'A stitch in time…may save nine': A systematic synthesis of the evidence for domestic violence management and prevention in Emergency Care

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ABSTRACT

The aim of this policy brief is to provide an evidence-informed answer to the question: 'What is the role and scope of pre-hospital emergency care providers to domestic violence (DV) intervention as a form of gender-based violence prevention?' The answer is intended to determine the theoretical and clinical best practice to inform the emergency care community and policy development by critically appraising the evidence that considers the responsiveness of Emergency Medical Services to the health needs of DV victims. Evidence-informed Decision Making methods are employed. The evidence appraised was based on electronic searches using the Cape Peninsula University of Technology database. Research and non-research publications were considered with publication dates mostly from 1999 to 2011. Upon screening 164 articles for content relevance, 53 were critically appraised against predetermined criteria for relevance of the evidence, robust nature of the evidence and presence of bias. A thematic/

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narrative analysis ensued in terms of strength of evidence and frequency of findings. Early recognition and intervention is seen as one of the most effective methods of DV prevention. This finding is nuanced if it is male caregivers doing so. There is an ethical obligation to implement a comprehensive health approach to manage domestic violence victims. The strong, majority findings are that educational intervention/s increases the health care provider's understanding of DV and improves screening for DV. The research supports the development and use of screening tools/guidelines/ procedures for DV as they are found to improve DV intervention. The evidence supports an integrated effort of the health system in achieving its goal of DV prevention by promoting the participation of pre-hospital emergency care providers as critical stakeholders.

Key words: *Domestic Violence (DV) management and prevention, Emergency Care Providers (ECP's), Gender-based violence (GBV) prevention, Evidence-informed Decision Making (EiDM), Emergency Medical Service*

INTRODUCTION

A narrow reading of the emergency care (EC) role in domestic violence (DV) management and prevention leans toward biomedical intervention and a 'rescue' demeanour. In cases where no medical intervention is needed, and where no rescue situation is imminent, facilitation and referral is critical for bio-psycho-social support. 'Time-to-care' is a mainstay measure in acute care settings. A solitary focus on acute and EC settings is problematic in the context of domestic violence, where victims of abuse present with a myriad of chief complaints directly and indirectly related to the experience of chronic abuse both after and between battering or other abusive incidents. Phrased differently, stopping the bleeding does not stop the abuse (Naidoo, Knight, & Martin, 2013), and the absence of 'bleeding' does not imply the absence of violence nor should it presume EC intervention is not required.

The aim of this paper is to provide an evidence-informed answer to the question: *What is the role and scope of pre-hospital emergency care providers to domestic violence intervention as a form of gender-based violence prevention?* The response should not only underscore theoretical and clinical best practice(s) to inform the EC community, but can also promote the development of an appropriate policy. The rationale for policy development is to contribute to the reduction of mortality, morbidity and the health-economic burden of domestic violence by critically appraising the evidence that considers the responsiveness of the EC discipline to the health needs of domestic violence victims. It recognises the health-promotion potential and enhancement of EC utility that the EC profession (mostly men of some 71 000 practitioners; Table 1) has in gender-based violence intervention. As the largest professional board at the Health Professions Council of South Africa (HPCSA),

approximately 13 000 of these providers are located in the public Emergency Medical Service (EMS). Sadly, EMS's, as public health organisations, have been complicit (Naidoo et al., 2013) in contributing to the widely criticised poor social and state responses to domestic violence (Gevers, Jama-Shai, & Sikweyiya, 2013; Shefer, 2013).

