this research topic.

I would like to acknowledge assistance from Prof S Manda for the review of the statistics and verification of the results.

I would also like to thank Sr B Ramonetha, the OPD staff and clerks at Dr Yusuf Dadoo Hospital for their assistance in the procedure of participant sampling.

I would also like to acknowledge assistance from Miss S Rendal in proof reading of the research report.

Table of Contents

DECLARATION ii

DEDICATION iii

ABSTRACT iv

ACKNOWLEDGEMENTS v

LIST OF FIGURES ix

LIST OF TABLES xi

ABBREVIATIONS xiii

GLOSSARY xiv

DEFINITIONS xiv

Chapter One 1

1.1 Introduction 1

1.2 Problem Statement 2

1.3 Literature Review 3

1.3.1 Scope and Magnitude of Intimate Partner Violence 3

1.3.2 Screening for Intimate Partner Violence 7

1.3.3 Intimate partner violence screening tools 10

1.3.4 Prevalence of IPV as detected by screening 12

1.3.5 Factors influencing disclosure of IPV 14

Chapter Two: Research Methodology 17

2.1 Aims and Objectives 17

a) Aim 17

b) Objectives 17

2.2 Materials and Methods 17

a) Study Design 17
b) Instruments 17
c) Procedure 18
2.3 Site 19
2.4 Study Population 19
2.5 Sampling 19
2.6 Data Collection Tools 20
2.7 Pilot study 21
2.8 Confidentiality and ethics 21
2.9 Incentive 21
2.10 Data Analysis 21
Chapter Three: Results 23
3.1 Introduction 23
3.2 Socio-demographic characteristics of participants and their partners 23
a) Age 23
b) Income 24
c) Education 25
d) Housing 27
e) Language 27
f) Relationship status 28
3.3 Item results for WAST-long 28
3.4 Results on WAST-long 31
a) Age 31
b) Income 32
c) Education 33
d) Housing 36
e) Language 36
f) Relationship status 38
3.5 Results on WAST-short 39

a) Age 39
b) Income 40
c) Education 42
d) Housing 44
e) Language 45
f) Relationship status 46
3.6 Comparison between WAST-short and WAST-long results 47
a) Operating Characteristics 47
b) True Positives 49
c) True Negatives 52
d) False Positive 55
e) False Negatives 55
3.7 Correlation between WAST-short and WAST-long results 58
a) Analysis of responses to WAST-short 59
b) Frequency table for WAST-long score ≥13 and screening results (WAST-short) 60
3.8 Post Hoc Analysis 61
3.9. Summary of Results 66
Chapter Four: Discussion and Recommendations 68
4.1 Study Methodology 68
4.2 Socio-demographic characteristics of participants 69
4.3 Prevalence of IPV 71
4.4 Two-question screening tool (WAST-short) operating characteristics 74
4.5 Strengths and Limitations 78
Chapter Five : Conclusion 80
Annexures 82
References 99

LIST OF FIGURES

Figure	Page
3.1 Distribution of sample according to age groups (N=400)	23
3.2 Distribution of income of sample (N=400)	24
3.3 Distribution of partners' source of income for sample (N=400)	25
3.4 Distribution of sample according to housing (N=400)	27
3.5 Distribution of sample according to the language spoken (N=400)	28
3.6 Language of participants who scored ≥ 13 on WAST-long (n=129)	37
3.7 Language spoken by participants scoring <13 on WAST-long(n=271)	38
3.8 IPV Screening results for all participants on the WAST-short (N=400)	39
3.9 Housing circumstances and screening result (N=400)	44
3.10 Distribution of participants according to language of questionaire (N=400)	45
3.11 Language spoken by the participants with a positive result for IPV screening (n=59)	45
3.12 Language spoken by the participant with a negative result for IPV screening (n=341)	46
3.13 Distribution of participants on comparing WAST-short and long results (N=400)	47
3.14 Plot of Fagan Nomogram for the sample (N=400)	49
3.15 Participants' level of education (n=58)	50
3.16 Partners' level of education (n=58)	51
3.17 Language spoken by participants (n=58)	52
3.18 Language spoken by the Participants (n=270)	54
3.19 Language of questionnaire answered by the participants (n=270)	54
3.20 Level of education of participants (n=71)	56
3.21 Level of education of participants' partners (n=71)	57
3.22 Language spoken by the participants (n=71)	58

3.23 Distribution of participants using the scoring system of Brown et al (N=400) 62

3.24 Distribution of participants on comparing WAST-short and long results using the cut-off score 4 (N=400) 64

3.25 Plot of Fagan Nomogram for the sample using total of 4 as cut-off score (N=400) 65

LIST OF TABLES

Table	Page
3.1 Participants' level of education (N=400)	25
3. 2 Partners' level of education (N=400)	26
3.3 Participants' responses to WAST questions (N=400)	29
3.4 Income of participants (N=400)	32
3.5 Income of participants' partners (N=400)	33
3.6 Level of education of participants (N=400)	34
3.7 Category of Education (N=400)	34
3.8 Level of education of participant's partners (N=400)	35
3.9 Category of Education (N=400)	35
3.10 Housing of participants (N=400)	36
3.11 Language of questionnaire (N=400)	36
3.12 Relationship status of participants (N=400)	38
3.13 Results according to age groups (N=400)	40
3.14 Source of income among participants (N=400)	41
3.15 Source of income among partners of participants (N=400)	41
3.16 Education of participants (N=400)	42
3.17 Level of education (N=400)	43
3.18 Education of partners of participants (N=400)	43
3.19 Categories of education for participants' partners (N=400)	44
3.20 Relationship status of participants (N=400)	47
3.21 Cross-break table: comparison of the two-question screening tool (WAST-short) and WAST-long (N=400)	48

3.22 Cross-break table: responses to screening questions among participants with WAST scores ≥13 (n=129) 60

3.23 Results for participants who scored ≥13 on WAST (n=129) 61

3.24 Operating characteristics of WAST-short using scoring system

by Brown et al (N=400) 62

3.25 Frequency chart for specific WAST-short and WAST-long scores (N=400) 63

3. 26 Analysis of cut-off scores for WAST-short 64

ABBREVIATIONS

PHC	Primary Health Care
DYDH	Dr Yusuf Dadoo Hospital
ARI	Abuse Risk Inventory
AAS	Abuse Assessment Screen
CTS	Conflict Tactics Scale
HITS	Hurt, Insult, Threats, Screams
IPV	Intimate Partner Violence
LR (-ve)	Negative Likelihood Ratio
LR (+ve)	Positive Likelihood Ratio
MRC	Medical Research Council
NPV	Negative Predictive Value
OPD	Out-Patient Department
PPV	Positive Predictive Value
WAST	Women Abuse Screening Tool
WEB	Women's Experience with Battering Scale
WHO	World Health Organization

GLOSSARY

Level 1 hospital: a district hospital

The term 'two-question screening tool' and 'Women Abuse Screening Tool (WAST)-short' are used interchangeably in this report

WAST-long / (full) WAST refers to the 8-question tool for IPV detection.

DEFINITIONS

Domestic Violence Act No 116 of 1998:[1] defines a domestic relationship as 'a relationship between a complainant and a respondent in any of the following ways:

a) 'they are or were married to each other, including marriage according to any law, custom or religion;

b) they (whether they are of the same or of the opposite sex) live or lived together in a relationship in the nature of marriage, although they are not, or were not, married to each other, or are not able to be married to each other;

c) they are the parents of a child or are persons who have or had parental responsibility for that child (whether or not at the same time);

d) they are family members related by consanguinity, affinity or adoption;

e) they are or were in an engagement, dating or customary relationship including an actual or perceived romantic, intimate or sexual relationship of any duration;

f) or they share or recently shared the same residence'. [1]

Sensitivity: 'The proportion of those who have a disease who are correctly identified by the relevant diagnostic test as positive'.[2]

Specificity: 'The proportion of those who do not have a disease who are correctly identified by the relevant diagnostic test as negative'.[2]

Positive Predictive Value: 'The proportion of those found positive on a diagnostic test who are 'truly positive'.[2]

Negative Predictive Value: 'The proportion of those found negative on a diagnostic test who are 'truly negative'.[2]

Likelihood Ratio: 'A measure of the performance of a diagnostic test'.[2]

Pearson Chi-squared Correlation: 'A measure of the strength of linear relationship between two categorical variables'.[2]

P-value: 'The probability, given that the null hypothesis is true, of obtaining data as extreme as that observed'.[2]

Fisher's exact test: 'A statistical test that can be used to investigate the association between two categorical variables when the sample is small'.[2]

Probability: 'The proportion of times an event happens in the long run, which can be estimated from a proportion calculated in a sample'.[2]

***

The mathematical totals in the results section may exceed 100% due to rounding off.

Chapter One

1.1 Introduction

Intimate partner violence (IPV) refers to 'behaviour in an intimate relationship that causes physical, sexual or psychological harm, including physical aggression, sexual coercion, and psychological abuse and controlling behaviours.'[3] IPV is a violation of human rights and was recognised as such at the *Platform for Action of the 1995 United Nations*, Beijing World Conference on Women.[4]

In South Africa, the Domestic Violence Act 116 of 1998[1] focuses on addressing IPV, and the Act has been amended to include psychological and economic violence as part of the definition of IPV. However, a greater understanding of IPV is needed as the social dynamics of this issue cannot be addressed purely by legislation. The prevalence of IPV is largely influenced by the different types of reporting in South Africa. Screening for IPV can enable an assessment to be made of whether the legislation has been translated into practice, and whether this might have further influenced the prevalence of IPV. However, for this to be possible, the health sector's response needs to be uniform and maintained through multi-sectoral collaboration. The application of the Domestic Violence Act 116 of 1998 cannot happen separately from the health sector.[5] The integration of specific services in the health sector is required, including efforts to improve the detection of IPV. The detection of IPV in South Africa, even at a fairly low prevalence rate, would indicate a major health problem, because IPV is known to be associated with mortality and morbidity.[6]

Intimate partner violence thus fulfils the criteria for screening in practice. The health consequences of IPV include female homicide, with a prevalence rate of 8.8 per 100 000 in South Africa.[7] According to a WHO multi-country study, IPV in South Africa also leads to higher rates of various health problems,[8] thus justifying the need for screening at healthcare settings. Interventions have been shown to have a positive outcome for women experiencing IPV; these women are more likely to leave an abusive relationship, which in turn is related to improved health outcomes.[9]

The importance of screening for IPV is thus highlighted, as screening in itself is an intervention. However, the information given by women who are screened depends partly on which IPV screening tool is selected, and the appropriateness of this screening tool in a specific setting. What is needed is an effective screening tool that can be incorporated into screening protocols, which elicits patient disclosure within the context of a medical consultation.

Therefore this study was undertaken to evaluate the psychometric properties of a short screening tool in order to establish whether this tool could be potentially implemented into IPV protocols. This was the first time that the Women Abuse Screening Tool has been used in a South African primary healthcare setting. The results of this study provide important measures i.e. sensitivity and specificity, of the intervention process of screening for IPV.

1.2 Problem Statement

The United Nation's millennium development goal, (MDG) 3 explicitly addresses the issue of gender inequality and women's empowerment, and acknowledges that violence against women is an 'extreme manifestation' of gender inequality, which is the underlying cause of violence against women.[10] The MDG 3 states that '...women will never be equal in their public lives until they are equal at home'.[10]

In order for the MDG 3 target to be reached, efforts to promote interventions that enable recognition of violence against women have been advocated. Screening for IPV is the first step in such an intervention.[11] This need is one reason for the current study, as part of the effort to promote interventions to reduce IPV and to support the victims.

The official prevalence rates of IPV rely on quantifying the extent of the problem through the use of existing screening measures. Much of the literature in South Africa has focused on IPV among women in the reproductive age group, and these data have therefore been gained from antenatal clinics.[12,13,14] Until now, the concept of screening in a more general setting, namely an outpatient department (OPD) or a primary healthcare (PHC) setting, has not been widely explored. Information is needed to provide a better understanding of what women view as acceptable with regard to screening for IPV at an OPD or PHC setting.

Dr Yusuf Dadoo Hospital is a district (Level One) hospital situated in the west of Johannesburg, with a catchment population of approximately 309 276 people according to the hospital statistics. No previous studies on IPV have been undertaken at this district hospital, nor is there any screening tool currently in use for detecting IPV.

This study will focus on using the Women Abuse Screening Tool (WAST) and a shortened version of the same instrument, namely the WAST-short. The latter is a two-question screening tool to detect IPV, which was developed in Canada but has been widely used in other countries.[15] The WAST-short offers a practical approach to screening in a busy primary care OPD. Because it has only two questions, it allows for the quick collection of data.

A review of the literature in South Africa did not reveal any previous studies using the WAST or WAST-short. Moreover, data on the sensitivity of this screening tool in identifying IPV in a PHC setting in South Africa are needed. The collection and an exploratory analysis of such data thus formed the basis for this study. The findings may provide impetus for the implementation of protocols to identify IPV and to establish local protocols to provide relevant services, such as counselling and appropriate referrals, for victims of IPV at Dr Yusuf Dadoo Hospital.

1.3 Literature Review

1.3.1 Scope and Magnitude of Intimate Partner Violence

A World Health Organization (WHO) report states that many women are exposed to violence from intimate partners, with estimates ranging from 10% to 69% of women worldwide being affected by IPV.[16] However, a serious concern is that IPV may be extremely under-reported, which means that the actual incidence cannot always be estimated accurately. In western countries, the lifetime prevalence of IPV is estimated at roughly 25%, giving an idea of how extensive this issue is.[17]

It is difficult to compare the data from different studies on the prevalence of IPV due to differences in methodology and research design. In an effort to provide an overview of the extent of IPV globally, The WHO multi-country study on women's health and domestic violence against women was undertaken and addressed this methodological concern.[16] The study was conducted in 10 countries over a three-year period, using a standardised

population-based household survey.[16] The study highlighted the strength of face-to-face interviews and good interviewer training. The safety of women participants was ensured through interviews taking place in complete privacy.[16] The interviews were conducted in the woman's own language to ensure accuracy in the responses to the questions.[16]

The findings of the study showed that industrialised countries, such as Japan, had lower levels of IPV compared with other countries in the study.[16] Low prevalence rates of IPV were also noted in the United States (1.5%), United Kingdom (4%), and Canada (4%).[16] This may be attributed to women having more options available to leave an abusive relationship, possible higher educational levels for women, and better economic support systems.

The lifetime prevalence of physical violence against women ranged from 13% (Japan) to 61% (Peru Province); sexual violence ranged from 6% to 59%; and controlling behaviour ranged from 21% (Japan City) to almost 90% (United Republic of Tanzania City).[16] The latter finding is notable because the association between controlling behaviour and future physical and sexual violence has been documented.[16] The study also found that between 20% and 75% of women worldwide were affected by emotional abuse. [16]

A further IPV prevalence study was conducted in Slovenia, involving 70 family medicine practices. The findings showed that of the overall sample of 2075 women who were interviewed, 17.9% had been exposed to some form of IPV during the past 5 years.[18] The use of a systematic cross-sectional study design was adequate in assessing the prevalence of IPV. Analysis of the results showed that psychological abuse (37.1%) was the most frequent type of abuse, followed closely by physical abuse (35.9%).[18] The study did not address the prevalence of sexual violence. Similar studies conducted in Slovenia have further highlighted the prevalence of psychological violence, and the non-disclosure of sexual violence was evident.[19]

A prevalence study of IPV was conducted in Ireland using a cross-sectional survey in a general practice.[29] The results showed that women were mostly exposed to various forms of physical violence, and some were also exposed to controlling behaviour. The domestic violence questionnaire was self-administered, which affected the answering of questions in that not all respondents answered all questions.[20] Thus, analysis of the limited data yielded somewhat skewed results; however, the study did highlight the prevalence of physical violence and controlling behaviour.[20]

In developing nations, such as Jordan, 19.2% of women reported experiencing IPV and the lifetime physical IPV against women was estimated at 42.5%.[21] A Turkish study revealed that 52% of women were exposed to IPV at some point in their lifetime.[22] Middle Eastern countries still view IPV as a tool for 'discipline' and this attitude legitimises acts of violence against women.[22] This cultural pattern could be a possible explanation for the high lifetime prevalence of IPV among women in these countries.

Studies in Africa have provided a picture of IPV that is in line with that of developing nations.[23,24,25,26] In South Africa, one study showed that the lifetime prevalence of physical IPV among women in three provinces was 27% in the Eastern Cape, 28% in Mpumalanga, and 19% in the North West Province.[24] Although these figures are lower than the lifetime IPV prevalence rates in other African countries, they highlight that IPV is indeed a health problem for women.

Other South African studies on IPV have focused on women during pregnancy. A study in Kwa-Zulu Natal recruited 340 pregnant women (with a response rate of 94%).[26] Among the participants, 106 pregnant women reported IPV, a prevalence rate of 31%.[26] Women chiefly experienced psychological abuse (50%), with 4 women experiencing physical abuse, and 16 women experiencing sexual abuse.[26]

A larger study undertaken in Soweto recruited 1395 women from three antenatal clinics and a public hospital.[27] This study highlighted that patterns of abuse that women experience often overlap, and the addition of 'financial abuse' explored an area that is not widely documented. Financial abuse could be considered as psychological abuse, as it involves threats and marginalisation of the victim.[27] The study found that 30.1% of women reported physical or sexual assault within the previous 12 months. The lifetime prevalence of a single episode of physical and/or sexual assault by a partner was 55.5%, while the prevalence of more than one incident was reportedly 42.8%.[27] Emotional–financial abuse combined with physical abuse was reported by 29.8% of women; whereas the combination of emotional–financial, physical and sexual abuse was reported by 13.4% of the women.[27] The Soweto study also showed that there was a strong association between sexual and physical violence, and that emotional–financial abuse was associated with physical and sexual violence.[27]

A study done in a PHC setting in the Vhembe District of South Africa also revealed that emotional abuse was a prevalent form of IPV, with 21.8% of participants reportedly having

experienced emotional abuse, and 18.7% having experienced physical abuse; only 2.7% disclosed sexual abuse.[28]

Women attending a public hospital in Botswana were shown to have a lifetime IPV prevalence of 49.7% and an annual prevalence of 21.2%.[23] The study had a good response rate (90.9%), which might have been boosted by the use of two trained research assistants who administered the questionnaire.[23] The type of IPV experienced by the women was not explored in the study; only the use of a single-question threshold, and options for lifetime abuse or abuse within a year, were examined.[23]

A study in Nigeria provided information on the prevalence of IPV among pregnant women. The findings showed that of 340 women participating in the study, 63.2% experienced abuse.[25] The pattern of IPV was identified: 26.5% of women were physically abused, 38% were verbally insulted, 10.7% were sexually abused, and 1.4% were emotionally abused.[25] The women did not report a specific timing of abuse; [25] thus, apparently the state of being pregnant was not a protective factor against IPV.

A household survey conducted in Zimbabwe revealed that physical abuse and forced sexual intercourse were prevalent forms of IPV among women interviewed.[29] The study found that 26% of women were being forced to have sex; 23% were exposed to physical assault, 20% to verbal abuse, 12% to sexual assault; and 6% were exposed to psychological abuse.[29]

Sexual violence is considered a severe form of IPV. A study in Kenya focused on the prevalence of forced sex and associated factors, and the sample included both men and women.[30] Of the 794 women in the sample, 13% reported sexual abuse, whereas of the 648 men interviewed only 4.5% reported sexual assault.[30] These findings are in line with what is already known on the topic, namely that IPV predominantly affects women. The findings however do highlight the fact that men can fall victim to IPV.[30] The study's method of enquiring about sexual violence used the single question threshold approach, [30] which did not allow for follow-up questions and in addition would have influenced the levels of disclosure. The decision to limit the topic of sexual violence to rape only may have further constrained the data or isolated people's responses. Widening the spectrum of what constitutes sexual violence possibly would have yielded additional information. Thus, one feature of this study was to highlight the importance of the perceptions of the local population about what constitutes sexual violence.

The literature describes the risk for IPV as traversing the socioeconomic, educational, and cultural spectrums. The WHO multi-cultural study found no association between age, partnership status, and educational attainment on the one hand, and variability in IPV on the other.[16] The study found that although higher education was generally associated with lower levels of violence, in some settings, this protective effect of education was limited to an association with women's education beyond secondary school.[16]

A systematic review supports this finding from the WHO multi-country study, with higher education being shown to be associated with lower levels of IPV in most countries, for both women and their partners.[31] In South Africa, post-school education was shown to be significantly protective against IPV compared with the absence of post-school education.[31] By contrast, a cross-cultural population-based study in Ethiopia showed that women whose educational level equalled their partners' were more likely to report IPV.[32] A possible explanation for this finding may be that women who are more educated will have increased insight into their situation and hence be more aware of experiencing IPV.

Women's e economic empowerment has been associated with mixed trends for IPV. It may be protective against IPV; in such cases, the woman would be contributing financially to her household and this would improve her status.[31] However, the opposite may be true in homes with traditional gender roles, where a woman's empowerment would be viewed as a threat and would therefore increase the risk of IPV.[31] The findings from a review in South Africa showed that microfinance and training interventions resulted in a 55% reduction in the annual prevalence of IPV against women.[31] By contrast, in India the association between past-year experience of IPV and women's economic empowerment was shown to be strong.[31]Similarly, results from a study in Turkey showed that women who were employed experienced significantly higher levels of physical and sexual violence compared with housewives.[31] These findings suggest that cultural influences play a significant role in the prevalence of IPV.