Table 1: Total No. of Providers Registered with the Professional Board for Emergency Care (PBEC), HPCSA [As at 25 July 2014] (Health Professions Council of South Africa, 2014)

Level of Skill	Professional Autonomy	Qualification	Professional Category of Registration	Number Registered
Basic Life Support	Supervised Practice	Short course (4 weeks)	Basic Ambulance Assistant	57, 838
'Intermediate' Life Support	Independent Practice	Short course (12 weeks)	Ambulance Emergency Assistant	8,703
'Intermediate' Life Support	Independent Practice	Military Short course	Operational Emergency Care Orderly	554
Advanced Life Support	Independent Practice	Short course (9 months) or 3-year Diploma	Student Paramedic	572 1,595
Advanced Life Support	Independent Practice	4-year Bachelor's Degree	Student Emergency Care Practitioner	520 303
Advanced Life Support	Independent Practice	2-year Certificate	Student Emergency Care Technician	799 751
			TOTAL	**71, 635**

METHODS

An Evidence-informed decision making (EiDM) approach was employed (Figure 1). This method, coherent with a post-positivist paradigm, involves integrating the best available research evidence into the decision making process in health practice and policy development. It resonates with the purpose of this study as it enables the most effective and cost-efficient interventions, considers the use of scarce resources, and takes into account customer satisfaction and improved health outcomes for individuals and communities (National Collaborating Centre for Methods and Tools, 2011).

The research to policy gap can have critical implications in patient response and treatment. In fact, Antman, Lau, Kupelnick, Mosteller, and Chalmers (1992) found that historically, it took an estimated 15 years to get research into recommended policy and for practitioners

to achieve implementation 40% of appropriate times in practice (Antman et al., 1992). Due to a research-practice gap, 30–40 % of patients do not get treatments that have been proven to be effective (Straus, Richardson, Glasziou, & Haynes, 2008). EiDM, as a *bona fide* but nuanced EBM strategy, seeks to bridge the gap between research and practice as well as between research and policy. It departs from traditional EBM in that it values theoretical, experiential, empirical and contextual research *and* non–research evidence equally or hierarchically to answer a broader range of questions for which there is no definitive evidence (National Collaborating Centre for Methods and Tools, 2011). It is also 'systematic', methodologically reproducible, transparent and efficient with high quality outputs to guide practice and policy on an inclusive rather than exclusive evidentiary basis. The complete practice of EBM comprises five steps. Straus et al. (2008, pp. 3–4) set these out as: 1) c*onverting the need for information into an answerable question*, 2) *tracking down the best evidence with which to answer that question*, 3) *critically appraising that evidence for its validity, impact and applicability*, 4*) integrating the critical appraisal with our clinical expertise, patient biology, values and circumstances,* 5) *evaluating our effectiveness and efficiency in executing steps 1–4 and seeking ways to improve them.* The approach to access information is determined by how research evidence is organised and what access is available: Original published articles in journals (Studies), Cochrane reviews (Syntheses), Evidence-based journal abstracts (Synopses) and computerised decision support (Systems) (Straus et al., 2008).

The evidence appraised for this systematic synthesis of literature was gathered based on electronic searches using the following Cape Peninsula University of Technology (CPUT) electronic databases: (a) EBSCO Host (Health Source Consumer Edition, Health Source Nursing/Academic Edition and Medline), (b) PubMed, (c), Science Direct, (d) Google Scholar, (e) Google, (f) iol.co.za, (g) news24.com, (h) Sage Publications, (i) Cochrane Library, and (j) Medical Research Council. Keywords included: "*Domestic Violence, Domestic violence health care, Domestic violence pre-hospital, Domestic violence prevention, violence women, gender based violence, paramedic/ pre-hospital role/ duty"* and *"domestic violence South Africa"*. Research and non-research evidence (in English) was considered with publication dates from 1999 to 2011, although studies from 1996 (3) and 1998 (3) were included. Upon screening 164 articles for content relevance, 53 were critically appraised against predetermined criteria for relevance of the evidence, robust nature of the evidence and presence of bias. A thematic analysis ensued in terms of strength of evidence (either strong or weak evidence) and frequency of finding (either majority or minority findings). A criterion-referenced hierarchy of evidence attained the best evidence- relative to the question in chief.

Upon screening of title, abstract and/or content, 111 articles were excluded due to irrelevance, duplication and poor/inadequate information relative to the question. The

appraisal criteria are made up of three major sections (Relevance, Robustness and Bias). The individual criteria within each section was scored. High scores were given when evidence was clear, relevant, reliable, consistent, unbiased and had minimal conflict of interest. Relevance criteria included the research question being asked; the topic/field in which the question was asked and the degree of applicability of the evidence (context) in relation to South Africa and emergency health care. Robustness or reliability criteria included the sample size of the study, 'Measures' indicating the appropriateness and consistency of the tools/processes used to document and locate findings and 'Analysis' criteria referred to the process of analysis used. Bias criteria included the integrity and motive of the author and the institution. Scores were then ranked with the median score delineating strong evidence from weak evidence.

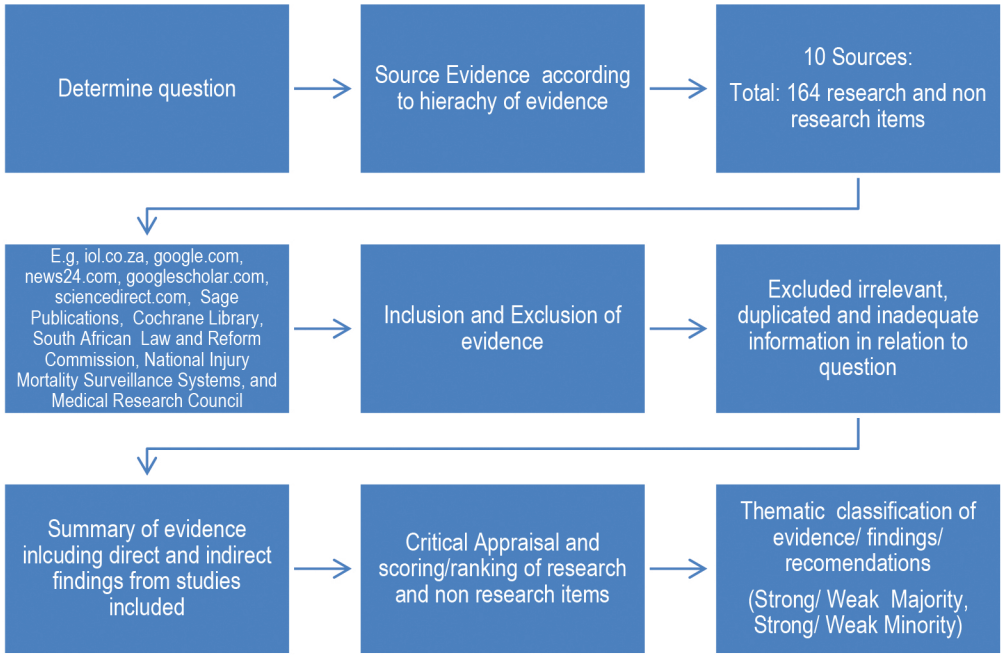

Figure 1: Evidence Informed Decision Making Process

Table 2: Hierarchy of Evidence

Primary Research (Quantitative and/or Qualitative)

i. **Quantitative:** Experimental and/ or descriptive studies comparing screening tools and its efficacy for domestic violence/ gender based in the pre-hospital or emergency department environment. Experimental and/ or descriptive studies comparing domestic violence training/ educational interventions for health care providers for screening/ victim identification.

ii. **Qualitative:** interviews or focus groups exploring the experiences of victims after interventional measures specific to domestic/ gender based violence prevention.

Secondary Research (Quantitative and Qualitative)

iii. **Quantitative:** Systematic reviews and/ or meta-analysis of trials and/ or studies revolving around domestic violence screening tools and/ or interventional/ prevention strategies.

iv. **Qualitative:** Reviews of interviews and or focus groups exploring the benefits of interventions by health care providers regarding incidences of domestic/ gender based violence prevention.