1.3.2 Screening for Intimate Partner Violence

Screening plays an important role in obtaining clarity on the extent of IPV and providing an intervention. One aim of screening is to identify the risk of IPV, during the early asymptomatic period. The long- and short-term effects of IPV have been shown to have serious and at times life-threatening consequences for women's health. This raises the

question of IPV remains under-reported. The literature provides evidence that the prevailing cultural attitude is that the occurrence of IPV is a personal topic and a private matter, or that possibly it is a problem that the justice system should deal with. As a result, many healthcare professionals feel that they are not competent to handle IPV cases as they are inadequately trained in this area and do not want to get involved.[33, 34]

The lack of protocols being implemented or guidelines being practised or followed in handling IPV cases contributes to the problem of an inadequate response to IPV.[35] However, the Department of Health (DOH) has, through its Primary Healthcare Package, tried to incorporate screening for IPV.[36] The DOH approach was implemented through training nurses in managing IPV, and encouraging them to enquire about IPV if women present with certain conditions.[36] No further action policies have been drafted. The overall failure to implement full screening services may be attributed to the difficulty experienced by the DOH in implementing the Domestic Violence Act.[37] One problem is that the policy framework of the Domestic Violence Act fails to specify the role of the DOH; this contributes to the inadequate response.[37]

In reaction to the inadequate protocols for dealing with IPV, a policy and management framework was drafted by the Institute of Criminology at the University of Cape Town, to assist with identifying and managing IPV in the health sector.[38] Although screening for IPV has been shown to improve outcomes for women,[39] the debate continues as to whether screening for IPV should be universal, i.e. the use of a standard question that is asked to all women irrespective of symptom presentation with little variability in the question[40] or whether 'case finding', referring to direct enquiry into presence of risk factors for IPV[40] is more appropriate. Currently, in South African hospitals, universal screening is recommended; thus every woman should be asked whether she has experienced abuse.[38] The universal screening protocol has been detailed by the Institute of Criminology.[38] However, healthcare practitioners are reluctant to raise or address the issue of IPV.[4, 35] This may be due to the focus of medical training on biomedical aspects and less on incorporating a holistic approach to the patient, including the emotional aspects.[41]

The policy on screening for IPV can be related to evidence from the US Preventive Services Task Force (USTF). The USTF recommends that women of childbearing age be screened for IPV, and that intervention services or referral services must be provided for women who screen positive.[42] However, in the matter of universal screening, there was insufficient

evidence to recommend for or against screening.[42] A South African study has linked violence during pregnancy to violence before pregnancy, thus indicating that screening should take place before a woman falls pregnant.[26] Although this information supports the USTF recommendation on screening during pregnancy, it also highlights that if screening is limited to antenatal clinic settings, this could potentially compromise the health of patients and children because IPV does not occur only during pregnancy. Thus, based on the impact that IPV has on the health of women irrespective of the life stage, the concept of universal screening is supported by various professional organisations, including the American Medical Association, American College of Emergency Physicians, and American College of Family Physicians.[43] The WHO, however, strongly recommends that the relevant enquiry into IPV should be based on the presenting complaint, which may be the result of IPV. This approach is further supported by a South African study which advocates 'case finding'.[44]

The utilisation of screening in general has been shown to increase the identification of women exposed to IPV.[45] A South African study on the expectations of women exposed to IPV showed that 13% wanted medical practitioners to assess their emotional wellbeing, while 74% expected the practitioners to appropriately refer them for further assistance.[46] The study examined the effect of providing educational information to women who screened positive for IPV, on the following topics: options that are available, danger assessment, safety, planning, and available resources. When such information was provided to women who screened positive for IPV, a lower score for IPV was noted at 6 and 12-month reviews after the intervention.[47] Another study that evaluated the value of intervening in IPV in PHC facilities in South Africa found that over 75% of the women felt that the intervention was beneficial.[48] This type of intervention has been found to assist in empowering women.

The theme of offering reassurance and being sensitive to women who are exposed to IPV[49] was echoed in a study on Spanish-speaking women.[45] This study found that 68% of women presenting with physical injuries felt that the medical practitioner would not have diagnosed the cause of their injury without their disclosure.[45] The use of a screening tool to assess IPV in women who present with certain conditions would be appropriate in this regard; such conditions include 'injuries, depression or substance abuse, sexually transmitted diseases, repeat nonspecific symptoms, [and] recurrent gynaecological symptoms and during the course of the antenatal and post natal period'.[6]

1.3.3 Intimate partner violence screening tools

Various screening tools have been described in the literature. A high-quality screening tool shows the characteristics of clinical suitability and acceptability, and has adequate sensitivity and specificity.[50] The use of survey methods to detect IPV is not practical in an outpatient setting due to the length of questionnaires, which means that surveys do not make good screening tools.[51] The Conflict Tactic Scale, which is used widely in population-based studies, has also been shown to be impractical for screening in a healthcare setting due to its long questions.[51]

In South Africa, the policy and management framework drafted by the Institute of Criminology to assist with identifying and managing IPV in the health sector advocated screening for IPV using four indirect questions and seven direct questions.[38] No psychometric testing has been done to provide evidence on the reliability of these questions in detecting IPV, or to assess whether patients who may have experienced IPV feel comfortable with the suggested questions.

A systematic review of articles evaluating screening tools for IPV identified five instruments that have documented validity and reliability. These are the Women Abuse Screening Tool (WAST); the Women's Experience with Battering scale (WEB); and the Hurt, Insult, Threats, Screams instrument (HITS). The HITS was developed for an outpatient setting.[45] In addition, the Abuse Assessment Screen (AAS) was developed as a screening tool for IPV during pregnancy, and the COOP charts were developed for general health screening.[45]

The WAST was developed for use by family physicians to detect current IPV.[15] The literature reviewed for the current study reveal any evidence of previous studies on IPV in South Africa using the WAST. The WAST-short is a two-question version which uses indirect questions of the two most 'acceptable' questions; these questions were shown to have the highest comfort levels as scored by women experiencing abuse.[15]

The WAST-short results have correlated well with scores on the WAST.[15,47] The WAST has been used in various studies and has been found to have the requisite level of internal reliability, and the ability to differentiate between women exposed to IPV versus those not exposed.[39,52,53] The WAST has therefore been shown to be a valid screening tool. Its results have also been significantly correlated with scores on the Abuse Risk Inventory (ARI) in one

study, with a correlation coefficient of 0.96 and 0.75.[15,54] Further evaluation showed correlation coefficients ranging from 0.8 to 0.85.[45]

With regard to evaluating the accuracy of the WAST, the initial study in which the WAST and WAST-short were applied in a family practice setting was conducted by 'Brown & Lent'.[54] This study revealed a sensitivity of 100% and specificity of 91.7% for the WAST-short.[54] The study also revealed that the WAST-short was able to successfully discriminate between women experiencing IPV as compared to those not experiencing IPV. 'Brown & Schimdt'[55] further conducted a validation study in the Francophone community using a French version of the WAST, which had also revealed high sensitivity (100%) and specificity (78.7%) of the WAST-short in discriminating between known samples of abused and non-abused women.[55] Studies previously cited [15, 54, 55] also established the 'comfort' levels of the WAST-short questions in these communities.

Further studies using the Spanish translated version of the WAST conducted in the United States of America showed the WAST-short to have a sensitivity of 93% and specificity of 68%.[47] A study conducted in Spain using the Spanish version of the WAST showed the WAST-short to have a sensitivity of 91.4% and specificity of 76.2% (with a positive predictive value of 40.2% and a negative predictive value of 98.1%).[56]

Two scoring methods have been described in the literature to evaluate the results on the WAST-short. In the first scoring method described in a study cited previously (Brown et al, [54]) a score of 1 was assigned to each positive response and a score of 2 was considered to be an overall positive screening result. In the second scoring method, a score of either 1 or 2 was considered to be an overall positive screening result.[54] The first scoring method yielded higher levels of sensitivity (as described in the previous paragraph).[47, 56] This finding shows that the scoring criterion for WAST-short can be adapted to certain settings to yield increased levels of sensitivity.

In keeping with the above findings, a systematic review of IPV screening tools showed that the WAST-short had a sensitivity of between 92% and 93%, and specificity ranging from 56% to 68%.[51] By comparison, the same study showed that the Partner Violence Screen (PVS) had a sensitivity of 35% to 71% and a specificity of 80% to 94%. The AAS had a sensitivity of 93% to 94% and a specificity of 55% to 99%, and the HITS had a sensitivity of 30% to 100% and a specificity of 86% to 99%.[51]

The sensitivity is an important aspect of a screening tool; as noted in the literature, a great deal of variability exists within the other IPV screening tests. Although the AAS has been shown to display high sensitivity in the antenatal setting, the screening tool has been tested amongst a specific demographic; young pregnant women with a low socioeconomic income.[51] Further modification and application of the AAS in a PHC setting has not been fully investigated. Overall, the WAST results appeared to make it the most appropriate screening tools for IPV detection.

On further evaluation of the merits of the WAST, one study found that it was a useful entry point into an enquiry about IPV. In comparison, although short and easy to remember, the HITS instrument had no established comfort levels.[51] On analysis of comfort levels of the screening tools, a study found that most women who had suffered from IPV were more comfortable with the indirect questions of the WAST than the PVS, which is a direct three-item questionnaire.[52] The study concluded that the WAST can be used when the patient presents no cues; thus, in a setting of universal screening, this tool would be received well by patients.[52] The other screening tools were noted to be less practical for use in clinician-initiated screening. In conclusion, short screening tools are more likely to be more acceptable for screening in an OPD setting.

Studies have shown that French, Spanish and Malaysian women were comfortable answering questions of the WAST translated into those languages.[55, 47, 56] This finding has a bearing on the use of the WAST screening tool in different population settings.

1.3.4 Prevalence of IPV as detected by screening

To gain a better perspective on screening for IPV and detection rates, studies using various screening tools were analysed by the researcher to review sample sizes, response rates, and the prevalence of IPV detected.

A cross-sectional survey involving 22 Irish general practices evaluated the use of self-administered questionnaire that addressed three dimensions: 'abuse, controlling behaviour', 'violent incidences' and 'consequent injuries'.[20] Of the 2615 women invited to participate, the response rate was 72%, and the responses of 1871 women were analysed. Among this group, 39% of women reported being subjected to violent behaviour, 9% reported sexual violence, and 34% reported controlling behaviour.[20]

In another study conducted in a PHC setting with 399 participants (with an 88% response rate) using the modified version of the CTS, 44.3% of women reported some form of violent victimisation within the past 3 months.[57] Another large study involving women attending three tertiary care hospitals and four community hospitals were undertaken, but had a relatively low response rate of 57%; of the 4196 women approached, only 2386 completed the survey.[58] The Severity of Violence Against Women Scale (SVAWS) was used to measure IPV in the past 12 months and the results revealed an annual prevalence of 15%, with a lifetime prevalence of 41%.[58] The varying results of the studies reported here do suggest that the setting of such studies may influence their response rates.

In a South African study in a PHC facility, the use of a prompt tool that included open-ended questions identified 106 women who had experienced IPV, with 33% being in urban facilities and 66.6% in rural facilities.[41] The same study found that only 10% of women experiencing IPV were recognised as such from a review of their medical records.[41] A separate study in Kwa-Zulu Natal recruited 340 pregnant women and used a questionnaire that was constructed by the researchers and validated for the study; the response rate was 94%. The study found that 106 pregnant women reported IPV, with a lifetime prevalence rate of 31%. [26] This reveals the high prevalence of IPV among women of childbearing age in South Africa.

However, this level of IPV was much lower than the prevalence results shown by a Nigerian study. The Nigerian study investigated IPV among 340 pregnant women attending an antenatal clinic, using the modified AAS; the findings showed that 63.2% of the women had experienced abuse.[25] A different study, which also used the AAS, was conducted in a general practice setting in Slovenia. Of the 306 participants assessed, 27% of women were found to have experienced lifetime abuse, and 4.2% were experiencing current abuse.[59]

Studies using the WAST screening tool were also reviewed for the current study. A randomised control trial (RCT) among 5607 women at 26 health sites in Canada found that the WAST was able to identify 22.1% of women who had experienced IPV over the past year.[60] Further studies using the WAST, PVS and Composite Abuse Scale (CAS) in a cluster RCT at two emergency departments, family practices, and a women's health clinic had a response rate of 95% among 2602 eligible women.[39] This study found that the WAST detected the prevalence of IPV over the past 12 months as 5.4% to 9.0%, depending on the method of administration (i.e. computer-based self-completed method; written self-completed

method; face-to-face method with verbal questioning by the healthcare provider; and the use of the screening instrument).[39] The face-to-face method coupled with the WAST yielded a 9% prevalence.[39]

The disclosure rates for IPV using the WAST-short was noted to be 12.5% for a study conducted at four urban family practices in the United States of America.[61] The study also analysed the use of three methods to screen for IPV: 'self-report', 'medical staff interview' and 'physician interview'. The results showed that of the participants screened by medical staff, 11.8% disclosed an experience of IPV, compared with 13.3% of patients who self-reported, and 12.2% as detected by physician interview.[61] The study applying the WAST and WAST-short in a family practice among 307 female patients showed that the WAST-short was able to identify 8.5% of the women as having experienced IPV.[54] A study conducted in Spain using the translated version of the WAST revealed an IPV prevalence of 33.8% as detected by the WAST-short.[56] The findings from a Malaysian study using translated versions of the WAST found that the WAST-short revealed an IPV prevalence of 5.6%.[53]

Thus, the WAST-short has shown detection rates of 5.6% to 12.5%, whereas the full WAST reveals higher prevalence rates of IPV. The findings from these studies provides an overview of the successful application of screening tools, in particular the WAST, in healthcare settings.

1.3.5 Factors influencing disclosure of IPV

In a healthcare setting, it is important to evaluate factors that may affect the successful implementation of a screening tool for IPV. Disclosure of IPV has been shown to depend on the relationship between the healthcare provider and the patient. Time and workload-related issues often impinge on healthcare workers developing good relationships with their patients. The literature describes this as 'physician barriers', which can be grouped as follows: 'psychological issues', 'attitudes' and 'health systems' barriers.[45] Physicians' unwillingness to raise the topic of IPV with a patient is often a result of their own fears.[45] Some healthcare workers describe their uncertainty about the effectiveness of interventions in assisting IPV victims as another barrier.[62]

In understanding social attitudes towards IPV, the concept of macro systems is important in the etiological framework used to understand IPV.[63] This concept highlights the contextual aspects of a combined belief that is present in a society, and individual level, which is formed

by the individual's exposure to circumstances throughout his or her life.[63] The individual level and the macro system shape the personality, which in turn influences how a person deals with stressors.[63]

In areas of violent crime, there is an increase in physical violence among women residing in the area.[64] Thus one can appreciate the influence of contextual variables on the incidence of IPV, particularly physical violence. In an Irish study, the contextual factors of 'being afraid of partner' and 'controlling behaviour' were associated with increased incidence of IPV.[20] The same study showed that women who were afraid of their partners were 32 times more likely to have experienced violence; similarly, controlling behaviour was associated with the increased exposure to IPV – up to 35 times more likely. [20]

On an individual level, women with a positive attitude toward male dominance were 4.8 times more likely to experience physical abuse.[65] A positive association between male dominance in the family and the experience of IPV among women; in other words, the influence of being brought up in a household with traditional concepts of gender roles, is a risk factor for IPV. [65]

A woman's perception of what constitutes IPV is another important aspect that is influenced greatly by community and environment. A study conducted in a suburban Latina community found that physical aggression was identified as 'domestic violence victimisation' by more than three-quarters of the women interviewed; however, 40% of women did not recognise milder forms of IPV such as stalking.[66] This finding was in contrast to other studies in which Anglo victims were shown to define milder forms of physical aggression and incidents of emotional aggression as IPV. These discrepancies highlight that perceptions of IPV are partly culturally defined.[66] Thus, a patient's own perceptions and lack of recognition of the problem is often also a barrier to disclosure, and is classified as 'psychological factors'. This, in addition to social factors and health system barriers, often prevents women from disclosing IPV.[45] These factors may contribute to the burden of undiagnosed IPV.

One study showed that by assuring women of confidentiality and providing a friendly environment, this could encourage women to disclose IPV.[28] Equipping healthcare workers with knowledge and training about how to deal empathetically and sensitively with IPV can also increase the efficacy of screening. Training is reliant on having a screening tool that is short, simple and easy to implement in a sensitive manner; this has further implications for

the disclosure rates. The 'comfort levels' of the WAST has been assessed and thus satisfies the above criteria.

Based on the literature review, efforts to encourage early recognition of IPV through the use of a validated screening tool may prove to be successful. The WAST results correlated well with reference standards, and the WAST-short has shown high levels of sensitivity in detecting IPV among both English and non-English speaking women. Thus, the hypothesis that the WAST-short would be able to perform favourably in the current setting, using translated versions of the WAST questionnaire is supported.

Chapter Two: Research Methodology

2.1 Aims and Objectives

a) Aim

To determine the sensitivity and specificity of a two-question screening tool for Intimate Partner Violence (IPV) in an OPD setting, in a South African hospital.

b) Objectives

1) To determine the operating characteristics (sensitivity, specificity, positive and negative predictive value, positive and negative likelihood ratio) of a two-question screening tool for IPV.

2) To estimate the prevalence of IPV among women attending an OPD using a validated questionnaire.

2.2 Materials and Methods

a) Study Design

A cross-sectional study was conducted prospectively using a screening tool for IPV.

b) Instruments

WAST-short

The two-question screening tool, Women Abuse Screening Tool (WAST)-short, consists of the first two questions of the longer 8-item WAST (WAST-long; see Annexure 1). The two questions of the WAST-short are as follows:

1. In general, how would you describe your relationship?

□ A lot of tension □ Some tension □ No tension

2. Do you and your partner work out arguments with

□ Great difficulty □ Some difficulty □ No difficulty

Women with current partners were screened for intimate partner violence during the past 12 months. The aim was to see if the WAST-short could distinguish between women who have experienced intimate partner violence versus those who have not experienced such violence. The criterion used to interpret the results of IPV screening was as follows: participants who answered 'a lot of tension' and 'great difficulty' to the WAST-short were tentatively regarded as a positive result for IPV screening.[61]

WAST-long

To verify the result, all women were then asked the remaining questions from the WAST-long (Annexure 1). This allowed for the sensitivity and specificity of the two-question tool to be evaluated against the WAST-long results. For the WAST-long, possible scores ranged from 8 to 24, and a positive cut-off score of 13 was used. [53, 67] Women were asked about the intensity of tension and difficulty in their current relationship and the frequency of episodes of emotional, physical and sexual violence. A Likert-type scale ranging from 1 to 3 was used for the scoring, with 3 representing a more frequent event and 1 representing a lower intensity or frequency.[47]

Definitions of terminology used (i.e. 'physical abuse', 'emotional abuse', 'sexual abuse') were also included to provide participants with clarification of the terms.[68] The socio-demographic characteristics of the participants were recorded on a separate questionnaire.

c) Procedure

On registering and receiving their files, potential participants meeting the inclusion criteria were given a piece of paper numbered from 1 to 8. Patients then proceeded to have their vital measurements taken in a room by a nurse proficient in isiZulu, Sesotho and English. The nurse taking the vitals was trained to ask every potential participant with an '8' paper if she would be prepared to be briefly interviewed by the doctor performing research. Those that agreed were taken to a private room where informed consent was obtained by the researcher (Annexures 6 and 7). The nurse research assistants were also trained in obtaining consent, thus assisting the researcher whenever there was a language barrier.

After the consent form had been signed, the participants were directed to an assigned room in the OPD. The socio-demographic and WAST questionnaires were administered to participants by a nurse research assistant, who had agreed to administer them and had been trained in accordance with the WHO guidelines for conducting research on IPV. [69] The

training of the nurse research-assistants ran over a three-week period. In week one, training focused on how to ask the questions and respond if the participant became distressed. The interviewers were also trained to give participants the contact details of the hospital social worker and other support services in the area. The second week focused on the WAST questionnaire and gave the interviewers an opportunity to practise during role-play. The third week elaborated on the problems that may be encountered in the OPD, and evaluated the interviewers on their skill. Included as part of the protocol, debriefing sessions were held for the nurse research-assistants during the research process, and were conducted by the researcher and social worker.

Women who were identified as victims of IPV received assistance immediately by the researcher or research assistant liaising with the hospital social worker, who had a list of networks in the West Rand District dealing with IPV. If deemed necessary the women were taken to a place of safety. Follow-up of participants was ensured by the hospital social worker.

After the interview, participants were directed to an assigned doctor's consulting room and the doctor attended to their medical problem.

2.3 Site

This study was conducted at the Outpatients Department (OPD) at Dr Yusuf Dadoo Hospital, a Level I hospital in the West Rand, South Africa.

2.4 Study Population

All women patients who presented to the OPD at Dr Yusuf Dadoo Hospital.

2.5 Sampling

A systematic sampling of 1 in 8 women over a period of 3 months yielded a sample of 400 women. The sample size was calculated by Prof Samuel Manda of the Medical Research Council (MRC), based on the statistics of the OPD during the first quarter of 2013, during which 3200 female patients had presented at the OPD. The estimate of IPV prevalence was based on a WHO study on IPV, which found the prevalence among women to be approximately 37%.[70]

The sample size of 360 women was calculated using the formula n = 1.96*1.96*0.366*0.634/ (0.05*0.05). Allowing for an attrition rate of 10%, approximately 400 women needed to be sampled. This number of patients was systematically drawn at the rate of 1 participant per 8 OPD women patients (3200/400=8). The first patient was selected on a random basis from the first group of 8 women, and thereafter every 8th women patient was selected as a participant in the manner already described. This sampling technique yielded sufficient data for analysis.

The inclusion criteria were as follows:

Female patient ≥ 18 years,

Women who reported having a partner;

Women who were approached to participate in the study (i.e. every 8th female patient).

Exclusion Criteria:

Women who are too ill to participate or are unable to consent (i.e. unconscious, confused, mentally challenged);

Women who did not sign the consent form;

Women who were single or not in a relationship.

2.6 Data Collection Tools

1. The first two questions of the WAST-long form the WAST-short (Annexure1). The WAST-short has been significantly correlated with the WAST (Spearman r =0.86, $p < 0.001$) in a previous study.[45]

2. The WAST-long is a validated 8-question tool used to detect IPV.[71] The WAST-long had been translated into isiZulu and Sesotho and verified by the Wits Language School (Annexure 5). The WAST-long included an attached list of definitions for 'physical abuse', 'emotional abuse', and 'sexual abuse', which ensured clarification of terms for the participant and interviewer.[68]

3. The socio-demographic characteristics of the participants were recorded on a separate questionnaire (Annexure 4).

2.7 Pilot study

A pilot study verified that the questions were understood by the participants as well as uncovering problems in the logistics of interviewing and consulting rooms. This also ensured that the interviewer's skills were assessed. A sample of five women was used in the pilot study. The information captured in the pilot study was not used as part of the final results.