Non-Research (Particularly South African Context)

v. **Experiential:** The views by health care providers and health care receivers regarding the interventions for gender based violence/ domestic violence prevention.

vi. **Contextual:**

Qualitative: Reports/ reflections/ experiences on the interventions/ prevention measures for gender based/ domestic violence

Quantitative: Reports/ audits comparing interventions or policies for gender based/ domestic violence prevention.

Theoretical: Political, Economic, Environmental, Social, and Technological barriers in the acceptability of domestic/ gender based violence prevention

RESULTS

STRONG MAJORITY EVIDENCE/FINDINGS

Educational intervention/s increases health care providers understanding of and improves screening for DV

Increased training and competence in assisting victims of violence in the out-of-hospital setting may allow earlier intervention, before the violence escalates and the patient is seriously harmed (McCoy, 1996). These findings were seen in 876 cases in the Boston EMS population (Husni, Linden, & Tibbles, 2000). EMS providers are in a unique position to help of domestic violence by treating the injuries, providing support, resources and

information or when that is not possible, by alerting the hospital emergency department (Mason, Schwarts, Burgess, & Irwin, 2010). Basic knowledge-building exercises such as general knowledge surveys on domestic violence and post instruction tests have shown marked improvement about domestic violence, which may have some influence in increased levels of screening for domestic violence in emergency care contexts (Weiss, Ernst, Blanton, Sewell, & Nick, 2000). There is also evidence that additional strategies such as specific screening questions were associated with an increase in intimate partner identification rates (Waalen, Goodwin, Spitz, Peterson, & Saltzman, 2000). In addition to knowledge-building surrounding domestic violence identification and intervention, the literature also promotes reliable methods for assessing service provider characteristics and their requirements for additional training (Maiuro et al., 2000).

The development and use of a screening tool/ guidelines/ procedures for DV improves intervention and is acceptable to EC providers

EC personnel thought that disease and injury prevention should take place during emergency calls (Lerner, Fernandez, & Shah, 2009). The development of an intimate partner violence screening tool and clear organisational implementation measures could potentially see early intervention increase due to pre-hospital identification and reporting (Datner, Shofer, Parmele, Stahmer, & Mechen, 1999; Edlin, Williams, & Williams, 2010). There are a number of dimensions to these policies that should be considered. These include: (a) Wadman and Mulleman (1999) show that the use of screening tools may provide optimal treatment, identification and screening procedures are critical to timely interventions in DV cases; (b) referrals to DV support services as the primary outcome measure is an intermediate outcome to reduce violence and improve quality of life and mental health for DV victims who are referred (Gregory, et al., 2010); (c) physical assessment and interviewing by healthcare providers including emergency personnel and (d) screening of pregnant patients who include the presence of certain clinical features. Other policy developments have also been recommended; for instance, addressing the fears of health care workers when dealing with DV cases and encouraging “team approaches” when managing patients of DV (Kilonzo et al., 2009).

When considering evidence-based policy development, data quality is paramount. Barriers to data quality are cited throughout the literature and include the following: lack of organizational support; characteristics of the violence-related data elements; design of the ambulance run report form; and paramedic knowledge, attitudes, and behaviours regarding data collection (Boergerhoff, Gerberich, Anderson, Kochevar, & Waller, 1999). Finally, health sector screening is a priority (Martin & Jacobs, 2003) as it facilitates access to care. A computerised system for screening emergency room (ER) patients for intimate-partner violence did not endanger victims either in the hospital or after they went home. More than one third of abuse victims said they had sought help based on the information they had

received. There are high rates of unrecognised abuse among emergency department (ED) patients, and centres should consider screening for it (Norton, 2008).

STRONG MINORITY EVIDENCE/FINDINGS

Victims perceive DV screening to be acceptable

There are two major findings regarding screening: disclosure opportunities and support. For instance women believed that being asked about intimate partner violence could be an opportunity for women in abusive relationships to access services and help (Christofides & Jewkes, 2010). They also found discussion of sexual violence by their health care providers to be nonintrusive and helpful (Littleton, Berenson, & Breitkopf, 2007). A majority of women reported favourable reactions after being asked questions around DV (Magen, Conroy, & Del Tufo, 2000).