2.8 Confidentiality and ethics

Data were coded. No personal identifiers appeared on the data sheet. All identifiers were kept by the researcher in a separate file.

All the nurse research-assistants involved in the study prior to commencement of data collection signed a confidentiality agreement.

Ethics approval was received from the Human Research Ethics Committee (Medical), University of the Witwatersrand (Annexure 13). Permission to conduct the study was received from the hospital CEO (Annexure 10), and permission for nursing staff to participate as research-assistants was received from the Unit Manager of the OPD (Annexure 11).

Research assistants were trained in accordance with the WHO guidelines on conducting research on IPV.[69]

2.9 Incentive

Nurse research assistants and nurses who helped to administer the questionnaires were given a luncheon at the end of the data collection, in gratitude for their assistance. The nurse research-assistants were acknowledged for their participation.

2.10 Data Analysis

As a preliminary analysis, descriptive statistics of the patients' records were computed. Categorical variables were summarised using frequencies and percentages, whereas continuous variables were summarised as means, medians and standard deviations. The operating characteristics (sensitivity, specificity, positive and negative predictive value, positive and negative likelihood ratio) of the two-question screening tool were analysed.

Analytical statistics involved tests of association between socio-demographic variables (participants' income, partners' income, participants' education, partners' education, and language) and operating characteristics of the WAST-short, using the chi-square test of independence. The statistical analyses were done using STATA statistical software.

Chapter Three: Results

3.1 Introduction

A total of 403 women with partners were approached to participate in this study. Three women who were selected to participate refused, citing time constraints. The remaining 400 participants completed the questionnaire, hence a response rate of 99.3%. Data were collected by systematic sampling of 1 in 8 women attending the OPD at Dr Yusuf Dadoo Hospital over a 3-month period, January to March 2014. The totals shown in this chapter may not equal 100% due to rounding off.

3.2 Socio-demographic characteristics of participants and their partners

a) Age

Participants

On analysis of the age of the participants, the mean age was 44.6 years ±13.8 (range 19; 76). As shown in figure 3.1, the distribution according to age groups revealed peaks at 19-29 years and 40-59 years.

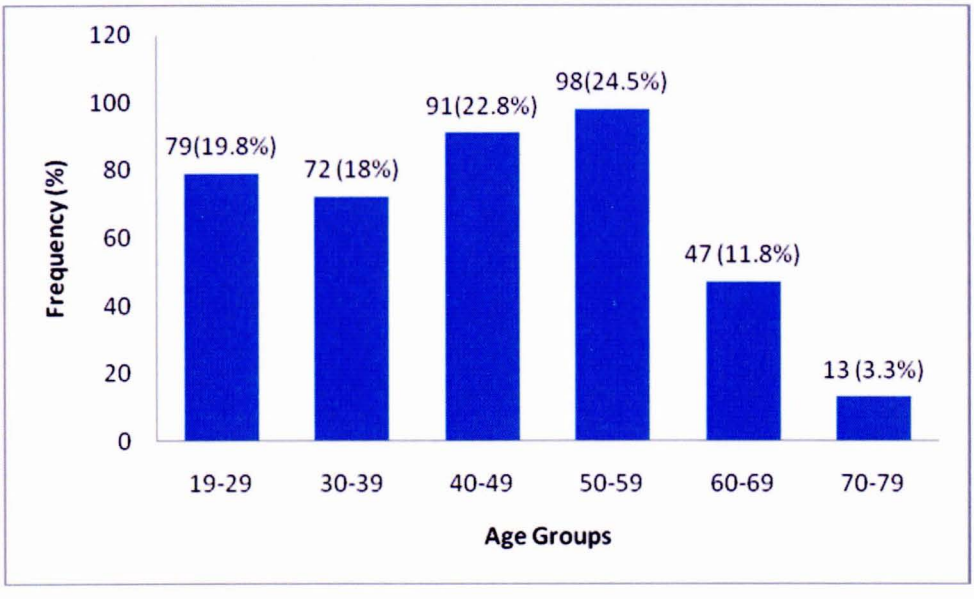


Figure 3.1: Distribution of sample according to age groups (N=400)

Partners

On analysis of the age of the partners, the mean age was 48.4 years ±14.5 (range 18; 93).

b) Income

In order to analyse the data, the participants' and their partners' source of income was categorised as follows: employed, social grant, supported by partner, supported by family, unemployed.

Participants

Most participants were employed (48.3%); only 19.5% of the participants were supported by their partner (figure 3.2).

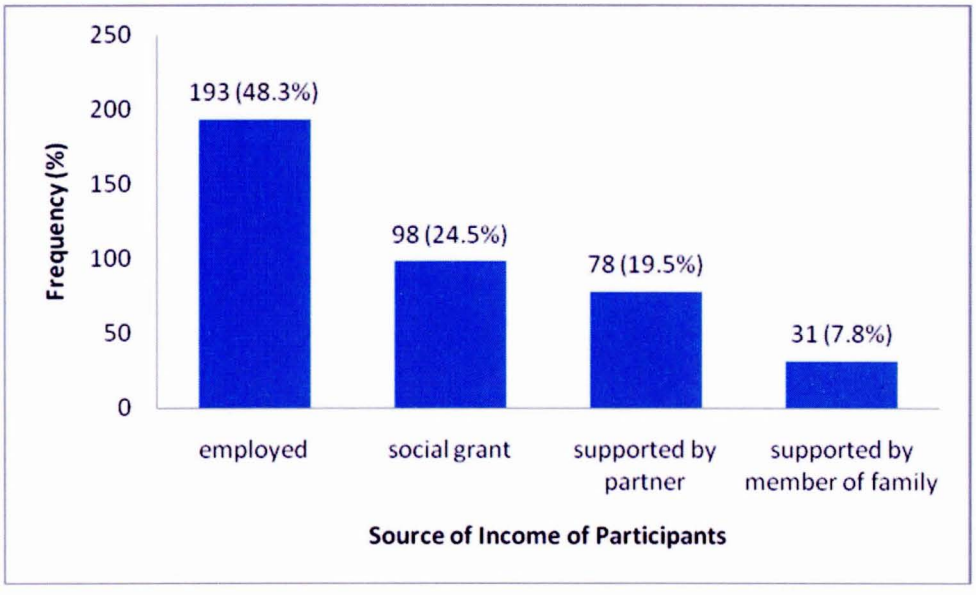


Figure 3.2: Distribution of income of sample participants (N=400)

Partners

Most of the participants' partners were found to be employed (75.3%) (Figure 3.3).

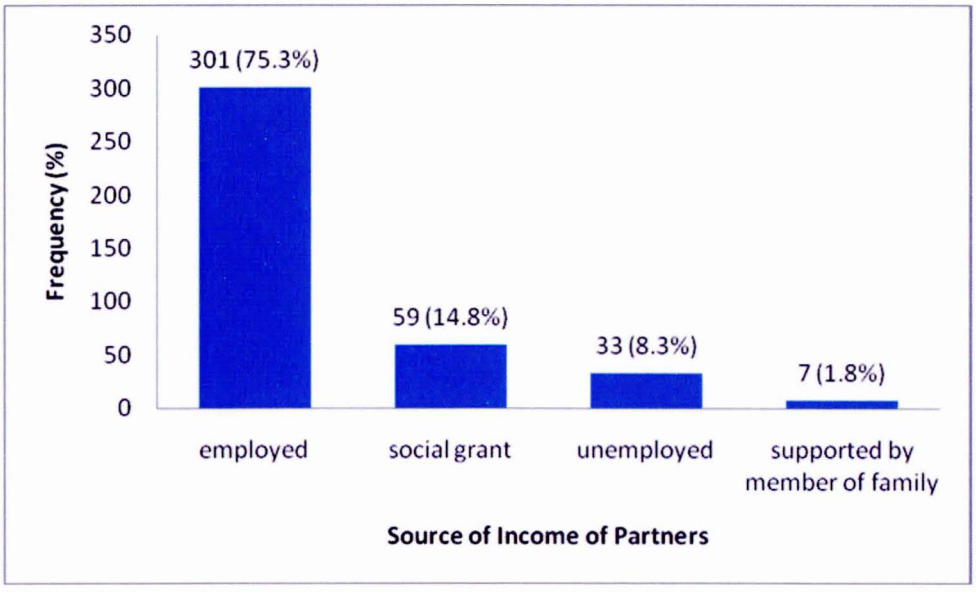


Figure 3.3: Distribution of partners' source of income for sample (N=400)

c) Education

Participants

Most of the participants had attained a secondary level of education (55.3%). The second largest subgroup had completed Grade 12 (26.3%) (Table 3.1).

Table 3.1: Participants' level of education (N=400)

	Participants level of education, n (%)
No Formal Schooling	11 (2.8%)
Primary (until grade 6)	57 (14.3%)
Secondary (Grade 7-11)	221 (55.3%)
Grade 12	105 (26.3%)
Post Secondary education (Degree/Diploma)	6 (1.5%)
Total	400 (100%)

Partners

Most of the participants' partners had received secondary education (53.5%). The second largest subgroup had completed Grade 12 (29.8%) (Table 3.2). Only 2.5% of the participants partners' obtained a post secondary education (Table 3.2).

Table 3.2: Partners' level of education (N=400)

	Partners level of education, n (%)
No Formal Schooling	14 (3.5%)
Primary (until grade 6)	43 (10.8%)
Secondary (grade 7-11)	214 (53.5%)
Grade 12	119 (29.8%)
Post Secondary education (Degree/Diploma)	10 (2.5%)
Total	400 (100%)

d) Housing

Most of the participants reported that they lived in formal housing (79.8%) (Figure 3.4).

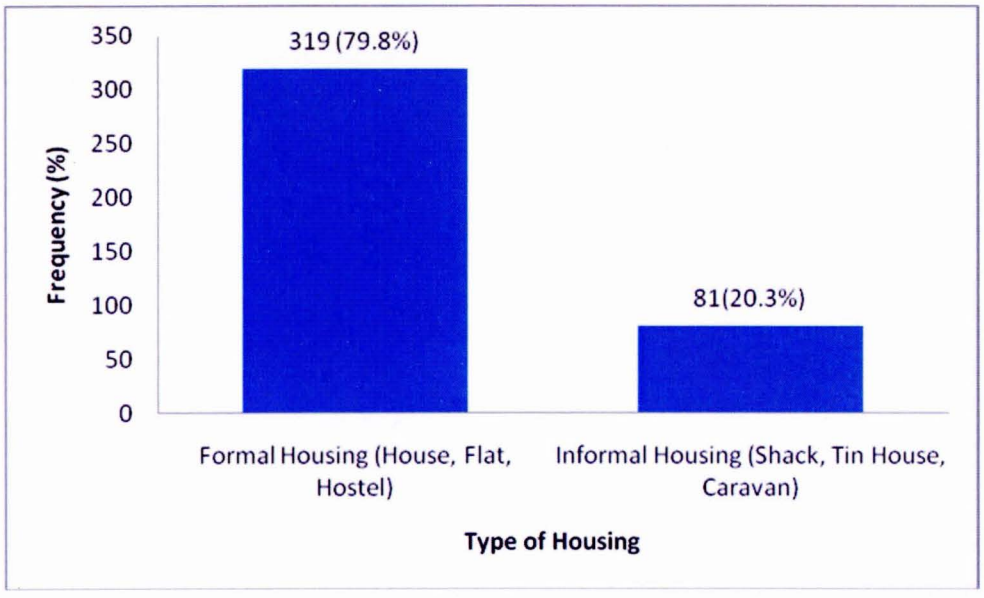


Figure 3.4: Distribution of sample according to housing (N=400)

e) Language

The summary statistics showed that most participants were Sesotho speaking (30%) (Figure 3.5). Many participants were bilingual (55.1%). The English questionaire was answered by 226 participants (56.5%), the Sesotho questionnaire by 144 participants (36%), and the isiZulu questionnaire by 30 participants (7.5%).

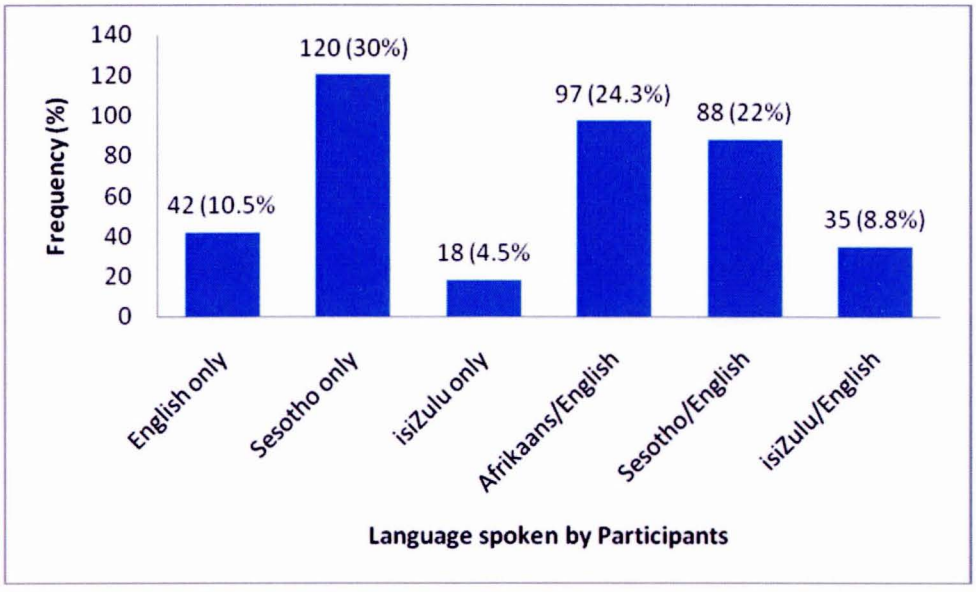


Figure 3.5: Distribution of sample according to the language spoken (N=400)

f) Relationship status

Most women were 'married' (n=203, 50.8%), and a substantial proportion said they 'have a steady partner' (n=101, 25.3%) or were 'living with a partner' (n= 96, 24%). The average length of the relationship was 14.8 years (±12.7). The average number of children per participant was 2.3 (±1.7).

3.3 Item results for WAST-long

The following frequency table shows the participants' responses to the WAST-long questionnaire. The first two items made up the WAST-short screening tool (Table 3.3).

On analysis, the participants with a positive result for IPV using the WAST-long cut-off score showed an increase in frequency of emotional abuse (Table 3.3). For these participants with a positive result for IPV, an association was shown between their responses to Question 5 and Question 7 on the WAST-long (Pearson χ^2 (4)=33.1689; p=0.001; Fisher's exact=0.000). Similarly an association was shown between responses to Question 3 and Question 5 (Pearson χ^2 (4) =20.8512; p=0.001; Fisher's exact=0.000), both items aim at identifying emotional or psychological abuse. However, no significant association was

shown between responses to Question 3 and Question 7 (Pearson χ^2 (4) =8.6541; p=0.070; Fisher's exact=0.054). An association was also shown between the responses to Question 4 and Question 6 (Pearson χ^2 (4) =90.0253; p=0.001; Fisher's exact=0.000) for the 'positive' participants. The latter questions are directed toward enquiry into physical abuse.

Table 3.3: Participants' responses to WAST questions (N=400)

WAST Questions			
1. In general how would you describe your relationship:	**Total (n=400)**	**Screen Positive (n=129)**	**Screen Negative (n=271)**
A lot of tension	79 (19.8%)	72 (55.8%)	7 (2.6%)
Some tension	116 (29%)	50 (38.8%)	66 (24.4%)
No tension	205 (51.3%)	7 (5.4%)	198 (73.1%)
Total	400 (100%)	129 (100%)	271(100%)

2. Do you and your partner work out arguments with:	**Total (n=400)**	**Screen Positive (n=129)**	**Screen Negative (n=271)**
Great difficulty	66 (16.5%)	62 (48.1%)	4 (1.5%)
Some difficulty	107 (26.8%)	56 (43.4%)	51 (18.8%)
No difficulty	227 (56.8%)	11 (8.5%)	216 (79.7%)
Total	400 (100%)	129 (100%)	271 (100%)

3. Do arguments ever result in you feeling down, or bad about yourself?	**Total (n=400)**	**Screen Positive (n=129)**	**Screen Negative (n=271)**
Often	67 (16.8%)	62 (48.1%)	5 (1.8%)
Sometimes	199 (49.8%)	59 (45.7%)	140 (51.7%)
Never	134 (33.5%)	8 (6.2%)	126 (46.5%)
Total	400 (100%)	129 (100%)	271(100%)

4. Do arguments ever result in hitting, kicking, or pushing?	**Total (n=400)**	**Screen Positive (n=129)**	**Screen Negative (n=271)**
Often	40 (10%)	40 (31%)	0
Sometimes	48 (12%)	35 (27.1%)	13 (4.8%)
Never	312 (78%)	54 (41.9%)	258 (95.2%)
Total	400 (100%)	129(100%)	271 (100%)

5. Do you ever feel frightened by what your partner says or does?	**Total (n=400)**	**Screen Positive (n=129)**	**Screen Negative (n=271)**
Often	44 (11%)	43 (33.3%)	1 (0.4%)
Sometimes	113 (28.3%)	64 (49.6%)	49 (18.1%)
Never	243 (60.8%)	22 (17.1%)	221 (81.5%)
Total	400(100%)	129(100%)	271(100%)

6. Has your partner ever abused you physically?	**Total (n=400)**	**Screen Positive (n=129)**	**Screen Negative (n=271)**
Often	28 (7%)	28 (21.7%)	0
Sometimes	45 (11.3%)	37 (28.7%)	8 (3%)
Never	327 (81.8%)	64 (49.6%)	263 (97%)
Total	400(100%)	129(100%)	271(100%)

7. Has your partner ever abused you emotionally?	**Total (n=400)**	**Screen Positive (n=129)**	**Screen Negative (n=271)**
Often	59 (14.8%)	56 (43.4%)	3 (1.1%)
Sometimes	101 (25.3%)	53 (41.1%)	53 (19.6%)
Never	240 (60%)	25 (19.4%)	215 (79.3%)
Total	400(100%)	129(100%)	271(100%)

8. Has your partner ever abused you sexually?	**Total (n=400)**	**Screen Positive (n=129)**	**Screen Negative (n=271)**
Often	21 (5.3%)	20 (15.5%)	1 (0.4%)
Sometimes	27 (6.8%)	22 (17.1%)	5 (1.8%)
Never	352 (88%)	87 (67.4%)	265 (97.8%)
Total	400(100%)	129(100%)	271(100%)

3.4 Results on WAST-long

Of the 400 participants, 129 women scored 13 or more on the WAST-long. This subgroup was regarded as positive for IPV (section 2.2.b). Of the 400 participants, 271 women scored less than 13 on the WAST-long and were regarded as negative for IPV. The positive and negative subgroups' results are discussed below.

a) Age

Participants

The mean age of the positive subgroup was 44.9 years (±13.4). The mean age of participants scoring less than 13 (i.e. screening negative) was 44.5 years (±14).

Partners

For participants with a positive result on the WAST-long, their partners' mean age was 48.4 years (±13.7). For participants scoring less than 13 on the WAST-long, their partners' mean age was 48.4 years (±14.9).

b) Income

Participants

The majority of participants in both subgroups (i.e. ≥13 and <13) were employed (Table 3.4). A chi-square analysis of the WAST-long result (i.e. whether ≥13 or <13) and participants' source of income showed no significant association between these variables (Pearson χ^2 (3) =7.3335; p=0.062; Fisher's exact=0.052). Further analysis revealed no significant association between the source of income and the participant's actual score on the WAST-long (Pearson χ^2 (48) =49.8441; p=0.400).

Table 3.4: Income of participants (N=400)

Participants income	**Score≥13** **n (%)**	**Score<13** **n (%)**
Employed	67 (54.9%)	126 (46.5%)
Social Grant	36 (28.2%)	62 (22.9%)
Supported by Partner	22 (15.5%)	56 (20.7%)
Supported by Family Member	4 (1.4%)	27 (10%)
Total	129 (100%)	271 (100%)

Partners

The majority of participants' partners in both subgroups were employed (Table 3.5). On analysis, no significant association was shown between the WAST-long result and the participant's partner's income (Pearson χ^2 (3) =7.1357; p=0.068; Fisher's exact=0.062). No significant association was shown between the source of income received by participants' partners and the actual score obtained by the participant on the WAST-long (Pearson χ^2 (48) =21.8264; p=1.00).

Table 3.5: Income of participants' partners (N=400)

Partner's income	Score ≥13 n (%)	Score <13 n (%)
Employed	104 (78.9 %)	197 (72.7 %)
Social Grant	13 (9.9%)	46 (17%)
unemployed	12 (11.3%)	21 (7.8%)
Supported by Family Member	0	7 (2.6%)
Total	129 (100%)	271 (100%)

c) Education

Participants

The majority of participants in both subgroups had attained a secondary level of education (Table 3.6). No significant association was noted between the WAST-long result and education level (Pearson χ^2 (4) =1.6893; p=0.793; Fisher's exact=0.752).

Most of the participants had received a level of education ≤ Grade 11. On analysis, no significant association was shown between the category of education and the subcategory of the WAST-long score (Pearson χ^2 (1) =0.1844; p=0.668).

Table 3.6: Level of education of participants (N=400)

Level of Education	Score ≥13 n (%)	Score <13 n (%)
No Formal Education	5 (4.2%)	6 (2.2%)
Primary until Grade 6	21(12.7%)	36 (13.3%)
Secondary Grade 7-11	69 (54.9%)	152 (56.1%)
Grade 12	32(26.8%)	73 (27%)
Post-secondary Education (Diploma/Degree)	2 (1.4%)	4 (1.5%)
Total	129 (100)	271 (100)

For further analysis, due to the low number of participants who had received 'no formal education', 'primary' or 'post secondary', two categories of education were formed. These were Grade ≤ 11 and Grade ≥ 12 (Table 3.7).

Table 3.7: Category of Education (N=400)

Category of Education	Score≥13 n (%)	Score<13 n (%)	Total n (%)
Grade≤11	95 (73.6%)	194 (71.6%)	289 (72.3%)
Grade≥12	34 (26.4%)	77 (59.7%)	111 (27.8%)
Total	129(100%)	271(100%)	400 (100%)

Partners

For both subgroups, most of the participants' partners had attained a secondary level of education (Table 3.8). No significant association was noted between the WAST-long result and the level of partner's education, (Pearson χ^2 (4) =7.5174; p=0.111; Fisher's exact=0.096).

Table 3.8: Level of education of participant's partners (N=400)

Level of partner's Education	Score ≥13 n (%)	Score <13 n (%)
No Formal Education	7(1.4%)	7 (2.6%)
Primary until Grade 6	16(11.3%)	27 (10%)
Secondary Grade 7-11	72(57.7%)	142 (52.4%)
Grade 12	29 (25.3%)	90 (33.2%)
Post-secondary Education (Diploma/Degree)	5 (4.2%)	5 (1.9%)
Total	129 (100%)	271 (100%)

Most of the participants' partners had attained a level of education ≤ Grade 11(Table 3.9). Further analysis confirmed that there was no significant association between partner's education and the subgroup of the WAST-long score (Pearson χ^2 (1) =3.0267; p=0.082)

Table 3.9: Category of Education (partners) (N=400)

Category of Education	Score≥13 n (%)	Score<13 n (%)	Total n (%)
Grade≤11	95 (73.6%)	176 (64.9%)	271 (67.8%)
Grade≥12	34 (26.4%)	95 (35.1%)	129 (32.3%)
Total	129(100%)	271(100%)	400 (100%)

d) Housing

The majority of participants in both subcategories reported having formal housing (Table 3.10). On analysis, no significant association was noted between the subcategory of the WAST-long score and the type of housing of the participant (Pearson χ^2 (1) =0.5866; p=0.444).

Table 3.10: Housing of participants (N=400)

Housing	Score ≥13 n (%)	Score <13 n (%)
Formal	100 (77.5%)	219 (80.8%)
Informal	29 (22.5%)	52 (19.2%)
Total	129 (100%)	271 (100%)

e) Language

As shown in Table 3.11, the majority of participants in both subcategories answered the English questionnaire.

Table 3.11: Language of questionnaire (N=400)

Language of questionnaire	Score ≥13 n (%)	Score <13 n (%)
English	78(60.55)	148 (54.6)
Sesotho	47(36.4)	97 (35.8)
isiZulu	4(3.1)	26 (9.6)
Total	129 (100)	271 (100)

For the participants scoring ≥13 on the WAST-long, the majority were Sesotho speaking (30.2%), followed by bilingual Afrikaans (27.1%) and bilingual Sesotho (24%) participants (Figure 3.6).

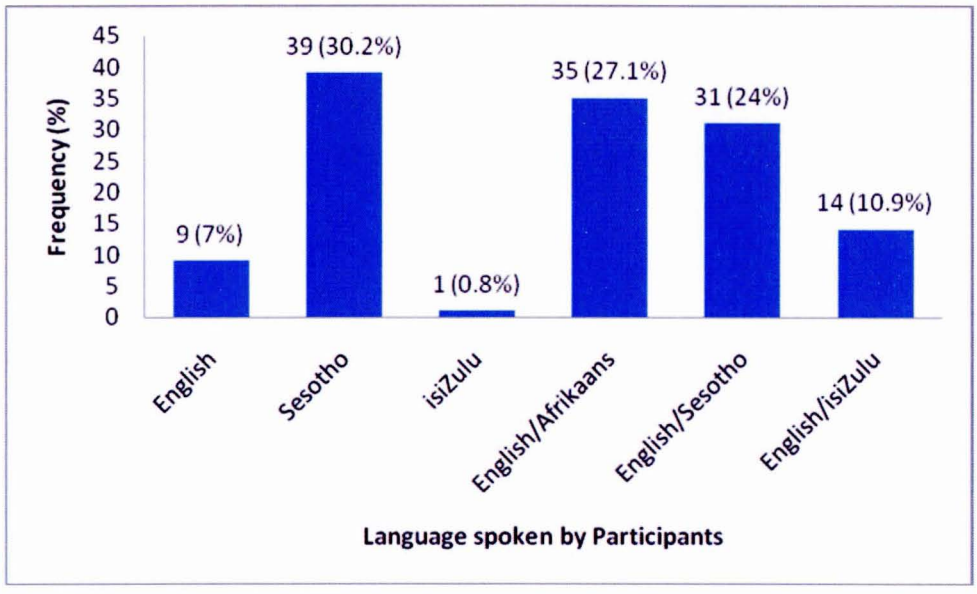


Figure 3.6 : Language of participants who scored ≥ 13 on WAST-long (n=129)

For the participants scoring <13 on the WAST-long (Figure 3.7), most of the participants were Sesotho speaking (29.9%). There was also a predominance of bilingual participants, notably Afrikaans (22.9%) and Sesotho (21.1%). Further analysis of the WAST-long result and the language in which the questionnaire was answered for the subgroups showed no significant association (Pearson χ^2 (2) =5.4531; p=0.065; Fisher's exact=0.055). No significant association was shown between the WAST-long score and the language of the participant (Pearson χ^2 (5) =10.0962; p=0.073; Fisher's exact=0.053).

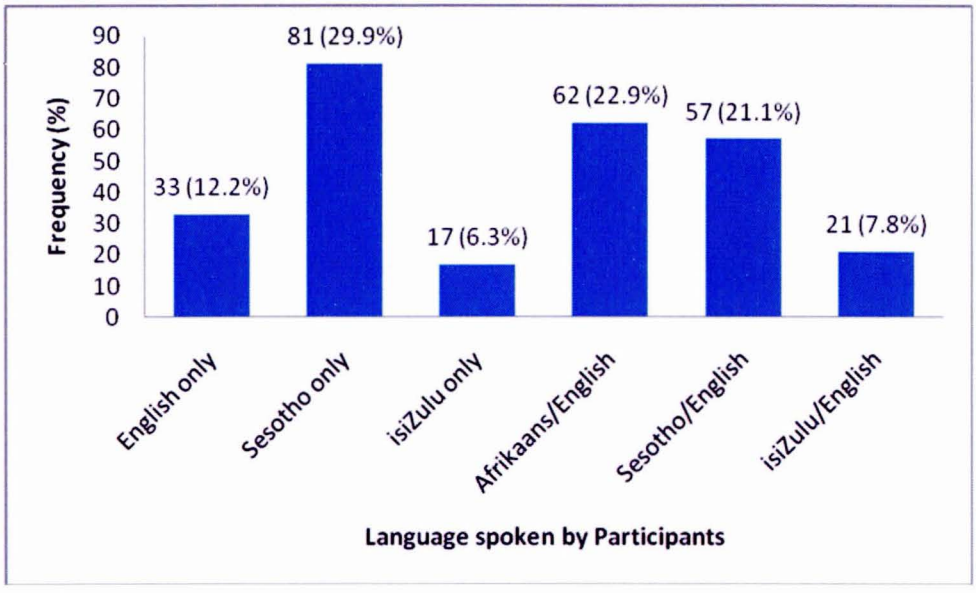


Figure 3.7: Language spoken by participants scoring <13 on WAST-long (n=271)

f) Relationship status

Most of the participants in both subgroups were married (Table 3.12). On analysis, no association was shown between the relationship status and the subgroup of the WAST-long score (Pearson χ^2 (2) =0.6012; p=0.740).

Table 3.12: Relationship status of participants (N=400)

Relationship status	Score ≥13 n (%)	Score <13 n (%)
Married	64 (49.6)	139 (51.3)
Living with Partner	34 (26.4)	62 (22.9)
Steady partner	31 (24)	70 (25.9)
Total	129 (100)	271 (100)

3.5 Results on WAST-short

The WAST-short detected 59 of the 400 participants as having a positive result for IPV screening (Figure 3.8). This result was based on the criteria described in section 2.2 b.

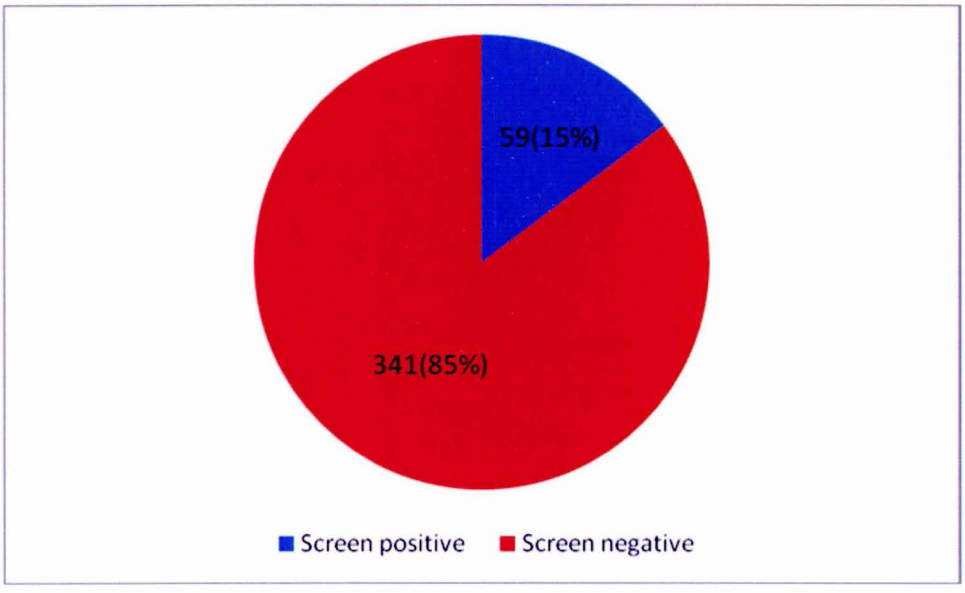


Figure 3.8 : IPV Screening results for all participants on the WAST-short (N=400)

a) Age

The mean age for participants with a positive result for IPV screening was 48.6 years ±12.97 (range 21; 75). Among participants with a negative result for IPV screening, the mean age 44 years ±13.80 (range 19; 76).

Most of the 59 participants with a positive screening result were aged between 50 and 59 years (40.7%), with the second largest subgroup for participants who screened positive being 40-49 years (20.3%). Only 13.6% of participants who screened positive were older than 60, and 25.5% were younger than 40 years. (Table 3.13)

Among women who screened negative for IPV, most were young to middle aged (40-49 years, 23.2%; 50-59 years, 21.7%; and 19-29 years, 21.1%). There was no significant association between the result for IPV screening and the age group of the participants (Pearson χ^2 (5) = 10.6587, p=0.059, Fisher's exact=0.074).

Table 3.13: Results according to age groups (N=400)

Age Group (years)	Positive result for IPV screening, n (%)	Negative result for IPV screening, n (%)	Total n (%)
19-29	7 (11.9%)	72 (21.1%)	79 (19.8%)
30-39	8 (13.6%)	64 (18.8%)	72 (18%)
40-49	12 (20.3%)	79 (23.2%)	91 (22.8%)
50-59	24 (40.7%)	74 (21.7%)	98 (24.5%)
60-69	6 (10.2%)	41 (12%)	47 (11.8%)
70-79	2 (3.4%)	11 (3.2%)	13 (3.3%)
Total	59 (100%)	341 (100%)	400 00%)

b) Income

Participants

As shown in Table 3.14, of participants who had a positive result for IPV screening, 47.5% were employed, 28.8% received a social grant, and 18.6% received support from their partners. Among participants who had a negative result for IPV screenings, 48.4% were employed, 23.8% were receiving a social grant, and 16.8% received financial support from their partners.

No statistically significant association was shown between a participant's source of income and the result for IPV screening (Pearson χ^2 (3) =1.1950; p =0.754; Fisher's exact=0.789).

Table 3.14: Source of income among participants (N=400)

Income	Positive result for IPV screening, n (%)	Negative result for IPV screening, n (%)	Total n (%)
Employed	28 (47.5%)	165 (48.4%)	193 (48.3%)
Social Grant	17 (28.8%)	81 (23.8%)	98 (24.5%)
Supported by Partner	11 (18.6%)	67 (16.8%)	78 (19.5%)
Supported by Family Member	3 (0.1%)	28 (8.2%)	31 (7.8%)
Total	59 (100%)	341 (100%)	400 (100%)

Partners

Majority of participant's partners were shown to be employed (Table 3.15).

No association was shown for participants' result for IPV screening and their partners' income (Pearson χ^2 (3) =2.9366; p = 0.402; Fisher's exact = 0.544).

Table 3.15: Source of income among partners of participants (N=400)

Partner's Income	Positive result for IPV screening, n (%)	Negative result for IPV screening, n (%)	Total n (%)
Employed	49 (83%)	252 (73.9%)	301 (75.3%)
Supported by family member	0 (0%)	7 (2.1%)	7 (1.8%)
Social Grant	6 (10.2%)	53 (15.5%)	59 (14.8%)
Unemployed	4 (6.8%)	29 (8.5%)	33 (8.3%)
Total	59 (100%)	341 (100%)	400 00%)

c) Education

Participants

The results showed that 52.5% (32/59) of participants who had a positive result for IPV screening and 55.7% of those who had a negative result for IPV screening had received secondary education (Table 3.16). There was no statistically significant association between a participant's level of education and her result for IPV screening (Pearson χ^2 (4) =2.4817; p=0.648).

Among the participants who had a positive result for IPV screening, no statistically significant association was shown between a participant's level of education and her partner's level of education (Pearson $\chi^2(16)=20.9942$; p=0.179; Fisher's exact=0.099).

Table 3.16: Education of participants (N=400)

Level of Education	Positive result for IPV screening, n (%)	Negative result for IPV screening, n (%)	Total N (%)
No formal education	2 (3.4%)	9 (2.6%)	11 (2.8%)
Primary until Grade 6	12 (20.3%)	45 (13.2%)	57 (14.3%)
Secondary: Grade 7-11	31 (52.5%)	190 (55.7%)	221 (55.3%)
Grade 12	13 (22%)	92 (27%)	105 (26.3%)
Post-secondary education (Diploma/Degree)	1 (1.7%)	5 (1.5%)	6 (1.5%)
Total	59 (100%)	341 (100%)	400 (100%)

For further analysis, due to the small number of participants who had 'no formal education', 'primary education' or 'post-secondary education', some categories were combined. This yielded two categories for education: Grade $\leq$ 11 and Grade $\geq$ 12, as shown in Table 3. 17. Most participants in both the positive and negative screening subgroups had received a level of education below Grade 12 (72.3%). On analysis of the education categories and screening result for IPV, no significant association was noted (Pearson χ^2 (1) =0.5582; p=0.455).

Table 3.17: Level of education (N=400)

Level of Education	Positive result for IPV screening, n (%)	Negative result for IPV screening, n (%)	Total, n (%)
Grade ≤11	45 (76.3%)	244(71.6%)	289 (72.3%)
Grade ≥12	14 (23.7%)	97 (28.4%)	111(27.8%)
	59 (100%)	341 (100%)	400 (100%)

Partners

A secondary level of education had been attained by 54.2% of partners of participants who had a positive result for the IPV screening (Table 3.18). It was further noted that participants who had a positive result, and whose partners had received a secondary education, tended either to be employed (40.6%, 13/32) or were receiving a social grant (37.5%, 12/32). A significant association was shown between a woman's result for IPV screening and her *partner's* level of education (Pearson χ^2 (4) =12.3995; p=0.015; Fisher's exact=0.018). For participants with a negative result for IPV screening, more partners had Grade 12 level of education as compared to those who had a positive result.

Table 3.18: Education of partners of participants (N=400)

Partner's Level of Education	Positive result for IPV screening, n (%)	Negative result for IPV screening, n (%)	Total N (%)
No formal education	6 (10.2%)	8 (2.3%)	14 (3.5%)
Primary until Grade 6	8 (13.6%)	35 (8.8%)	43 (10.8%)
Secondary: Grade 7-11	32 (54.2%)	182 (53.4%)	214 (53.5%)
Grade 12	11 (18.6%)	108 (31.7%)	119 (29.8%)
Post-secondary education (Diploma/Degree)	2 (3.4%)	8 2.3%)	10 (2.5%)
Total	59 (100%)	341 (100%)	400 (100%)

Due to the small number of partners with 'no formal education', 'primary education' or 'post secondary education', the education categories were combined (Table 3.19). This yielded two categories: 'Grade ≤ 11' and 'Grade ≥ 12', which were used for further analysis. Most participants' partners received a level of education below Grade 12 (67.8%). On further analysis no significant association was shown between the participant's partner's category of education and the participant's result for IPV screening (Pearson χ^2 (1)=3.3059 p=0.069).

Table 3.19: Categories of education for participants' partners (N=400)

Categories of Education	Positive result for IPV screening, n (%)	Negative result for IPV screening, n (%)	Total, n (%)
Grade ≤11	46 (78%)	225(66%)	271 (67.8%)
Grade ≥12	13 (22%)	116 (34%)	129(32.3%)
Total	59 (100%)	341 (100%)	400 00%)

d) Housing

Of the participants who had a positive result for IPV screening, 22% were not living in formal housing; this was a similar finding to the participants with a negative result for IPV (19.9%) (Figure 3.9). Statistical analysis showed no significant association between a participant's type of housing and her screening result (Pearson χ^2 (1)=0.1364; p=0.712).

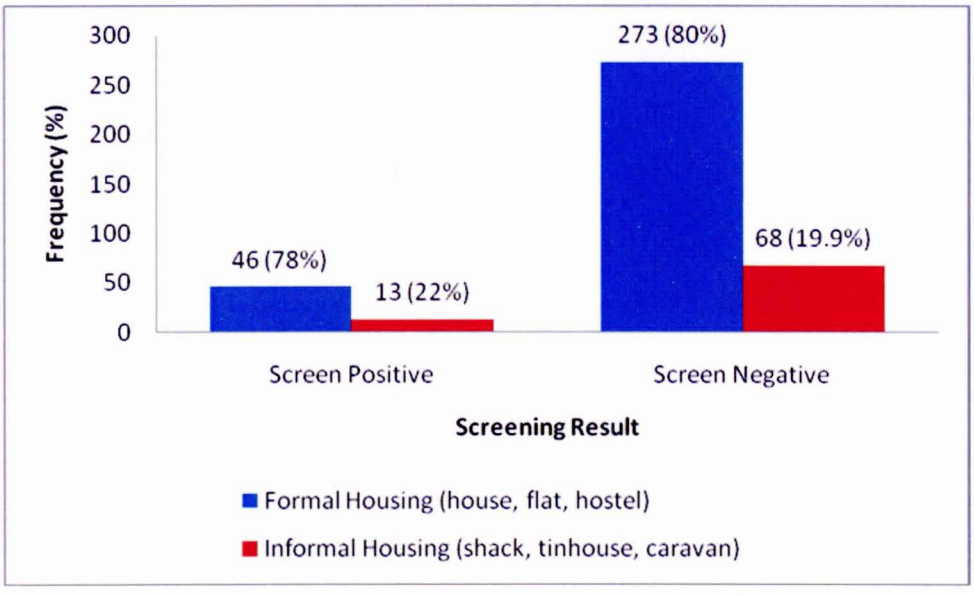


Figure 3.9: Housing circumstances and screening result (N=400)

e) Language

Most participants answered the English questionnaire; this was true among participants who screened both positive and negative for IPV (Figure 3.10).

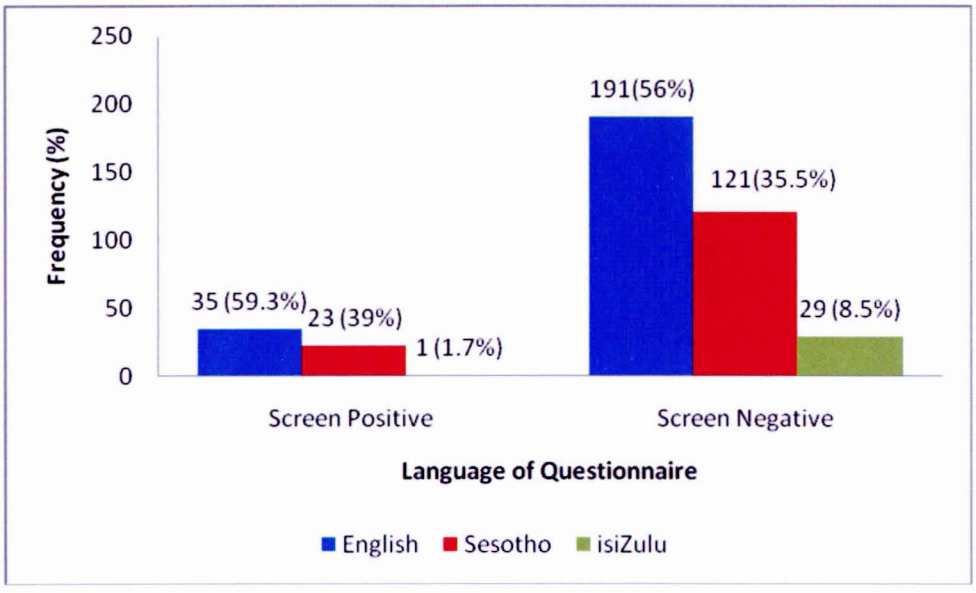


Figure 3.10: Distribution of participants according to language of questionaire (N=400)

None of the participants speaking 'isiZulu only' were found to have a positive result for IPV screening (Figure3.11).