The barriers to DV protocol adherence include educational, linguistic, cultural, institutional and personal factors:

Educational, linguistic, and cultural factors appear to affect the likelihood that health care providers discuss particularly sexual violence with their patients (Littleton et al., 2007). There are many obstacles in the DV screening and referral protocol. A long-term approach to protocol adherence in the ED is needed (Waller, Hohenhaus, Shah, & Stern, 1996). Providers received little training in DV. Nurses (Davies & Edwards, 1999), physicians and social workers in trauma centres were seen to rarely screen for DV. There are institutional and personal barriers impeding intervention for victims of DV (McGrath et al., 1997).

HIV testing and prophylactic care for DV and rape victims are prerequisites for comprehensive care

HIV testing and DV inquiry are important steps in identifying victims and referring them for appropriate care. There needs to be a linkage in the form of cross-referrals using standardised referral pathways and guidelines, protocols and medico-legal procedures in order to achieve comprehensive care for post-rape victims (El-Bassel et al., 2006).

WEAK MAJORITY EVIDENCE/FINDINGS

Educational intervention/s increases understanding of DV and its early detection and treatment in the emergency setting

Environmental enabling factors are relatively easy to initiate and are proven to increase inquiries about DV, as well as a small increase in case findings (Littleton et al., 2007; Thompson et al., 2000). Endeavours such as the DNA Project highlights the forensic role

EC providers can play (DNA Project, 2011). A voiced desire of the participants in a study about women's perspectives of the emergency department of a hospital was for sincere interaction with a professional helper, and recognition of the victim's lack of knowledge regarding shelters or protective services. When healthcare providers understand the context of DV and victims perceived needs, the ED will better serve female victims (Mayer, 2003). Improving the levels of knowledge about DV is important in detecting and treating the DV victim (Weiss et al., 2000). Results improved from 59 % to 70% correct after 3 hours of instruction but an understanding of DV was seen for only 4 out of 11 questions. These results indicate the need for more instruction on DV for EC providers (Weiss, Ernst, Blanton, Sewell, & Nick, 1999).

Routine, universal screening for DV is supported in the emergency setting

A simple direct questionnaire significantly improves the detection rate of DV in the ED. Direct questioning requires minimal time and should be incorporated into the patient assessment (Morrison, Allan, & Grunfeld, 2000). Routine screening for abuse is an essential element of history taking. Awareness of the patient's experiences with DV is required to keep appropriate adjustments in patient management (te Kolstee, Miller, & Knaap, 2004). Both high and low risk patients should be screened for DV (Datner, Wiebe, Brensinger, & Nelson, 2007). Patients seen in an ED must be identified as a population at risk for DV and these situations can be identified only by a systematic assessment using a standardized questionnaire (Witting, et al., 2006). The Domestic Violence Act 116 provides case definitions for DV (Republic of South Africa, 1998; Warby, 1999). Pregnant women presenting to the ED may be at greatest risk of current DV and preterm birth ("Abused women at risk of preterm birth", 2008) if they are young, have less than a high school education, have a prior diagnosis of trichomonas, and report current marijuana or alcohol use (Lejoyeux et al., 2002).

WEAK MINORITY EVIDENCE/FINDINGS

Barriers to DV Screening include practitioner factors, institutional factors and lack of research on intervention outcomes

Providers rarely screen for DV. There are institutional and personal barriers impeding intervention in victims of DV (McGrath et al., 1997). It is unknown whether screening for DV in EDs, followed by counselling, referrals, and support, can change the risk of future DV-related injuries to those patients (Houry et al., 2004). Practitioners should familiarise themselves with these barriers (Gremillion & Kanof, 1996) and the socio-political challenges of DV intervention (Vetten, 2005).