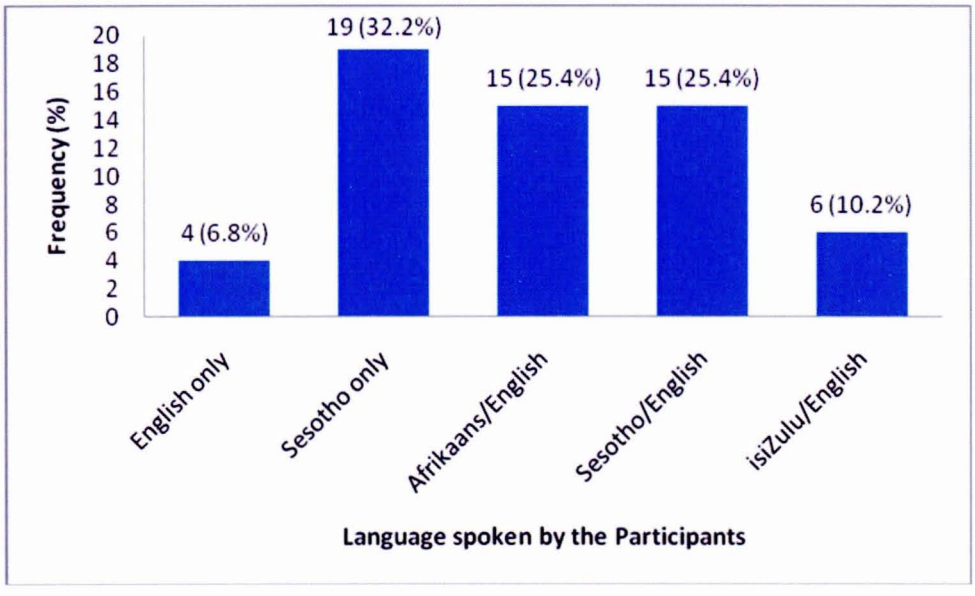


Figure 3.11: Language spoken by the participants with a positive result for IPV screening (n=59)

Further evaluation of the data for the 59 participants who had a positive result for IPV screening showed that 59.3% (35/59) of them had answered the questionnaire in English, and 25.4% (15/59) had answered in Sesotho (Figure 3.12). Most of the bilingual Sesotho participants with a positive result for IPV screening had answered the Sesotho questionnaire (14/15, 93.3%). Most Sesotho participants (53/73, 72.6%) who screened negative had answered the English questionnaire.

No significant association was shown between the actual WAST-long score and the language in which the questionnaire was answered (Pearson χ^2 (24) =28.5989; p=0.236), nor between the WAST-long score and the spoken language of the participant (Pearson χ^2 (5) =5.9605; p=0.310).

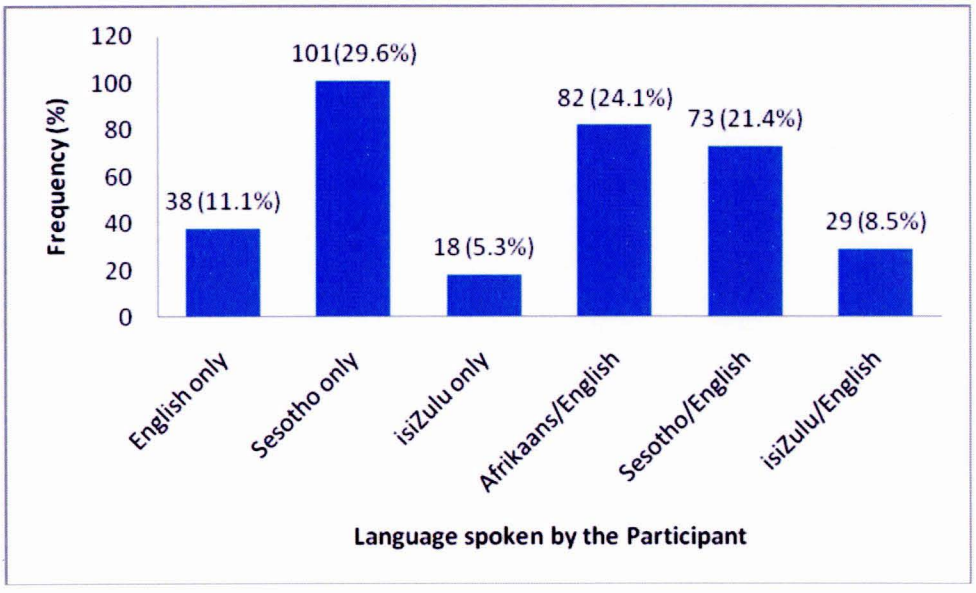


Figure 3.12: Language spoken by participants with negative result for IPV screening (n= 341)

f) Relationship status

Of the women participants who had a positive result for IPV screening, 57.6% were married (Table 3.20); the mean length of relationship for the participants who screened positive was 15.75 years (±12). The mean length of relationship for the participants who screened negative was 14.66 years (±12.8). No statistically significant association was shown between a positive result for IPV screening and relationship status (Pearson χ^2 (2) =1.4175; p=0.49).

Table 3.20: Relationship status of participants (N=400)

Relationship Status	Positive Result to Screening n (%)	Negative Result to Screening n (%)	Total n (%)
Married	34 (57.6%)	169 (49.6%)	203 (50.8%)
Steady Partner	12 (20.3%)	89 (26.1%)	101 (25.3%)
Living with a Partner	13 (22%)	83 (24.3%)	96 (24%)
Total	59 (100%)	341 (100%)	400 (100%)

3.6 Comparison between WAST-short and WAST-long results

The screening properties of the WAST-short in relation to the result on the WAST-long were examined as follows.

a) Operating Characteristics

The WAST-short identified 58 of the 129 participants with a positive WAST-long score, one false positive result was shown (Figure 3.13).

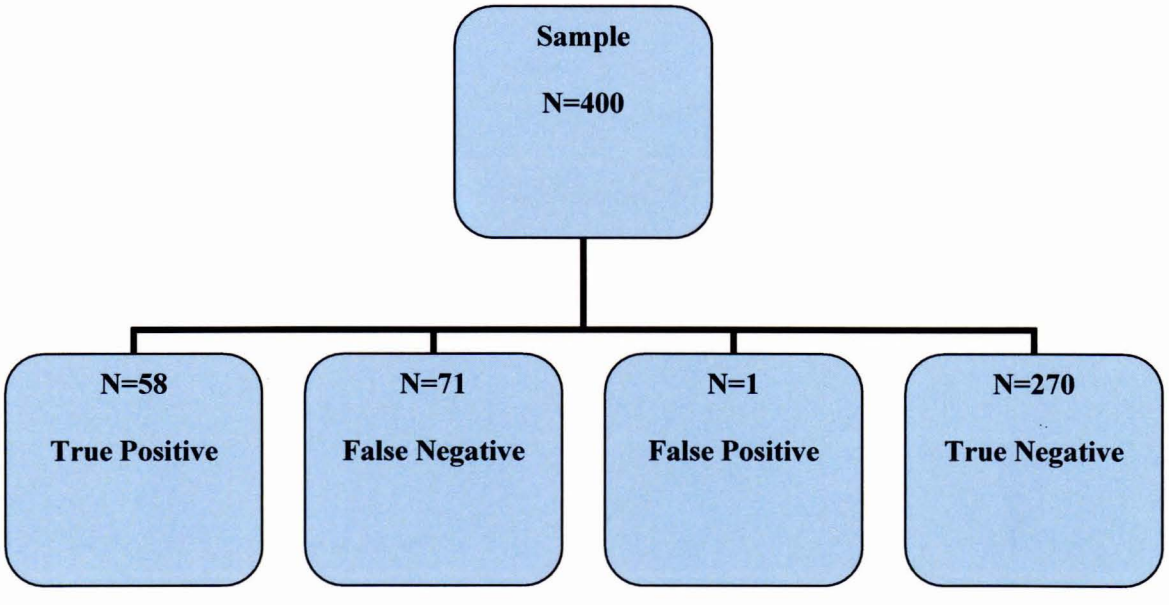


Figure 3.13: Distribution of participants on comparing WAST-short and long results (N=400)

The comparison between the WAST-short and WAST-long results are shown in Table 3.21.

Table 3.21: Cross-break table; Comparison of the two-question screening tool (WAST-short) and WAST-long (N=400)

WAST-long / WAST-short	Total Score ≥13	Total Score <13	Total
Positive	58 (cell a)	1 (cell b)	59
Negative	71 (cell c)	270 (cell d)	341
Total	129	271	400

The two-question screening tool was shown to have the following characteristics for this sample population (Table 3.21).

Sensitivity = a/ (a+c) = 58/ (58+71) =45.2%

Specificity=d/ (b+d) = 270/ (1+270) =99.6%

Positive predictive value (PPV) = a/ (a+b) = 58/ (58+1) x100 = 0.98(98%)

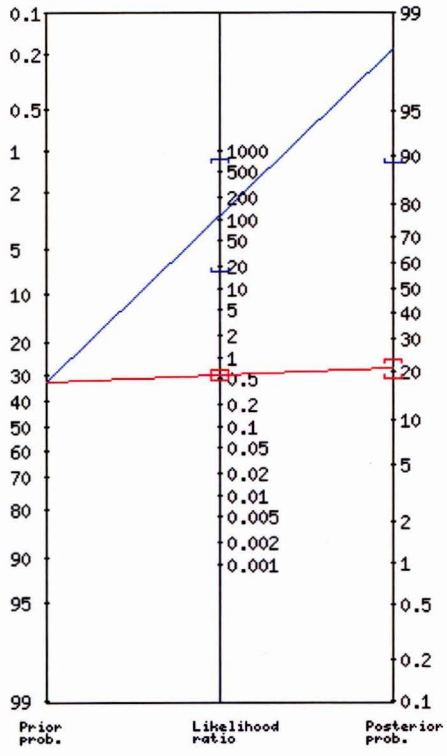
Negative predictive value (NPV) = d/(c+d) = 270/ (270+71) x100 = 0.79 (79%)

Prevalence of IPV = (58+71)/400 = 0.32 (32%)

LR (+) = sensitivity/ (1-specificity) = 113

LR (-) = (1-sensitivity)/specificity = 0.55

Using Fagan Nomogram (Figure 3.14), the pretest probability of 32% and the positive likelihood ratio 113, resulted in a post-test probability of 98% at the 95% CI (89%,100).The negative likelihood ratio of 0.55 results in a post-test probability of 21% at the 95% CI (18%, 24%).



POSITIVE TEST NEGATIVE TEST

Figure 3.14: Plot of Fagan Nomogram for the sample population (N=400)

b) True Positives

Using the WAST-long cut-off score of ≥13 (see section 2.2.b) to determine whether a participant should be classified as positive for IPV, 129 of the 400 participants (32.3%) were classified as positive for IPV. Using the WAST-short to determine which participants screened positive for IPV classified 59 (15%) of participants as having a positive result (see section 2.2.b). A total of 58 participants had positive responses to both of the screening questions as well as scoring 13 or more on the WAST-long. This subgroup was regarded as the true positives.

Age

Participants

The mean age of participants was 48.4 years ±13 (range 21; 75)

Partners

The mean age of participants' partners was 51.9 years ±12.8 (range 21; 80)

Income

Participants

Most of the participants were employed (48.3%, 28/58) and 27.6%, 16/58 received a social grant; 19%, 11/58 were supported by their partners and 5.2%,3/58 were supported by their family.

Partners

Most of the participants' partners were employed (82.3%, 48/58), but some received social grants (10.3%, 6/58) or family support (6.9%, 4/58). None of the partners reported having no source of income.

Education

Participants

Most participants were shown to have a secondary level of education (51.7%) (Figure3.15).

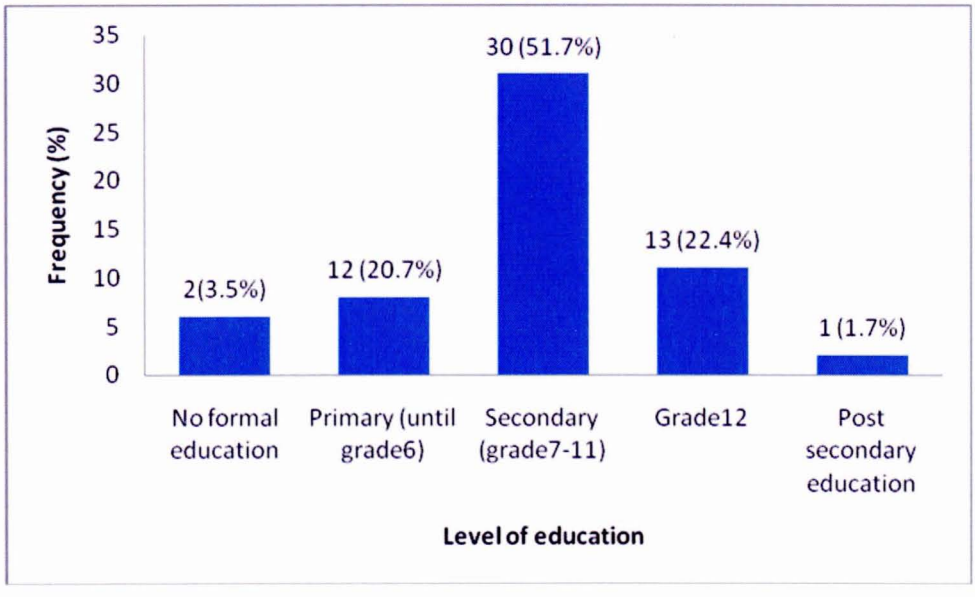


Figure 3.15: Participants' level of education (n=58)

Partners

Most participants' partners had received a secondary level of education (53.3%) (Figure3.16).

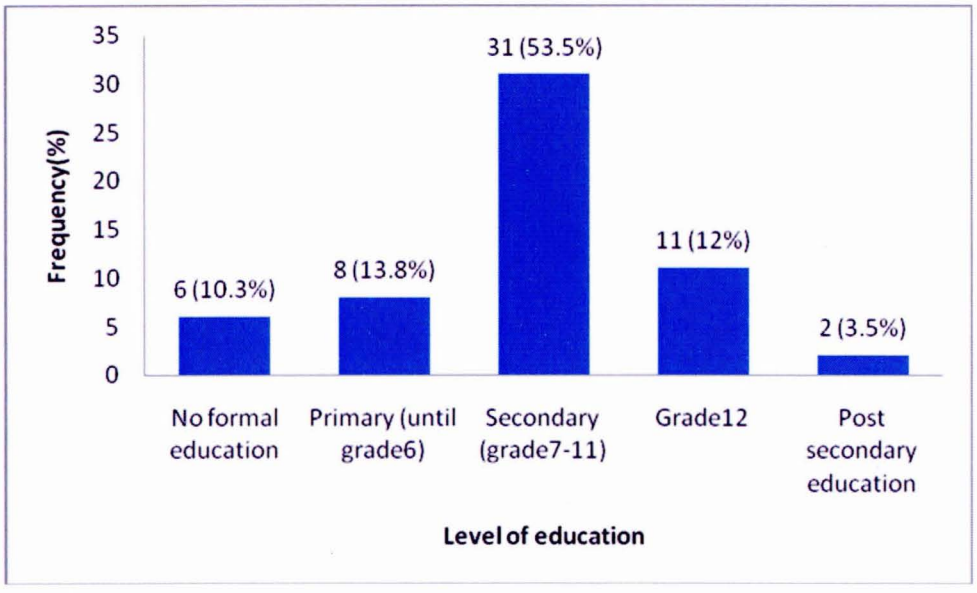


Figure 3.16: Partners' level of education (n=58)

Housing

Most of the participants had formal housing (79.3%, 46/58), few were living in informal housing (20.7%, 12/58).

Language

Most of the participants spoke Sesotho (32.8%); it was notable that none of the participants speaking 'only' isiZulu were featured in this group (Figure 3.17).

On further analysis according to the language of the answered questionnaire, the results revealed that 34 (58.6%) of the participants answered the English questionnaire, 23 (39.7%) answered the Sesotho questionnaire, and 1 (1.7%) participant answered the isiZulu questionnaire. Thus it can be computed that 14 of the 15 bilingual Sesotho participants answered the Sesotho questionnaire. The bilingual isiZulu participants preferred answering in English (5 of the 6 participants). Only one participant answered the isiZulu questionnaire.

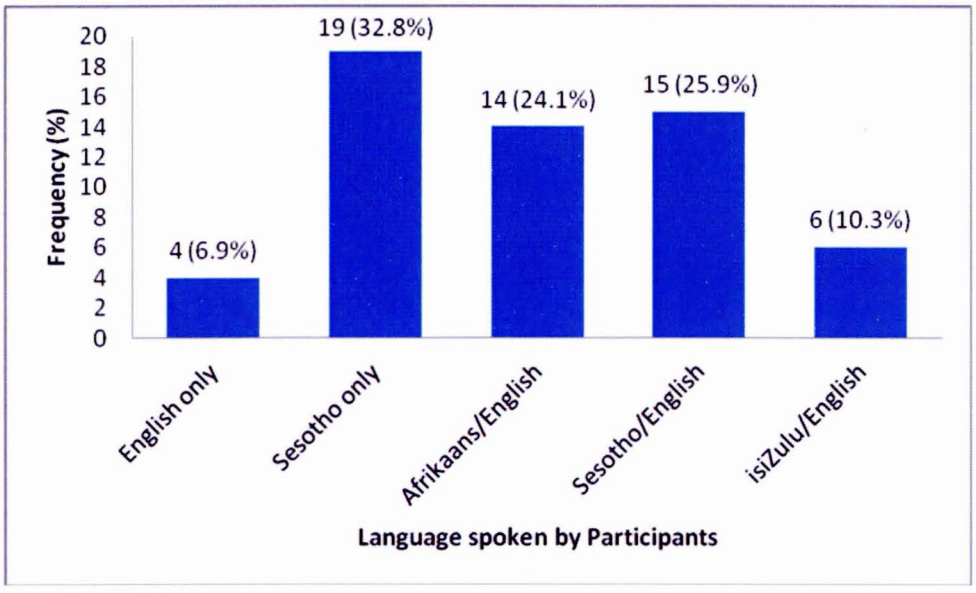


Figure 3.17: Language spoken by participants (n=58)

Relationship status

The results showed that 33 (56.9%) were married, 13 (22.4%) were living with a partner, and 12 (20.7%) revealed that they had a steady partner. The mean length of the relationship was 15.8 years (± 12.1). The average number of children was noted to be 2.7 (±1.3).

c) True Negatives

A total of 270 of the participants responded negatively to the two screening questions and also scored less than 13 on the WAST-long. They were regarded as true negatives.

Age

Participants

The average age of participants was 44.5 years± 14 (range 19; 76).

Partners

The average age of participants partners was 48.4 years± 14.9 (range 18; 85).

Income

Participants

Most of the participants were shown to be employed (46.7%, 126/270), followed by receipt of a social grant (22.6%, 61/270); only 20.7%, 56/270 received support from their partners and 10%, 27/270 received support from family.

Partners

A predominance of partners who were employed (72.6%, 196/270) was noted, followed by receipt of a social grant (17%, 46/270), unemployed (7.8%, 21/270) and 2.6%, 7/270 were supported by family.

Education

Participants

The majority of the 270 participants were shown to have a secondary level of education (151, 56%), followed by Grade 12 (73, 27%), Primary (36, 13.3%), no formal education (6, 2.2%) and post secondary schooling (4, 1.5%).

Partners

A large proportion of the 270 participants' partners were shown to have a received secondary schooling (141, 52.2%), followed by Grade 12 (90, 33.3%), Primary (27, 10%), no formal education (7, 2.6%) and post secondary schooling (5, 1.9%).

Housing

Most of the participants (219, 81.1%) were found to live in formal housing, and only (51 18.9%) lived in informal housing.

Language

Most of the participants were Sesotho speaking (30%), but a large percentage of the participants were bilingual (51.5%) (Figure 3.18).

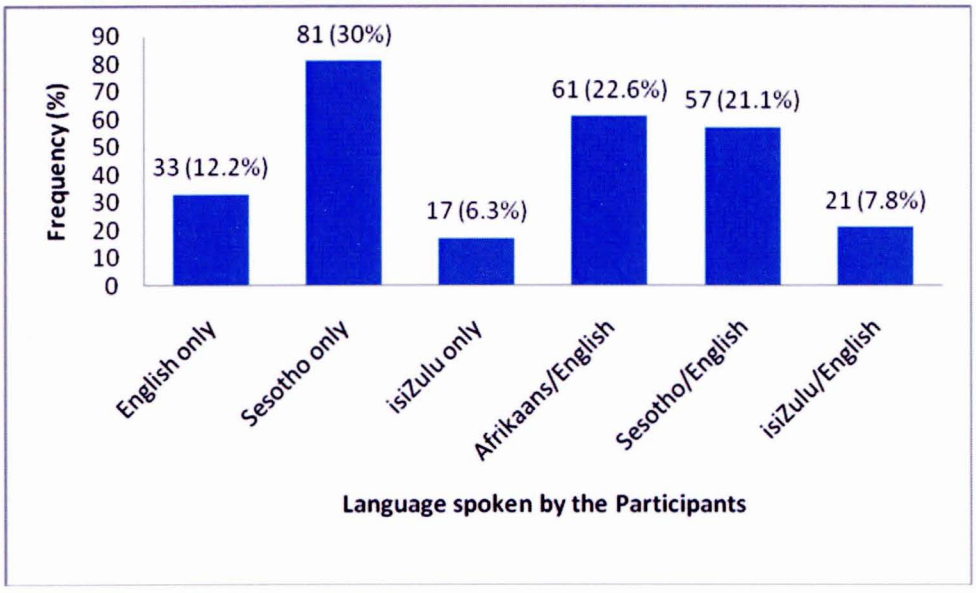


Figure 3.18: Language spoken by the Participants (n=270)

Most of the participants answered the questionnaire in English (54.4%), followed by Sesotho (35.9%) (Figure 3.19).

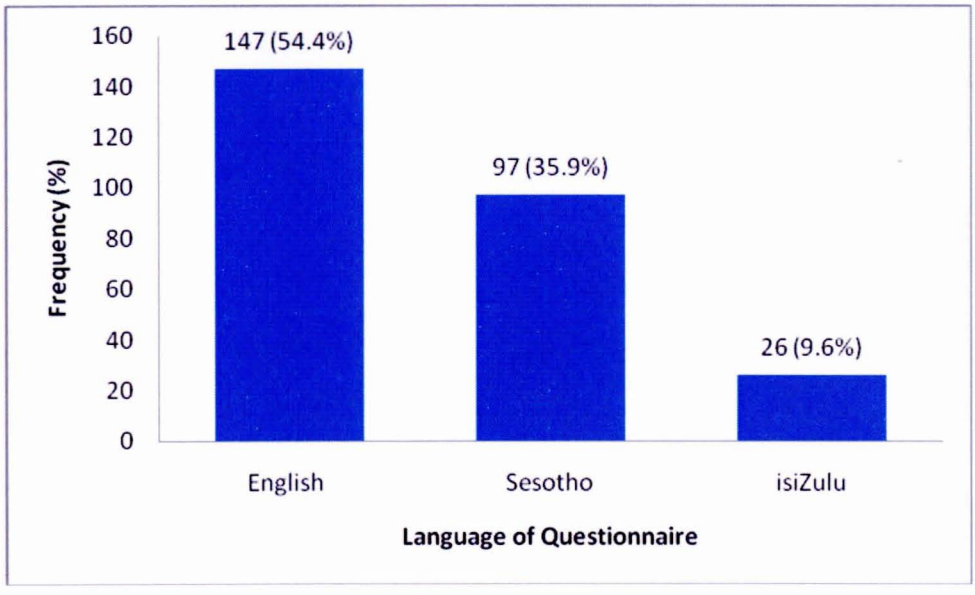


Figure 3.19: Language of questionnaire answered by the participants (n=270)

Relationship status

Of the 270 participants, 138 (51.1%) were shown to be married, followed by 70 (25.9%) who had a steady partner and 62 (23%) who lived with a partner.

d) False Positive

Based on a comparison between the participants' responses to the WAST-short and their scores on the WAST-long (see section 2.2.b), only one participant obtained a screening result on the WAST-short that was considered to be clearly a false positive. The age of the participant was 58 years; bilingual in English and Afrikaans; married for 12 years; participant and her partner had both attained a secondary level of education; the participant was receiving a social grant; and her partner was employed. The WAST-long score was 12 for this participant, which was just under the cut-off score of 13 (see section 2.2.b)

e) False Negatives

Based on a comparison between the participants' results for the WAST-short and their scores on the WAST-long (see section 2.2.b), 71 participants were shown to have a probable false negative result. These participants either did not answer 'a lot of tension' and 'great difficulty' (respectively) on the WAST-short, but their total score on WAST-long was ≥ 13.

Age

Participants

The mean age for participants in this subgroup was 41.9 years ±13.1 (range 22; 72).

Partners

The mean age of the participants' partners was 45.6 years ± 13.8.

Income

Participants

Most of the participants screening false negative were employed (54.9%, 39/71), received a social grant (28.2%, 20/71), were supported by partner (15.5%, 11/71), and only 1.4% received support from family.

Partners

Most of the participants' partners were employed (78.9%, 56/71), others were shown to be unemployed (11.3%, 8/71) or receiving a social grant (9.9%, 7/71).

Education

Participants

Most of the participants had received a secondary level of education (54.9%, 39/71) (Figure3.20).

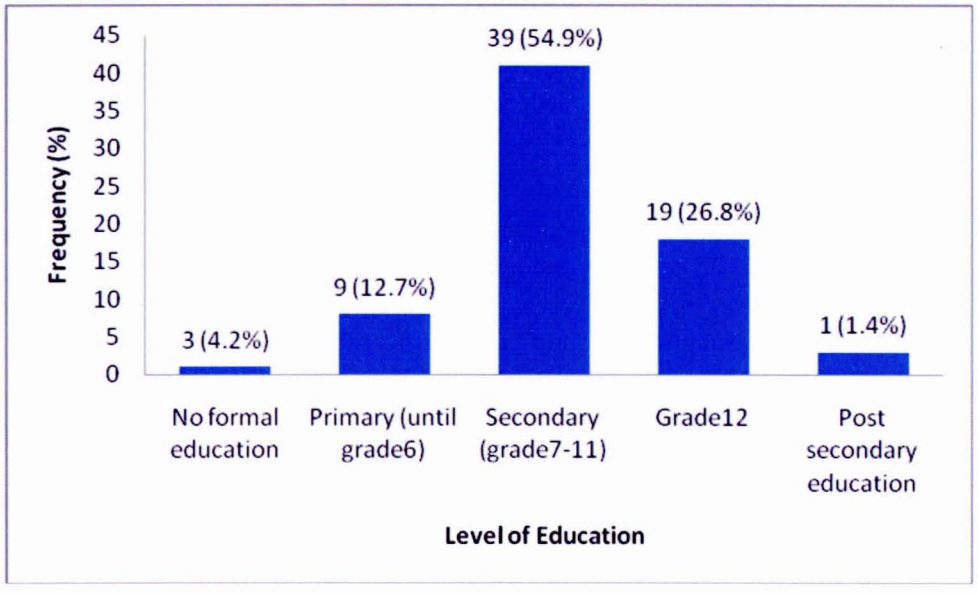


Figure 3.20: Level of education of participants (n=71)

Partners

Most of the participants' partners had received a secondary level of education (57.8%) (Figure 3.21).

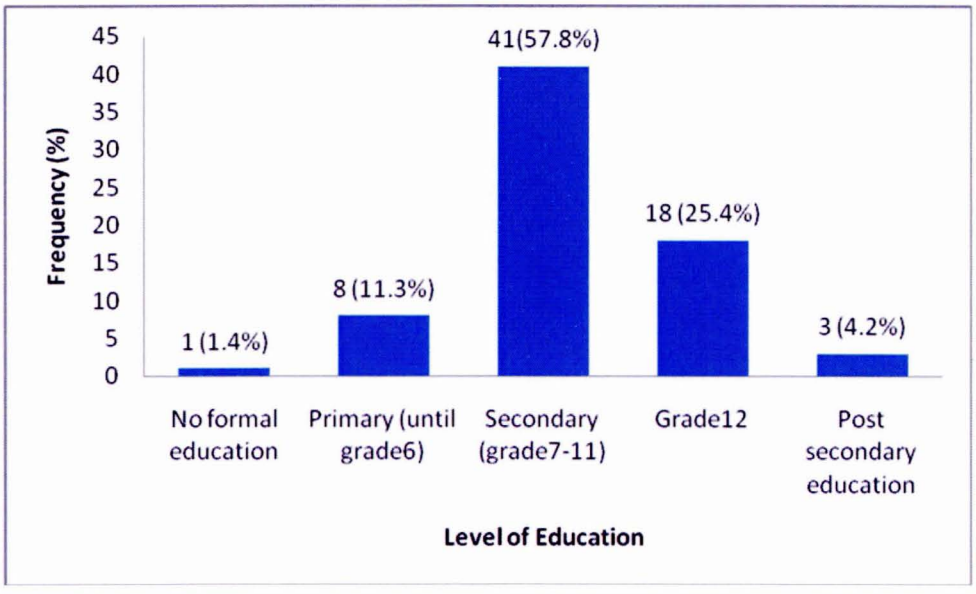


Figure 3.21: Level of education of participants' partners (n=71)

Housing

The majority of participants were shown to live in formal housing (54, 76.1%), followed by informal housing (17, 24%).

Language

The language characteristics of the participants whose screening with the WAST-short had resulted in a false negative were reviewed. Of this subgroup, 44(62%) had answered the English questionnaire, followed by 24 (33.8%) who answered the Sesotho questionnaire and 19 (26.8%) who answered the isiZulu questionnaire (Figure 3.22).

Most of the bilingual Sesotho-speaking participants (16) in this subgroup had opted to answer the English rather than Sesotho questionnaire (12/16, 75%). The four bilingual Sesotho speakers chose to answer in Sesotho and thus formed part of the 33.8% answering in Sesotho.

A significant association was shown between the language of the answered questionnaire and the participant's response to screening Question 2 (Pearson χ^2 (4) =13.6714; p=0.008; Fisher's exact=0.010). No association was noted between the response to screening Question 1 and the language of the answered questionnaire (Pearson χ^2 (4) =5.2766; p=0.260; Fisher's exact=0.266).

No significant association ($p>0.05$) was noted between language of the answered questionnaire and the response to further questions (Questions 3 to 8) of the WAST-long for participants screening false negative.

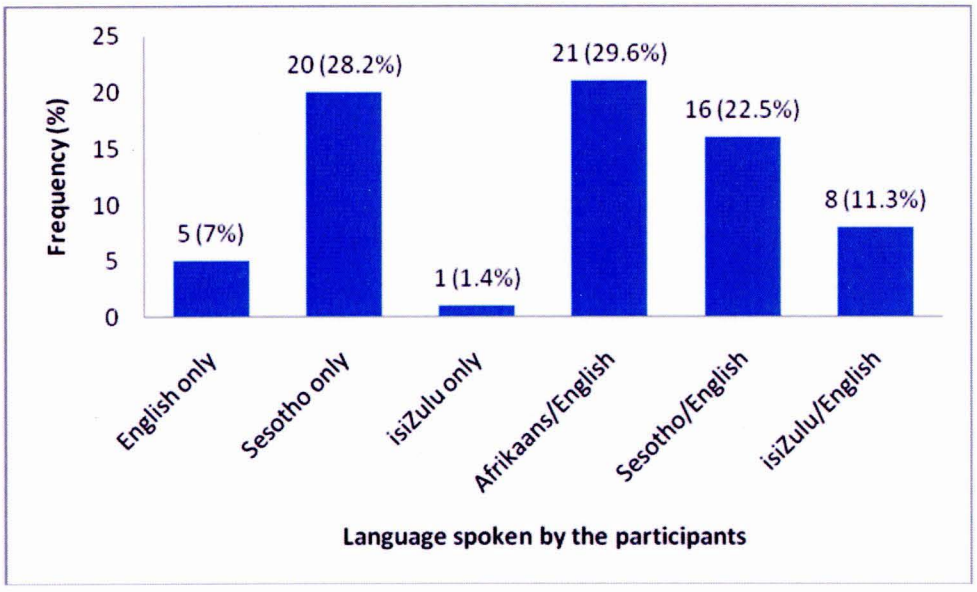


Figure 3.22: Language spoken by the participants (n=71)

Relationship Status

The majority of participants were married 31 (43.7%), followed by 21(29.6%) living with a partner and 19 (26.8%) who had a steady partner.

3.7 Correlation between WAST-short and WAST-long results

On comparing the WAST-long scores for participants, the participants who screened positive for IPV obtained a mean WAST-long score of 19.4 (±3.2), whereas participants who screened negative obtained a mean WAST-long score of 10.6 (± 2.5). The difference in these mean scores was analysed using the Student's t-test (unpaired samples, one-tailed, unequal variance) and was found to be statistically significant ($p<0.0001$).

Association analysis confirmed a statistically significant association between a participant's response to WAST-short and classification as either ≥13 or <13 on the WAST-long (Pearson χ^2 (1) =138.2; p=0.0001).

Examination of the summary statistics showed that 98.3% of the participants who had answered the screening questions with, 'a lot of tension' and 'great difficulty' respectively, had obtained a score of ≥13 on WAST-long. Analysis of the frequencies confirmed that an association existed between a positive result for IPV screening and the WAST-long score (Pearson χ^2 (16) =279, 4193; p=0.001).

a) Analysis of responses to WAST-short

More participants with WAST-long scores ≥ 13 responded positively (i.e. answered 'alot of tension') to Question 1 than those who answered 'great difficulty' to Question 2 (72/129 versus 62/129 for participants' individual answers to questions 1 and 2 respectively) (Table 3.22).

Further analysis of the responses to Question 1 and 2 (Table 3.22) showed that 31% of the participants (40/129) answered 'some tension' and 'some difficulty' to the screening questions.

Table 3.22: Cross-break table: responses to screening questions among participants with WAST-long scores ≥13 (n=129)

Question1	Question2				Total (n)
		No difficulty (n)	**Some difficulty (n)**	**Great difficulty (n)**	
	No tension (n)	3	4	0	7
	Some tension (n)	6	40	4	50
	Alot of tension (n)	2	12	58	72
Total (n)		11	56	62	129

b) Frequency table for WAST-long score ≥13 and screening results (WAST-short)

For all participants who scored ≥13 on the WAST-long (n=129), 59 women had answered the WAST-short with 'a lot of tension' and 'great difficulty' and were therefore regarded as having a positive result for IPV screening. However, one of these participants was, according to the WAST-long score, a false positive (she had scored 12 on WAST-long, which is below the cut-off for a positive result). Therefore, 58 participants were included in the subgroup of women who had positive result for IPV screening and had attained a WAST-long score of ≥13 (Table 3.23).

As shown on Table 3.23, a small percentage of participants who screened positive had obtained a total WAST-long score of 13, 14 or 15 (10.3%, 6/58). The majority (89.7%) of women in the subgroup of participants who screened positive had attained WAST-long scores ≥16. Of the 71 women who screened negative on WAST-short, 79% (56/71) had obtained a WAST-long score of ≤15.

Table 3.23: Results for participants who scored ≥13 on WAST-long (n=129)

WAST-long total score	Screen negative (WAST-short; n=71) n (%)	Screen Positive (WAST-short; n=58) n (%)	Number of participants (n=129) n (%)
13	19 (26.8%)	2 (3.4%)	**21 (16.3%)**
14	26 (36.6%)	3 (5.2%)	**29 (22.5%)**
15	11 (15.5%)	1 (1.7%)	**12 (9.3%)**
16	5 (7%)	5 (8.6%)	**10 (7.8%)**
17	5 (7%)	5 (8.6%)	**10 (7.8%)**
18	3 (4.2%)	7 (12.1%)	**10 (7.8%)**
19	0	4 (6.9%)	**4 (3.1%)**
20	1 (1.4%)	4 (6.9%)	**5 (3.9%)**
21	1 (1.4%)	7 (12.1%)	**8 (6.2%)**
22	0	10 (17.2%)	**10 (7.8%)**
23	0	4 (6.9%)	**4 (3.1%)**
24	0	6 (10.3%)	**6 (4.7%)**
Total	71 (100%)	58 (100%)	**129 (100%)**

3.8 Post Hoc Analysis

Post hoc analysis of the results was undertaken to establish whether the sensitivity of the screening tool could be enhanced using different criteria for results analysis. The results are described below.

Analysis of outcome for WAST-short using scoring system of Brown et al [54] (N=400)

The additional scoring system described by Brown et al [54] scores the responses of 'a lot of tension' and 'great difficulty' as 1, whereas other responses are scored as 0, with WAST-

short being positive for current abuse if the total score is ≥ 1. Analysis of this scoring system in the current study yielded the operating characteristics (Table 3.24).

The results revealed an increase in the number of participants with a positive response to the WAST-short (Figure 3.23). The prevalence detected by the WAST-long was noted to be 32%.

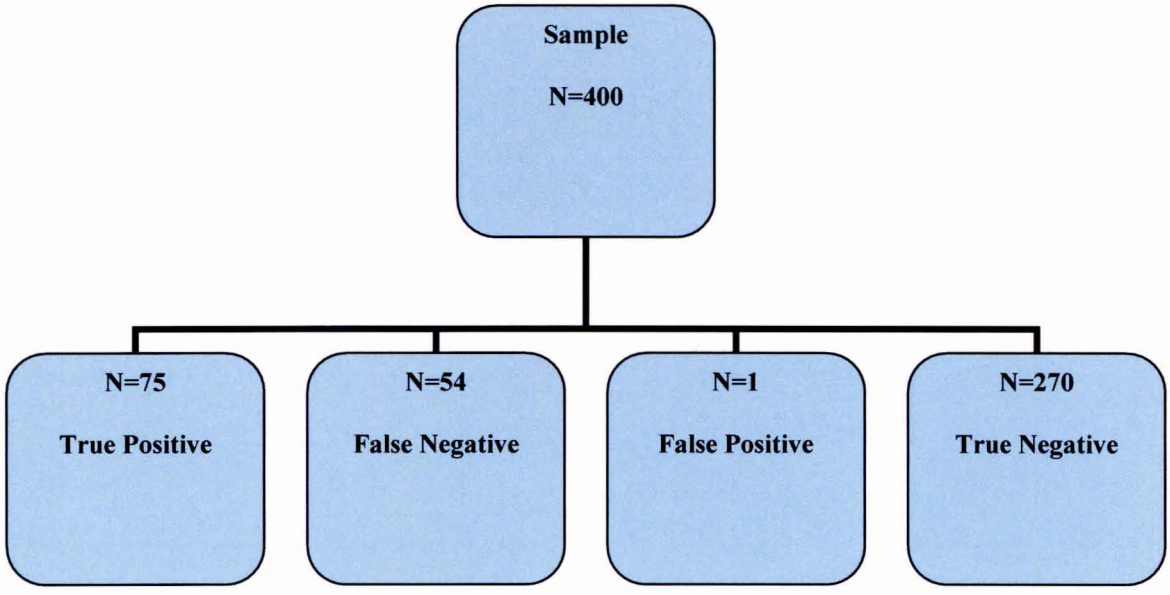


Figure 3.23: Distribution of participants using the scoring system of Brown et al [54] (N=400)

Using the scoring system by Brown et al [54] yielded an increase in the sensitivity (58.1%) (Table 3.24) of the screening tool.

Table 3.24: Operating characteristics of WAST-short using scoring system by Brown et al [54] (N=400)

Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	LR (+)	LR (-)	Prevalence (%)
58.1	99.6	98.7	83.3	158	0.42	32.3

Analysis of outcome for WAST-short using scoring system of WAST-long

Applying the WAST-long scoring system to the two-question screening tool meant that the extreme answers, 'a lot of tension' and 'great difficulty', would be scored as 3; answers with 'some' as 2; and answers with 'no' as 1; this meant the rating system yielded sums of 6, 5, 4, 3 and 2 (Table 3.25). The data analysis of the use of this scoring system in the current study showed the following results as shown in Table 3.25 and Table 3.26. On analysis, by changing the cut-off scores for the two-question screening tool, an increase in sensitivity was shown for the total scores but with an associated decrease in specificity (Table 3.26). For this scoring system, the cut-off score revealed a result for sensitivity ranging from 57.4% to 97.7% and associated specificity ranging from 98.9% to 63.5% (Table 3.26).

Table 3.25: Frequency chart for specific WAST-short and WAST-long scores (N=400)

Total score on WAST-short	Number of participants attaining WAST score <13	Number of participants attaining WAST score ≥ 13	Total number of participants attaining the WAST-short score
2	172	3	175
3	63	10	73
4	33	42	75
5	2	16	18
6	1	58	59
Total	271	129	400

Using the cut-off score of 4 for the WAST-short showed an improvement in the sensitivity of the screening tool (89.9%), with a reduced specificity (86.7%) (Table 3.26) as compared to the results in Section 3.6a.

Table 3.26: Analysis of cut-off scores for WAST-short

Cut off Score	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	LR (+)	LR (-)
5	57.4	98.9	96.1	83.1	52.6	0.43
4	89.9	86.7	76.1	94.8	6.8	0.12
3	97.7	63.5	55.7	98.3	2.7	0.04

As shown in Figure 3.24, using the cut off score of 4 yielded an increase in the number of participants with a positive result for screening, with an associated increase in the number of false positive results. A reduction in the number of participants with a false negative result to screening (Figure 3.24) was also shown as compared to the results in Section 3.6a.

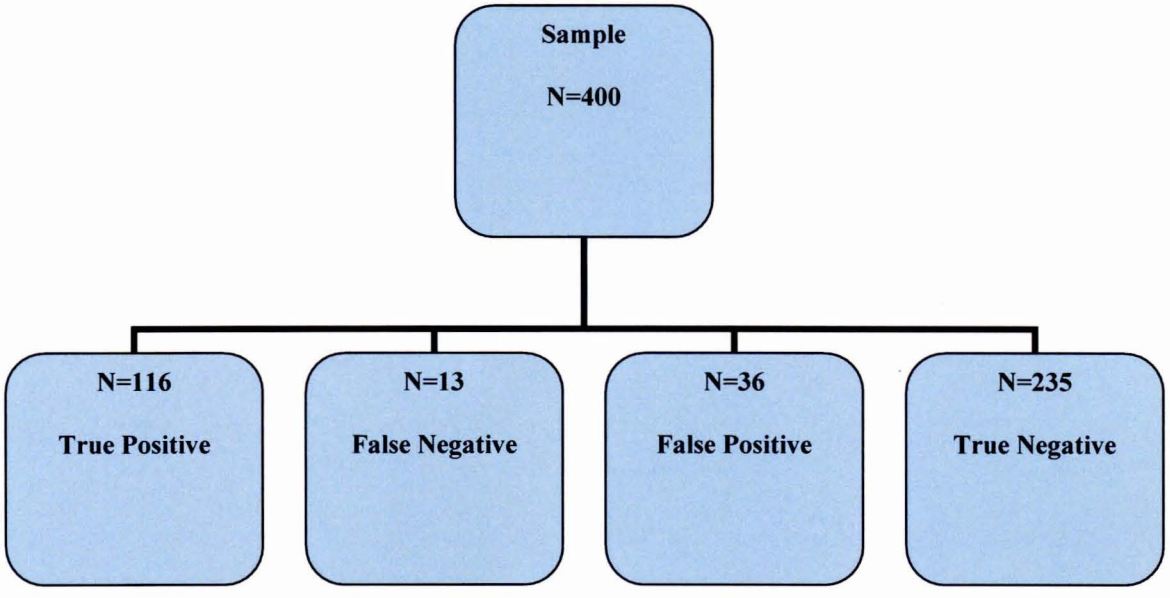
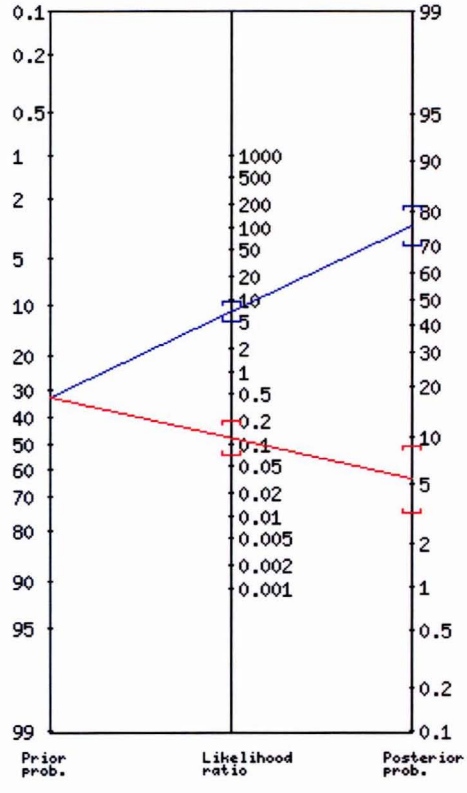


Figure 3.24: Distribution of participants on comparing WAST-short and long results using the cut-off score 4 (N=400)

Using 4 as the cut-off score plotted on Fagan Nomogram (Figure 3.25), with a positive likelihood ratio of 6.8 the post test probability was calculated to be 76%, 95% CI (70,81), the negative likelihood ratio of 0.1 resulted in a post test probability of 5%, 95% CI (3,9).