Regulatory and other social agencies should/ can develop tools to screen

Violence is frequently used to resolve a crisis of male identity, at times caused by poverty or an inability to control women (Jewkes, 2002). As such, health care workers, police officers, paramedics, social workers, and public health officials should work together to develop screening protocols for systems that will be the most effective for victims (Datner et al., 1999).

DV screening is effective for DV detection in the emergency setting

A simple direct questionnaire significantly improves the detection rate of DV in the ED (Morrison et al., 2000). A three-question DV screen identifies a subset of women in the ED who are at high risk for subsequent physical violence and verbal aggression (Houry et al., 2004). No significant differences were found between different methods of screening for DV on any measurement, including refusals (Furbee, Sikora, Williams, & Derek, 1998). The out-of-hospital use of a DV screen for assessing patient risk is probable (Weiss et al., 2000).

DV awareness by health care providers is a clinical and epidemiological imperative (Rickard, 2011)

Awareness of the patient's experiences with DV is required to make appropriate clinical adjustments in the management of the patient (Jewkes, Levin, & Penn-Kekana, 2002). Violence is a widespread and serious public health problem in South Africa, affecting both women and men in their intimate partnerships (Gass, Stein, Williams, & Seedat, 2011; "SA domestic violence as grim as HIV", 1999). A history of alcohol abuse by the male partner, as reported by the female partner, was the strongest predictor for acute injury from DV (Kyriacou, McCabe, Anglin, Lapesarde, & Winer, 1998).

DISCUSSION

To globalise and contextualise the EC policy discourse, a brief presentation of World Health Assembly (WHA) Resolutions is followed by World Health Organization (WHO) Africa Regional Committee considerations and prevention implications. Study limitations are also critically presented.

HEALTH SYSTEMS: EMERGENCY-CARE SYSTEMS

The WHA Resolution 60.22 (World Health Assembly, 2007) in considering the report on Health systems: Emergency-care systems (World Health Organization, 2007), recalled resolutions WHA56.24 (World Health Assembly, 2003) on implementing the recommendations of the

World report on violence and health and WHA57.10 (World Health Assembly, 2004) on road safety and health, which respectively noted "that violence was a leading worldwide public health problem and that road-traffic injuries caused extensive and serious public-health problems" (World Health Assembly, 2007, p. 1). These two previous resolutions are linked inextricably with the resolution on emergency-care systems development (WHA 60.22; World Health Assembly, 2007), and calls on the WHO, ministries of health and civil society to advocate for and strengthen EC systems to respond to the burden of trauma and emergencies (that interpersonal violence invariably perpetuates). EC personnel also function in disaster and humanitarian settings in Africa where despite sexual violence in armed conflict is a crime against humanity, it "is being used as a method of war to brutalise and instil fear in the civilian population, especially women and girls" (Inter-Agency Standing Committee, 2005, p. iii). There are parallels and shared foundations between DV and global terrorism. DV is *"everyday terrorism"* (Pain, 2014).

PREVENTION IMPLICATIONS FOR EC PROVIDERS

A 2001 to 2010 review of the implementation of the Health Promotion Strategy for the African Region identified that there was "limited involvement of players such as community-based groups, civil society, academia and development partners in advocacy actions and regulation and legislation for good health governance" (WHO Regional Committee for Africa, 2012, p. 6). It also noted "a paucity of human resources to carry out health promotion activities at community level and a lack of sustainable financing mechanisms for health promotion" (WHO Regional Committee for Africa, 2012, p. 6).

Pre-hospital care providers are potentially the first point of contact for victims of DV. This places this group of health care practitioners in a unique position to identify these victims in the acute and non-acute setting, soonest (Naidoo et al., 2013), and at no additional operational cost (except for training costs). Early recognition and early intervention is seen as one of the most effective methods of DV prevention. There is an ethical obligation to implement a comprehensive health approach to manage DV victims. DV needs to be recognised as a health priority by all levels of the health sector and the development of policies and guidelines for all levels is essential to comprehensively address DV. This should include an examination protocol for the management of women who have experienced abuse (Martin & Jacobs, 2003). In response, the HPCSA has approved screening guidelines in EC.