POSITIVE TEST NEGATIVE TEST

Figure 3.25: Plot of Fagan Nomogram for the sample population using total of 4 as cut-off score (N=400)

3.9. Summary of Results

- The response rate was 99.3% (400/403); only 3 women refused to participate.
- For the 400 participants, the mean age of participants was 44.6 years ±12.8, and the mean age of the partners was 48.4 years, most participants (48.3%) and the partners (75.3%) were employed, with most participants (55.3%) and the partners (53.7%) having received a secondary education.
- Most women in the sample were Sesotho-speaking (30%). Due to participants being bilingual, the English questionaire was answered by 56.5% of the sample (226 participants) and the Sesotho questionnaire was answered by 36% (144 participants). For the whole sample, there was no statistically significant associations between the participant's home language, the language in which the questionnaire was administered and answered, and the participant's total WAST score.
- Most participants for the whole sample were married (50.8%), the average length of the relationship was 14.8 years (±12.7)
- The response to the WAST-long revealed an increase in the frequency of emotional abuse which was noted among the 129 women with a positive IPV screening result.
- The percentage of IPV as detected by the WAST-short was 15% as compared to the WAST-long which was 32.3%.
- For women with a positive result for IPV screening on the WAST-short, a significant association was shown between her screening result and her *partner's* level of education.
- 47% of women who screened positive for IPV on the WAST-short were employed; 28.8% received a social grant; and 18.6% received support from their partners, majority of the women (57.6%)were married; the mean length of relationship was 15.75 years (±12).
- The two-question screening tool was found to have the following operating characteristics: sensitivity 45.2%, specificity 98%, positive predictive value 98%, negative predictive value 79%, positive likelihood ratio 113, and negative likelihood ratio 0.55.

- Among participants whose language was Sesotho, the analysis showed that bilingual participants who had answered the Sesotho questionnaire tended to obtain a positive result for IPV screening. Bilingual Sesotho participants who had answered the English questionnaire tended to obtain a false negative result on the screening.

- For the participants with a false negative screening result, a significant association was shown between the participant's response to Question 2 and the language of the answered questionnaire.

- Participants with a positive result for IPV screening had a mean WAST-long score of 19.4 (±3.2), and participants with a negative result for IPV screening had a mean WAST-long score of 10.6 (±2.5). This difference was statistically significant.

- Post hoc analysis using the alternative scoring system by Brown et al[54] showed an improvement in the sensitivity (58.1%) of the screening tool.

- The use of a WAST-long scoring system with cut-off scores, in application to the response to the screening questions resulted in the sensitivity ranging from 57.4% to 97.7% and associated specificity ranging from 98.9% to 63.5%.

- Using the cut-off score of 4 for the WAST-short showed an improvement in the sensitivity of the screening tool (89.9%), with a reduced specificity (86.7%)

Chapter Four: Discussion and Recommendations

4.1 Study Methodology

This study was conducted at an OPD in a district hospital. The rationale for this choice was that, as described in previous studies, hospitals are easily accessible. In addition, women experiencing IPV can be expected to utilise hospital healthcare services more often than non-abused women.[72] Thus, for testing the sensitivity of the WAST-short as a potential screening tool for IPV, the OPD hospital setting is considered appropriate. One may argue that this context may provide an over-estimation of the true prevalence of IPV. Taking into account the sensitive nature of the topic and that the disclosure rates of IPV are low, the accounts of violence experienced by women and disclosed during the interview cannot be speculated upon.

The design of this study involved the use of trained interviewers in face-to-face interviews for administering the questionnaire. The participant response rate was high, which showed that women patients did not make objections to being asked about IPV in face-to-face interviews. A systematic review of similar prevalence studies on IPV revealed that most studies have used face-to-face interviews rather than as compared to self-administered questionnaires (55.4% versus 29.7 %).[73] The face-to-face interviews also ensured that all questions in the questionnaire were answered, by contrast, self-administered questionnaires used in a previous study was often not completed fully, which influenced the data analysis.[57] Another study that compared the acceptability of different screening methods found that the IPV prevalence was identified at a lower level by the written WAST compared to other combinations.[39] Thus, the method selected for administering the WAST in this study was considered suitable for obtaining a maximal response rate.

To further improve the response rate, the questionnaire was administered prior to the medical consultation, thus potential participants did not leave without having answered the questionnaire, as described in a previous study.[23] Disclosure rates may also have been influenced by the choice of research assistants, who were all women. Women patients have been known to disclose more information about IPV to female nurses when asked, rather than to male nurses.[62]

A further factor influencing the disclosure rate could possibly be interviewer skill. In this study, WHO guidelines on training research assistants in conducting research on IPV were followed to ensure that interviewers' skills were adequate. The interviews were conducted to ensure the ethical collection of data; patients were interviewed in a private room, and the participant information sheet provided details of the study and highlighted confidentiality and referral details of the social worker. These factors may have influenced the disclosure of IPV.

The use of translated versions of the questionnaire allowed for cross-cultural application, as described in previous studies. Furthermore, adding an explanation of the terms used in the WAST questions may have contributed to a lower rate of false positive screening results. There was no significant association between the language of the answered questionnaire and the score obtained on the WAST, which suggests that language was not a confounding variable. In other words, the WAST questions were probably well understood by participants in all language groups.

4.2 Socio-demographic characteristics of participants

All women 18 years and older who were in current relationships were eligible for this study. By including a diverse age group, this study encompassed a broad spectrum of IPV and did not limit itself to the reproductive age group, as many previous studies have done. This also allowed for the evaluation of ongoing abuse, thus the results of this evaluation possibly reflecting on the acceptability of abuse by participants.

Roughly half of the participants in this study were married (50.8%). The literature provides some evidence that married women are at greater risk for IPV abuse.[72] This notion was substantiated by the findings of this study, in that 58% of participants with a positive screening result were married. This study also found that the average length of the relationship among women who screened positive was 15.74 years ±12. This finding is comparable to that of a study in Mexico, which showed that women who had co-habituated for 11 years or more were at increased odds for experiencing IPV.[74] The literature in SA shows that women who had experienced domestic violence and made applications to the court for protection orders, had experienced IPV for an average of between 10 and 20 years, and had experienced abuse for at least half the time that they knew their partner, before seeking assistance.[75] This finding suggests that IPV in a long-term relationship might instil a

higher level of tolerance to the abuse precisely because of the longer duration of the relationship.

Cultural norms and an acceptance of traditional gender roles in patriarchal societies could be another influencing factor.[76] In South Africa, literature indicates that society has a high level of tolerance to the use of violence by men against women, and this is seen as a way to maintain male hierarchical control.[76] In fact, gender oppression has been described by historians of the nineteenth century, where the control of women by men was central to the functioning and order of traditional African homesteads.[76]In the current study, a statistically significant association was shown between the partner's level of education and a woman's screening positive for IPV. Evaluation of the level of education showed that the majority of participants and their partners had achieved secondary education. Thus, one can speculate upon whether having a partner with a secondary level of education could be a potential predictor for IPV in this setting or is the association merely due to the over representation of this category of education. These hypotheses require further analysis in similar settings.

The finding about partners' level of education seemed unrelated to the participants' education level. No association was found between screening positive and the participants' level of education. The literature on the influence of education on women's experience of abuse is varied; [16] thus, it is difficult to comment on the significance of the findings of the current study in this regard, and further analysis is required.

No further socio-demographic factors (other than level of partner education) showed a predictive value in terms of an association with IPV. Nonetheless, this study showed that among women who screened positive for IPV, the majority were employed or were receiving a social grant. Further investigation is required as to whether this factor of increased financial income may be regarded as a challenge to the power dynamic in a relationship, and thus potentially result in IPV. Alternatively, does IPV extend beyond mere control, in that attachment and intimacy might somehow create unresolved anger and abuse?[77] This power dynamic might be substantiated and possibly reinforced by gender empowerment and structural factors having variable impact on IPV prevalence.[77] Thus intimacy and attachment may offer a possible explanation as to why IPV is so prevalent in many, if not all societies, irrespective of cultural beliefs and practices.

Although universal screening for IPV is widely advocated as an urgent need in South Africa, literature provides evidence that such screening is currently not being done.[41] The findings of the correlation between certain socio-demographics characteristics and a positive result for IPV screening does add to the profile of women possibly at risk for IPV in this setting. This outcome has bearing on the practicalities of implementing screening for IPV in a busy OPD.

4.3 Prevalence of IPV

This study used the two-question screening tool to identify participants who were experiencing IPV, and then compared the findings to the prevalence as detected by the WAST-long questionnaire. The two-question screening tool (WAST-short) detected the level of IPV within the past year as being 15%. In comparison, a study conducted in Spain showed a prevalence of 33.8% using the WAST-short (the WAST questionnaire used in that study had been translated into Spanish).[56] As stated earlier in the literature review, the 'comfort level' of the WAST had been determined among the Spanish population; thus, the WAST was proven to be an acceptable screening tool. This would be an influential factor in detection rates.

Compared with the prevalence rates found in the current study, detection rates using WAST-short in other settings have been lower. The findings from a Malaysian study using the WAST-short revealed a prevalence of 5.6%.[53] The Malaysian study sample was larger than that of the current study; 710 patients completed the interview, and the study sampled participants from 15 PHC facilities which included antenatal clinics.[53] However, the low prevalence rates may possibly be attributed to non-disclosure. A high prevalence of IPV during the antenatal period has been documented in previous studies; thus, one would expect that the inclusion of antenatal clinic patients in a sample would result in an increased prevalence of IPV. A recent study on the attitudes of medical staff in Malaysia described such attitudes as being 'judgemental' towards victims of IPV; this attitude might have deterred the disclosure of IPV.[78]

The disclosure (prevalence) rate for IPV using the WAST-short of the current study (15%) was fairly similar to the result of the study conducted at four urban family practices in the United States of America (12.5%).[61] The urban settings of both studies, and their similar inclusion criteria, may account for the similarity in the findings. In the current study, the level of IPV as detected by the WAST-long was considerably higher than that detected by the

WAST-short. The WAST-long identified 32.3% of women as having experienced IPV. A high prevalence of IPV as determined by the WAST (22.1%) was notable in a Canadian study as well.[60] In that study, the setting may have been contributory, as 26 healthcare sites were included.[60] Thus a varied demographic group of women were approached to participate in the study, which might have influenced disclosure rates of IPV.

Similar prevalence rates of IPV to those of the current study were reported by studies conducted in antenatal clinics. The prevalence detected in a Kwa-Zulu Natal antenatal clinic study found that 31.2% of participants had experienced IPV during the past year.[26] A study conducted in an antenatal clinic in Soweto similarly showed that 30.1% of women reported having experienced IPV in the past year.[27] As stated in the literature review high levels of IPV occur during the antenatal period, USTF recommendations for screening also reflect this concern. The finding of a similar level of IPV in the setting of the current study, which did not include antenatal patients, certainly supports the notion that high exposure to IPV extends beyond pregnancy as well.

Further information on the participants' experiences of abuse in this setting can be analysed by reviewing their responses to specific questions of the WAST (e.g. other items beyond the two that are included in the WAST-short). In this manner, information on the prevalence of specific types of IPV can be ascertained. Compared with other screening tools, the WAST represents IPV concepts more fully, as it encompasses questions relating to physical, emotional and sexual abuse.[51] In the current study for the sample of 400 women, 14.8% of participants reported having experienced emotional abuse, 7% physical abuse, and 5.3% sexual abuse. These results are somewhat comparable with those of a study done in a PHC setting in the Vhembe District and antenatal clinics.[26, 27,28] Emotional abuse was shown to be a prevalent form of abuse in these studies as well.

The low levels of disclosed sexual abuse may indicate that women might not be comfortable discussing this type of violence. In line with this perception, a study in Slovenia which sampled participants from PHC settings reflected a 0% response to questions about sexual violence.[19] The study also found that psychological violence was far more prevalent than physical violence.[19] The WHO multi-country study found that controlling behaviour, which is categorised as a form of emotional abuse, was a prevalent form of IPV.[16] The association between controlling behaviour and women's experience of physical and sexual violence[16] has

important implications for the current study. Women who have experienced emotional abuse but have not yet been exposed to physical or sexual abuse do have increased odds for eventually also experiencing the latter two types of abuse. Thus, the prevalence of emotional abuse should be regarded as highlighting a period for further intervention measures and referral, as it tends to occur before other forms of abuse.

When reviewing the response to the WAST-long questions on emotional abuse, it can be noted that women who experience emotional abuse may identify with either of the following items:

Question 3: *Do arguments ever result in you feeling down, or bad about yourself?*

Question 5: *Do you ever feel frightened by what your partner says or does?*

The prevalence of emotional abuse was a notable finding in this study. On analysing the item results from the WAST-long corresponding to emotional abuse, the questions are directed at identifying varying levels of abuse. Question 3 is directed at possibly identifying milder forms of emotional abuse, while Question 5 aims at identifying more serious forms, whereby the woman experiences fear of the partner. The significant association between Question 3 and Question 5 implies that most women with a positive screen for IPV responded similarly to these questions. However, the lack of an association between the responses to Question 3 and Question 7: *Has your partner ever abused you emotionally?* suggests that some women experiencing milder forms of emotional abuse may not necessarily identify the abuse as such. Further, the significant association shown between the responses to Question 5 and Question 7 does imply that women experiencing more severe forms of IPV i.e. fear of partner or threats to safety, may possibly find it easier to identify the experience as being emotional abuse. The complexities of emotional abuse and the role played by cultural influence require further exploration in this setting. The results also signify that a single question threshold for identifying IPV may not be effective in this setting.

The disclosure rate for the screening tool also suggest that more detailed questions are required to elicit an increase in the detection rates of IPV through screening. When using only a participant's response to the two-question screening tool as a determinant of IPV in this sample, some participants may not have had sufficient opportunity to disclose IPV. The increase in prevalence of IPV as shown by the WAST-long confirmed this perception. The

ability of the WAST to identify abused women who had relatively low average scores was similarly reported by 'Fogarty & Brown'.[47] The results also indicate that to increase the detection rate of IPV, the full WAST questionnaire should be considered for use where possible in the current setting.

4.4 Two-question screening tool (WAST-short) operating characteristics

The WAST-long was used as the correlation measure in this study. According to literature, a 'gold standard' (appropriate screening comparison) has not been determined for testing the sensitivity and specificity of IPV screening tools in general due to the complexity of IPV.[51, 79] Although the Abuse Risk Inventory (ARI) and the Conflict Tactic Scale (CTS) have been used in previous studies, [51] the length of these self-administered questionnaires made them impractical in the current setting. Further non sampling errors caused by the absence of answers in the self administered questionnaires and possible fatigue bias due to the participants being exposed to multiple questions would have perhaps compromised the validity of the results.[39] Since evidence of a close correlation between the results for the WAST-long and the ARI has been documented this justified the decision to use the WAST-long as a correlation measure for the WAST-short in the current study.

As already reported, in the current study the WAST-short detected that 15% of the participants had experienced IPV during the past 12 months. The screening tool was able to classify 45.2% of the abused women and 99.6% of the non-abused women. The high PPV of 98% indicates that those who screen positive for IPV using the WAST-short will have a WAST score $\geq$ 13, this value correlates with the high specificity and positive likelihood ratio of the screening tool. The NPV however indicates that there is a 21% probability that those screening negative will have a positive WAST score, the negative likelihood ratio and post test probability concur with this finding. Thus due to the low sensitivity and low NPV, the two-question screening tool would be unable to conclusively rule out IPV.

However, for those screening positive the mean score was 19.4 $\pm$ 3.2, and for those screening negative the mean score was 10.6 $\pm$ 2.5. The mean WAST-long score was statistically different for each group. In other words, women who had a positive screening result for IPV on the WAST-short obtained significantly higher WAST-long scores than women who had

screened negative. This result provides evidence on the possible discriminatory properties of the WAST-long scoring method.

The scoring criterion selected was shown in previous studies to produce high levels of sensitivity for the WAST-short.[47, 56] Post hoc analyses revealed that the sensitivity of the screening tool could be enhanced by re-evaluating the results using a different scoring method and cut-off scores. The use of the alternate scoring criterion, as described by Brown et al, [54] minimally improved the sensitivity of the WAST-short. The use of this scoring criterion was expected to comprise a greater number of women identified as experiencing IPV, but this scoring method failed to capture the sample of women who disclosed the lower levels of IPV.

The application of the full WAST-long scoring system to the WAST-short attempted to address this issue. By using the cut-off score of 4 for the WAST-short, yielded an increase in the sensitivity. This was due to the inclusion of 31% of participants with a false negative screening result. Lowering the threshold for a positive screening result improved the sensitivity of the WAST-short. The analysis however revealed that with this cut off score, due to the reduced specificity, there will be an increase in the number of false positive results. Consequently, some women with a positive screening result may not be experiencing IPV. There is limited literature on the potential harm caused by screening, only one study has shown screening for IPV not to be harmful.[39] Further, the negative outcomes to screening has not been shown to be high, but it is noted that further research is needed in this field.[80]

It is difficult to make direct comparisons between the current study's findings and previous studies that have used the WAST-short. Although the settings of studies may have been PHC-based, and translated versions of the questionnaire were utilised, with similar inclusion criteria, the current study used a different method to evaluate the screening tool. Study designs have differed. The influential factors for the use of a descriptive, cross sectional method in this study was based on the timelines for completion of the data collection on an adequate sample and the probable difficulty in establishing a control group for suitable comparison in this setting. The latter has been described as a limitation in a previously cited study.[47]

The previous studies reviewed WAST-short through an analytical approach, comparing the findings of the WAST-short among abused women versus non-abused women, with the

sensitivity and specificity of the WAST-short being entirely based on the discriminatory qualities of the tool.[15, 47, 54, 55] The study by Fogarty et al[47] discussed the potential of lower sensitivity of the screening tool if applied to a primary care setting. This hypothesis was based on their finding that abused women in the community health centre scored lower than women in the abused shelter group, and this stemmed from the women's self perceptions of abuse.[47] No previous studies using the WAST have demonstrated a cultural impact on the sensitivity of the screening tool.

For the difference in sensitivity as found in the current study compared with the findings from other studies one has to take into account that the WAST questionnaire was developed for an English speaking population,[15] thus possibly reflecting the culture of violence as defined in a western society. Although the translation of the WAST into other languages has proven to be successful,[47,55,56] the nuanced description of IPV as conveyed in the WAST-short might not be sensitive to detect all cases of IPV in this PHC setting.

The screening questions offer an enquiry into the general state of a person's relationship. In this study, the WAST-short was only able to elicit a clear positive result from participants who were experiencing higher levels or more severe forms of IPV. The analysis of the full WAST scores of participants confirmed this finding. As a result, IPV detected by the WAST-long included milder forms of abuse, whereas the WAST-short tapped only the more severe forms of abuse. By examining the response patterns for participants post-screening and evaluating the number of women scoring more than 13 on the WAST-long in the screen-positive subgroup this possibility was assessed. Among the WAST positive group, 79% of the participants had screened negative on the WAST-short, which is a serious discrepancy. The use of the initial scoring criterion as an attempt to reduce the intensification of the measurement of abuse overlooked this proportion of women. Thus, the evaluation in the post hoc analysis of a different scoring system for the two-question screening tool, as well as the use of different cut-off scores, yielded an increase in the sensitivity of the tool as the new scoring included those women who were overlooked. The initial misclassification of some participants thus impacted the sensitivity of the WAST-short.

It is conceivable that some participants might not consider IPV which occurs only intermittently or involves only milder forms of violence to constitute abuse; such women might choose to answer negatively to the screening questions. This possibility raises the

question of how pertinent the screening items are. The finding of a significant association between the response to Question 2 of the WAST-short and the language of the questionnaire, answered by participants who attained a false negative screening result, substantiated this line of enquiry. This association deviates from the expected result, thus indicating that the response from these participants was possibly not a true reflection of their real-life situations. It can be postulated that Question 2 might not have been well understood by participants who attained a false negative result. Providing an explanation of the question in a manner that is better understood by the participant could potentially reduce the false negative results.

Although the pilot study did not reveal any issues with the questionnaire, the final results of this study showed that the language of Question 2 played an influential role in the participants' choice of answer. The majority of participants who screened false negative were Sesotho speakers. This may imply that, participants – in particular those choosing to answer in their second language may have interpreted the WAST-short and the translated versions of the tool, in particular question 2 differently. Thus the translation of the questionnaire into informal spoken languages of the region could potentially yield more accurate results.

Further it can also be hypothesised that some participants in this study might have interpreted the indirect questions of the WAST-short in a compartmentalised manner, rather than in relation to their experience of abuse. This may imply that women find it difficult to express or expose their experiences of abuse with only the two screening questions. If so, one might consider the notion of inability by the participants to self-reflect, which could in turn be a manifestation of possible cultural or societal influences. Discussion of problems within an intimate relationship might be a subject that some women who are experiencing such tension do not wish to approach which possibly implies influence at the individual level. There is an acquired inability of these women to express their emotions due to fear of provoking retaliation by the abusive partner.

Although the WAST is a validated tool to detect IPV and has correlated well with the ARI, the influence of the participants' interpretation of the screening questions in this setting has not been previously accounted for. The current study showed that interpretation issues did influence the screening tool's sensitivity. Thus, in order to increase the sensitivity of the WAST-short, the use of a modified scoring system to include 'some tension' and 'some

difficulty' as a positive result for screening may be needed in this setting. This may potentially result in an increase in the number of false positives; however, taking into account that the WAST questionnaire takes only (on average) 4.4 minutes to administer, [61] the gains may be worthwhile. In the view of the researcher, using either Question 3 or 5 of the WAST as a screening item and changing the wording of the existing screening questions should also be considered, this proposition however requires further evaluation and validation.

4.5 Strengths and Limitations

This study has various limitations. Firstly, no comparisons of the outcome measures to the WAST-short could be made in this setting as no previous data on the prevalence of IPV at DYDH has been recorded.

A strength of the study was that the sample size of 400 participants was adequate for data analysis and internal validity. The researcher coded all the data that were recorded on data collection sheets. A qualified statistician reviewed the coded data and checked the analysis. The reliability of the findings was further ensured by calculating the operating characteristics and providing evidence of the data analysis.