Early identification and recognition of these victims may play a role in decreasing the burden of DV cases in South Africa. Valid screening tools must be adapted to the EC environment to achieve this goal. The mandatory screening for DV by EC providers should be implemented in the pre-hospital setting. Although recent WHO (2013) recommendations, in their idealism (Joyner, 2013) do not support universal screening, this is unlikely to be

directed at pre-hospital providers, who could screen routinely, create awareness of DV prevalence and implement clinical case-finding (Naidoo et al., 2013). “It is the everyday conditions that make violence possible and probable. As a social practice, violence is made permissible through normalised, everyday discriminations…These discourses of prejudice…make material acts of violence imaginable and explicable.” (Shefer, 2013, p. 4). Not immune, EC providers, in their everyday practice of health care, participate in failed resuscitations and are exposed to extremes of trauma, that serve to not only normalise its occurrence, but also to undermine their EC response. Despite an EC response to both cases, there was no outcry or any reflective discourse by the EC community for the late Anene Booysen or Reeva Steenkamp- not at the level of EC, forensic practice or violence prevention, presenting yet another lost opportunity. Such violence, albeit extreme, may be considered ‘normal’ (Judge, 2013) for emergency care.

Limitations of the ‘Health Promotion Strategy for the African Region’ can be mitigated for DV by enhancing the EC clinical and systems response, on the premise that the more than 71 000 strong South African EC profession (Table 1) are all latent health promoters with a current disproportionate focus on ‘tertiary care modalities’ and with sustainable alternative funding. The recent pilot of the DV call centre by the Department of Social Development highlights the lack of inter-sectoral collaboration. After-all, EMS has established communications centres in every Province that could facilitate early detection and referral nationally, given an ideological shift. The case for the ‘health promotion value proposition’ of EC involvement in DV prevention and management in South Africa is made (Naidoo, Knight, & Martin, 2013). The potential for this value proposition that intersects EC and health promotion to extend into the rest of Africa has promise as southern African countries embark on EC implementation strategies (Christopher et al., 2014).

STUDY LIMITATIONS

There were no random or systematic errors to declare. In particular, measurement error was prevented by using critical appraisal tools that have been tested (Naidoo, 2007) and expert validated (Naidoo & Christopher, 2009). The obvious limitation is the selection/ sampling bias brought about by the availability and accessibility of databases. This may be compounded further by inherent publication biases. This consideration is mitigated by the evidence period and the inclusion of multiple databases. A University of Technology may have limited access to evidence from the humanities but EiDM is intended to enable decision-making, despite the researcher’s context. The findings validate the claim of internal validity as we now have a highly specific hierarchy of evidence upon which to base policy and practice.

So, what of external validity? A case in point is the international finding that barriers to DV protocol adherence are multifactorial is also documented in the South African context

(Joyner et al., 2007). This evidence, with direct reference to South Africa, did not emerge in the review. The non-sampling of this article and others could be due to the specificity of the search criteria, as this study was not in the pre-hospital environment. The alignment of these review findings to the Joyner article and others not sampled (and published after 2011) does however support a claim to stability and external validity. There is methodological coherence (Naidoo, 2011) with the post-positivist paradigm and for this reason; positivist critique would be epistemologically incongruent and consequently unfair and invalid. The critical appraisal tool satisfies criteria for construct, content, face and criterion-related validity. Findings have local relevance with international comparability.