This study applied the concept of universal screening among sampling participants. However, if the case-finding approach had been implemented then the results may have been different. A cohort study would have yielded more information on the reliability of the screening tool.

The risk of recall bias (participants' subjectivity in remembering past exposure) should be kept in mind when doing retrospective reviews of IPV experience. One has to consider that self-reporting by participants, with no further assessment measure, was used to classify the participants. Although the events were limited to the past year in an attempt to curb recall bias, it may still have been an issue for some women. The degree of influence of the participant's previous experience of IPV beyond the 12-month period could not be objectively ascertained.

The WAST-short being part of the WAST-long posed the possible error of summation on analysis and on determining the operating characteristics. The use of two different scoring or rating systems for purposes of comparison minimised these shortcomings.

This study was based on the response of a sample of women attending a district OPD, thus the results cannot be generalised to other women in other areas. The degree of acceptability may differ if the screening is applied in a general population or other healthcare facility.

Assessment time taken to administer the screening questionnaire was not precisely quantified in this study, The current study did indicate that the WAST-short is a quick tool to administer, which could favour the use of this tool in future studies.

The finding that the level of a partner's education was associated with a positive result for IPV screening among participants warrants further investigation. Unfortunately, this issue could not be extensively explored in the current study.

Follow-up of participants who received the intervention for IPV i.e. screening and referral to the social worker for assistance, would have provided additional information on the outcomes of interest to this study. Such information could be important when evaluating the additional benefits of screening.

No documentation of previous interventions or enquiry into IPV was undertaken in this study. If a previous IPV intervention was perceived by a participant as having or not having been useful, this history might have influenced a woman's decision about whether or not to disclose IPV in the current study.

Despite the limitations, this study has provided information on the sensitivity of a screening tool that can be used in IPV protocols. It has contributed to the knowledge on the application of the WAST in a primary care setting in South Africa as well as demonstrating the possible impact of cultural influence on the sensitivity of the screening tool.

Chapter Five : Conclusion

This study was able to establish that most women attending the OPD at Dr Yusuf Dadoo Hospital felt comfortable discussing intimate partner violence. Therefore, the disclosure of IPV was a positive outcome of screening. The provision of privacy and the creation of an environment of understanding was achieved through the proper training of interviewers, and can be regarded as an essential component of such screening.

IPV is a health problem at this facility due to the high prevalence; this finding contributes to the awareness of IPV as a growing public health burden.[81] The high prevalence rate noted in this study can be partially explained by the 'Sanctions and Sanctuary' framework,[82] which hypothesises that in societies in which women's status is in transition, IPV reaches peak levels. Societal norms of dominant patriarchal values and traditional gender roles in South Africa are being challenged by the passing of legislation to empower women. Thus, violence may be used reactively by men to enforce male authority.

On evaluation of the accuracy of the screening tool, the WAST-short lacks sufficient sensitivity, and therefore is not an ideal screening tool for this primary care ambulatory setting. The low sensitivity of the WAST-short in this study requires re-testing with further validation and reliability in the OPD setting. It was encouraging that participants were willing to discuss IPV issues, and thus in my opinion this receptive attitude on their part suggests that the longer 25-item ARI might also be accepted in this setting. The low sensitivity can be attributed to the participants' understanding of the screening questions, which utilize Eurocentric and nuanced definitions of IPV. In my view, misclassification of participants in the current study suggests cultural influences might affect self-evaluation. Further, the influence of language, in particular the use of a second language by participants in answering the questionnaire and the issue of how participants comprehended or interpreted the screening questions requires further research.

Improvement in the sensitivity of the WAST-short in this setting may be achieved by lowering the threshold for a positive result for IPV screening, and modification of the screening questions to better reflect IPV as understood by the local population.

For any screening programme to be successful, the necessary supportive structures should be in place. This means that the bio-psycho-social elements need to be addressed, both for patients and among the staff. By ensuring the involvement of the hospital social worker, the study made provision for this aspect. Although the screening tool is regarded as a gateway into enquiry about IPV, it should be used in conjunction with the medical staff's professional clinical judgement.[47] This study has shown that the use of the two-question screening tool, together with the positive cut-off score established for the WAST-long, can assist with clinical decision-making about women at risk for IPV.

Although the results of this study cannot be generalised to other contexts or populations, it is valuable to compare the findings with those of other studies. Screening has the potential to provide an intervention that is needed to address the health burden of IPV. The inclusion of screening for IPV into the working protocols for healthcare workers at Dr Yusuf Dadoo Hospital can assist these staff members in defining their role in the intervention process. In essence, screening gives healthcare workers an opportunity to identify possible IPV during the asymptomatic period.

The impetus and aim of screening is to identify and break the cycle of abuse, as explained by Social Learning theory. In this theory, the influence of environmental events explains why women tend to justify or accept IPV; it also explains the effects of intergenerational behaviour and beliefs, which ultimately create this attitude of acceptance.[83] The intervention of screening challenges these deeply entrenched, destructive attitudes.

On a more consequential note, the findings from this study on the prevalence of IPV in this setting can be used to deepen an awareness of the issue. This can be achieved through the amalgamation of services offered by the healthcare workers and that offered by the healthcare facility. Although challenges have been noted at the various levels of integration, these can be addressed. By implementing a broad, multi-sectoral approach, [44] can the use of screening and the resulting detection rate be improved. This needs to be the sustained response within the healthcare sector to the social and medical problems associated with IPV.

Annexures

Annexure 1-English WAST and Terminology

Women Abuse Screening Tool Mark a box with X

1. In general, how would you describe your relationship?

☐ A lot of tension ☐ Some tension ☐ No tension

2. Do you and your partner work out arguments with:

☐ Great difficulty ☐ Some difficulty ☐ No difficulty

3. Do arguments ever result in you feeling down, or bad about yourself?

☐ Often ☐ Sometimes ☐ Never

4. Do arguments ever result in hitting, kicking, or pushing?

☐ Often ☐ Sometimes ☐ Never

5. Do you ever feel frightened by what your partner says or does?

☐ Often ☐ Sometimes ☐ Never

6. Has your partner ever abused you physically?

☐ Often ☐ Sometimes ☐ Never

7. Has your partner ever abused you emotionally?

☐ Often ☐ Sometimes ☐ Never

8. Has your partner ever abused you sexually?

☐ Often ☐ Sometimes ☐ Never

Terminology[68]

Physical Abuse:

- slapped her, or thrown something at her that could hurt her;
- pushed or shoved her;
- hit her with a fist or something else that could hurt;
- kicked, dragged or beaten her up;
- choked or burnt her on purpose;
- threatened her with, or actually used a gun, knife or other weapon against her.

Emotional Abuse:

- been insulted or made to feel bad about oneself;
- been humiliated or belittled in front of others;
- been intimidated or scared on purpose (for example: by a partner yelling and smashing things);
- been threatened with harm (directly or indirectly in the form of a threat to hurt someone the respondent cared about).

Sexual Abuse:

- been physically forced to have sexual intercourse against her will;
- having sexual intercourse because she was afraid of what her partner might do;
- been forced to do something sexual she found degrading or humiliating.

Annexure 2 -isiZulu Translation and Terminology

Ithuluzi Lokuhlunga Okumayelana Nokuhlukumezeka Kwabesifazane

1. Ngokujwayelekile, ungabuchaza kanjani ubudlelwane bakho?

☐ Bunokungajabulelani okukhulu ☐ Bunokungajabulelani okuthile ☐ abunakho ukungajabulelani

2. Wena nophathina wakho nikuxazulula kanjani ukuqophisana ngamazwi?

☐ Ngobunzima obukhulu ☐ Ngobunzinyana ☐ Ngaphandle kobunzima

3. Ngabe ukuqophisana ngamazwi kuyenza yini ukuthi ugcine uzwe umoya uphansi noma uzwe ungazenameli?

☐ Kujwayelekile ☐ Ngesinye isikhathi ☐ Akwenzeki

4. Ngabe ukuqophisana ngamazwi kuyenza yini ukuthi kugcine ekushayeni, ekukhahleleni noma ekuchilizeni?

☐ Kujwayelekile ☐ Ngesinye isikhathi ☐ Akwenzeki

5. Uke uzwe wesaba ngenxa yokushiwo noma okwenziwa nguphathina wakho?

☐ Kujwayelekile ☐ Ngesinye isikhathi ☐ Akwenzeki

6. Sewake wakushaya yini uphathina wakho?

☐ Ujwayele ☐ Ngesinye isikhathi ☐ Akukaze kwenzeke

7. Sewake wakuhlukumeza yini emoyeni uphathina wakho?

☐ Ujwayele ☐ Ngesinye isikhathi ☐ Akukaze kwenzeke

8. Sewake wakuhlukumeza yini ngokocansi uphathina wakho?

☐ Ujwayele ☐ Ngesinye isikhathi ☐ Akukaze kwenzeke

Amagama asetshenziswayo

Ukuhlukumeza ngokomzimba:

- ukumshaya ngempama, noma ukumjikijela ngento engase imlimaze;
- ukumdudula noma ukumchiliza;
- ukumshaya ngenqindi noma ngento engamlimaza;
- ukumkhahlela, ukumhudula noma ukumshaya;
- ukumklinya noma ukumshisa ngamabomu;
- ukumsabisa noma ukusebenzisa isibhamu, ummese noma yisiphi isikhali kuye.

Ukuhlukumeza ngokomoya:

- ukuthukwa noma ukutshelwa izinto ezenza ukuthi ungazizwa kahle ngawe;
- ukuphoxwa noma ukubukelwa phansi phambi kwabanye abantu;
- ukusatshiswa noma ukwethuswa ngamabomu (isibonelo uma umlingani wakho eklabalasa noma ephihliza izinto);
- ukusatshiswa ngokuthi uzolinyazwa (wena ngqo noma omunye ngendlela yokusabisa ngokulimaza umuntu omkhathalelayo).

Ukuhlukumeza ngokocansi:

- ngokumphoqelela ukuthi aye naye ocansini ngaphandle kwemvume yakhe;
- ukuya ocansini ngoba esaba lokho okungase kwenziwe umlingani wakhe;
- ukuphoqeleka ukwenza isenzo socansi esimehlisa isithunzi noma esimenza azizwe ephoxeka.

Annexure 3-Sesotho translation and Terminology

Sesebedisa se senolang tlhekefetso ya basadi

1. 1. Ka kakaretso, o ka hlalosa kamano ya hao jwang?

□ Tsitsipano e kgolo □ Tsitsipanonyana e itseng □ Ha ho tsitsipano

2. Na wena le molekane wa hao le rarolla dingangisano tsa lona ka . . . ? Bothata bo boholo, bothatanyana, ka ntle ho bothata

□ Bothata bo boholo □ Bothata bo itseng □ Ha ho na bothata

3. Na dingangisano hangata di etsa hore o ikutlwe o nyahame kapa o itshwabela?

□ Hangata □ Ka nako e nngwe □ Eseng le ka mohla

4. Na dingangisano hangata di qetella ka ho otla, ho raha kapa ho sutumetsa?

□ Hangata □ Ka nako e nngwe □ Eseng le ka mohla

5. Na o ye o tshoswe ke seo molekane wa hao a se buang kapa a se etsang?

□ Hangata □ Ka nako e nngwe □ Eseng le ka mohla

6. Na molekane wa hao o kile a o hlekefetsa mmeleng?

□ Hangata □ Ka nako e nngwe □ Eseng le ka mohla

7. Na molekane wa hao o kile a o hlekefetsa maikutlong?

□ Hangata □ Ka nako e nngwe □ Eseng le ka mohla

8. Na molekane wa hao o kile a o hlekefetsa ka thobalano?

□ Hangata □ Ka nako e nngwe □ Eseng le ka mohla

Mareo

Tlhekefetso Mmeleng:

- Ho mo jabela, kapa ho mo otla ka ntho e ka mo utlwisang bohloko;
- Ho mo sututsa kapa ho mo kgothometsa;
- Ho mo otla ka setebele kapa ntho e nngwe e ka mo utlwisang bohloko;
- Ho mo raha, ho mo hula kapa ho mo shapa;
- Ho mo kgama kapa ho mo tjhesa ka boomo;
- Ho tshosa ka, kapa ho sebedisa sethunya e hlile e le ka nnete, thipa kapa sebetsa se seng ho yena.

Tlhekefetso Maikutlong:

- Ho rohakwa kapa ho etsa o ikutlwe hampe ka bowena;
- Ho nyediswa kapa ho nyenyefatswa pela ba bang;
- Ho tshabiswa kapa ho tshoswa ka boomo (mohlala, ha molekane a hoeletsa mme a thua dintho;
- Ho tshoswa ka kotsi (ka ho tobileng kapa ho sa tobang ka mokgwa wa tshoso ya ho utlwisa bohloko motho ya itseng eo o mo kgathallang).

Tlhekefetso ka Thobalano:

- Ho qobellwa ka dikgoka ho etsa thobalano ka ntle ho thato ya hao;
- Ho etsa thobalano hobane o tshaba ntho e ka etswang ke molekane wa hao;
- Ho qobellwa ho etsa ntho e itseng ya thobalano e theolang seriti kapa e nyedisang.

Annexure 4: Socio-demographic Questionnaire

Age:

Language

Current relationship status:

- Married
- Living with partner
- Steady boyfriend

Level of education (last grade passed)

Source of income:

Housing quality: Type of House:

- Home has piped water
- Home has indoor toilet
- Home has electricity
- Home has television

Number of children:

Partner's age:

How long have you been with your partner:

Partner's source of income:

Level of Partners education (last grade passed)

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18 April 2013

TO WHOM IT MAY CONCERN

WITS Translate, Wits Language School has translated the following document on behalf of Amashnee Saimen (Medical doctor, Registrar Family Medicine):

- Women Abuse Screening Tool

WITS Translate, as a professional translation agency, takes full responsibility for the translations made by us and our subcontractors. WITS Translate has also facilitated the proofreading of the completed translations, by subcontractors who were not involved in the translation process.

Please do not hesitate to contact us if you have any questions.

Kind regards

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Annexure 6: Potential Participants Information Sheet

Potential Participants Information

Dear Patient

Hello, my name is Dr Amashnee Saimen, a third year registrar in family medicine at the University of the Witwatersrand and allocated to the West Rand District. I am conducting a study on the use of a screening tool to domestic violence in the female population attending the outpatients department, Dr Yusuf Dadoo Hospital.

This study is aimed at checking whether a short questionnaire will assist healthcare providers i.e. doctors and nurses in increasing the chances of detecting domestic violence and thus make the necessary referrals to help women finding themselves in difficult situations.

The safety and security of all women will be our primary focus during the entire study. Two research assistants trained in accordance to the World Health Organization's Guidelines on conducting research on domestic violence will be administering the questionnaire in a private room in the OPD. Our hospital social worker, Mrs McKenzie (011 951 6056, 1st Floor, Office No 174, Rehab Department, Dr Yusuf Dadoo Hospital) has offered us her services and any woman in need of help or any support would be immediately referred. All medical complaints will be attended to by a pre arrangement with one of the doctors, working in the OPD immediately after the interview so ensuring that you need not queue again.

I would like to invite you to consider participating in my study. If you agree to participate, all you need to do is to sign the attached consent form and answer questions from the short questionnaire.

The results of the study may provide us with useful information on the questionnaire and thus allow us to implement strategies to improve service to women exposed to domestic violence. The findings of the study will be reported to the staff working in the OPD and the hospital authorities at Dr Yusuf Dadoo Hospital in order to improve service and referral. Also, it may be published in a peer review journal for academic purposes.

Participation is completely voluntary, if you choose not to participate or to withdraw your permission, you will still receive the care we normally give. Confidentiality will be maintained by using a code and not your name on my information collection sheet. No one will be able to identify you.

Thank you

Yours sincerely

Amashnee Saimen

Annexure 7: Consent Form

Dr Yusuf Dadoo Hospital

Consent Form:

This document must be explained to the patient by a member of the clinical staff and a copy of the signed document must be given to the patient.

Evaluation of the accuracy of a 'two question screening tool' in the detection of intimate partner violence in a primary healthcare setting in South Africa

I hereby confirm that I have been informed about the above project.

I have understood the nature, the benefits and risk related to this project as explained to me by the study doctor and as stated in the above participant's information sheet.

I am aware that the result of this project, including personal details regarding my age, sex, and other responses to the questionnaire will be dealt with in an anonymous way in this project.

If required, I agree that the data collected during this study can be processed in a computerized system by the study doctor.

All my concerns and questions being fully addressed by the study doctor, I offer my consent to participate in this study.

If I choose not to give consent, this will not compromise my treatment in any way. If at any time I choose to withdraw the consent, I am free to do so and will not be prejudiced in any way.

Should you wish to contact the researcher at any stage regarding this consent, contact Dr Yusuf Dadoo Hospital at (011) 951 6000.

I..... hereby give/do not give consent to participate as per the abovementioned condition for the purpose of the research.

Patient.....

Date.....

Witness.....

Date.....

Witness.....

Date.....

Annexure 8: MRC Letter

SOUTH AFRICAN MEDICAL RESEARCH COUNCIL

BIOSTATISTICS UNIT

Private Bag X385, Pretoria, South Africa.
No. 1 Soutpansberg Road, Pretoria
Tel: 012 339 8518, Fax. 012 339 8582
URL://www.mrc.ac.za/

04-06-2013

Chairperson,

Human Research Ethics Committee: (Medical)

University of the Witwatersrand

RE: STATISTICAL ANALYSIS ASSISTANCE - PROF S.O.M. MANDA

This is to confirm that Prof Samuel O.M. Manda will be assisting Dr Amashnee Saimen, student number 9402887T from the Department of Family Medicine with the statistical analysis of her data for her research report. *Title: Determining the sensitivity and specificity of a two question screening tool for intimate partner violence in an Out Patient Department setting, Dr Yusuf Dadoo Hospital, SA.*

With kind regards

Emily Gomes

SENIOR OFFICER (S)

Biostatistics Unit

Medical Research Council

+27 12 339 8523

+27 12 339 8582

emily.gomes@mrc.ac.za

Annexure 9: Confidentiality Agreement

Confidentiality Agreement

This is to state that I .....hereby agree to maintain confidentiality with the information collected by this study: 'Determining the sensitivity and specificity of a two-question screening tool for intimate partner violence in an Out Patient Department setting, Dr Yusuf Dadoo Hospital, South Africa'. If I breech this confidentiality in any way, it will result in me being reported to the Nursing Council of South Africa.

Sign..... Witness.....

Date..... Date.....

Witness.....

Date.....

Annexure 10: CEO Letter

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Dr. Yusuf Dadoo Hospital
KRUGERSDORP

Enquiries : P. M. Sofohlo
Telephone : (011) 951 - 6161
Fax : (011) 953 – 5952
E-Mail : SofohloP@gpg.gov.za

Date: 2013.04. 30

Attention Dr. A. Saimen

West Rand District Health Council
Department of Family Medicine
KRUGERSDORP
1740

RE: PERMISION TO CONDUCT RESEARCH AT DR. YUSUF DADOO HOSPITAL

Research Topic: Sensitivity of a screening tool to detect intimate partner violence in women attending the OPD

Permission is hereby granted to you, Dr. A. Saimen to conduct research on the above topic at Dr. Yusuf Dadoo Hospital.

You are therefore expected to adhere and comply with ethics for research as stipulated in the Ethics Policy for Research.

Wishing you Good Luck with your studies.

Regards

P.M. Sofohlo
Chief Executive Officer

Dr. YUSUF DADOO HOSPITAL
PRIVATE BAG X2006
2013 -04- 30
KRUGERSDORP 1740
CHIEF EXECUTIVE OFFICER

Annexure 11: Letter from Operations Manager-OPD

RN Bridgette Ramonema

Operational Manager, OPD

Dr Yusuf Dadoo Hospital

3/06/2013

To Whom it may concern

This is to state that I Bridgette Ramonema, have no objection to one of my nursing staff assisting Dr A Saimen in conducting her research "To determine the sensitivity and specificity of a two question screening tool for intimate partner violence in an OPD setting, Dr Yusuf Dadoo Hospital, South Africa" in the OPD. I understand that the time period of the study will extend to a maximum of three months.

Yours sincerely

B tle OM



Annexure 12: Letter from Social Worker



GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DR. YUSUF DADOO HOSPITAL
SOCIAL WORK DEPARTMENT
Enquiries:
Tel. No. : 011 951 6056
Fax. No. : 011 953 2250
E-mail :

This is to confirm that health care social services are available at Dr Yusuf Dadoo Hospital for health care users. To see referred patients with emotional problems eg domestic violence, is part of the role of the Health Care Social Worker.

M L McKenzie

ML McKENZIE
SOCIAL WORK SUPERVISOR
For CEO
2013.06.07/mlm

Annexure 13: Ethics Committee clearance

M130618

R14/49 Dr Amashnee Saimen

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M130618

NAME: (Principal Investigator)	Dr Amashnee Saimen
DEPARTMENT:	Family Medicine Dr Yusuf Dadoo Hospital
PROJECT TITLE:	To determine the sensitivity and specificity of a two question screening tool for intimate partner violence in an OPD setting, Dr Yusuf Dadoo Hospital, South Africa
DATE CONSIDERED:	28/06/2013
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Dr Eamon Armstrong
APPROVED BY:	Professor PE Cleaton-Jones, Chairperson, HREC (Medical)

DATE OF APPROVAL: 22/07/2013

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Secretary in Room 10004, 10th floor, Senate House, University.
I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**.

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

R14/49 Dr Amashnee Saimen

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M130618

NAME: (Principal Investigator)	Dr Amashnee Saimen
DEPARTMENT:	Family Medicine Dr Yusuf Dadoo Hospital
PROJECT TITLE:	Evaluation of the Accuracy of a 'Two Question Screening Tool' in the Detection of Intimate Partner Violance in a Primary Healthcare Setting in South Africa Hospital, South Africa (changed title 22/10/2014)
DATE CONSIDERED:	28/06/2013
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Dr Eamon Armstrong
APPROVED BY:	Professor A Woodiwiss, Co-Chairperson, HREC (Medical)
DATE OF APPROVAL:	22/07/2013

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Secretary in Room 10004, 10th floor, Senate House, University.
I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**.

Principal Investigator Signature _____ Date _____

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

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