The critique of EBM includes a limited focus on 'effectiveness' and RCTs, that it is simplistic (what works best for simple interventions), exclusionary (ignores other questions/evidence), difficult (requires dedicated expertise), expensive (time consuming), wasteful (excludes poorly reported evidence) and paralyzing when no decisions are made without evidence (Ellison, 2007). The former editor of the SAMJ agrees (Ncayiyana, 2007, p. 7):

> What is new is EBM's exclusive identification with systemic reviews and RCTs that has led to perceptions that diagnostic approaches and interventions not validated by RCTs have little or no validity. Furthermore, EBM zealots have tended to understate its limitations, such as the fact that RCT evidence relevant to many clinical situations simply doesn't exist; that many clinical questions do not lend themselves to evaluation by RCT; that RCT evidence is population-based, and 'does not answer the primary clinical question of what is best for the patient at hand'; that patient management choices are governed as much by evidence as by the limitations of time, space and resources; and that the EBM approach itself is not evidence based, there being no RCT evidence showing that it improves patient care.

Stoic implementation of the EBM-aligned method (Straus et al., 2008) assured a valid review process (Glasziou, Del Mar, & Salisbury, 2003). Aguinaldo argues that in positivist approaches, it is acceptable to be asking about research: *"Is this valid?"* In non-postivist designs however, he suggests a social constructivist move toward: *"What is this research valid for?"* (Aguinaldo, 2004). The authors argue that this review method is both internally and externally valid and that the research is valid for supporting methodological growth in EC and in providing evidence-informed answers to the study question.

CONCLUSION

The strong, majority findings are that educational intervention/s increases the health care providers understanding of DV and improves screening for DV. DV related CPD activities

and medical curricula, are therefore crucial to build agency amongst EC providers for implementing screening and overcoming its barriers. Routine, 'universal' screening for DV is supported in the emergency setting (Naidoo et al., 2013). DV awareness by health care providers is a diagnostic, clinical and epidemiological imperative. The health sector must work collaboratively to combat DV. Further research is needed about the role of first responders in DV prevention and their effectiveness. An EC response knowledge base is needed in order to assist system implementation and evaluation. Strategies "informed by research evidence during development are most likely to be effective in preventing gender-based violence on a large scale" (Gevers et al., 2013, p.14).

The emergency medical services (EMS) are a structure within the health sector, and– according to the evidence, can be utilised to further the health and human rights prerogative of DV prevention. Utilization of a resource such as the EMS for DV prevention can provide the Department of Health with an additional tool for primary prevention and intervention. The paucity of evidence in the pre-hospital environment is of interest as the abuse is located and perpetrated here. More research is needed in the evolving epidemiology of DV, the health needs of perpetrators *and* victims and the role of pre-hospital systems in promoting health and preventing the morbidity and mortality associated with DV.

This study also validates the use of EiDM in DV intervention by both EC practitioners and researchers as the approach is enabling of both policy development and ethical practice. "Emergency medicine is the only discipline with 'universality' and 'responsivity' at the point of need. This implies the potential for the simultaneous widespread facilitation of access to (emergency) health care" (Christopher, et al., 2014, p. 157) and indeed, health promotion. "To ensure that our responses to the brutal and demeaning legacy of sexual and other gender violences are not deployed in reproducing the very brutalities they seek to challenge, we need to unpack and interrogate carefully the things we say and do" (Shefer, 2013, p. 3). This review supports the aim that EC research is not complicit in reproducing the past- in EC policy or practice.

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CONFLICT OF INTEREST

None.

REFERENCES

Abused women at risk of preterm birth. (2008, February 29). *IOL News*. Retrieved from http://www.iol.co.za/lifestyle/abused-women-at-risk-of-preterm-birth-1.623865

Aguinaldo, J. P. (2004). Rethinking validity in qualitative research from a social constructionist perspective: From "is this valid research?" to "what is this research valid for?". *The Qualitative Report, 9*(1), 127–136. Retrieved 07 20, 2013, from http://www.nova.edu/ssss/QR/QR9-1/aguinaldo.pdf

Antman, E., Lau, J., Kupelnick, B., Mosteller, F., & Chalmers, T. (1992). A comparison of results of meta-analyses of randomized control trials and recommendations of clinical experts. Treatments for myocardial infarction. *JAMA, 268*(2), 240–248.

Boergerhoff, L., Gerberich, S., Anderson, A., Kochevar, L., & Waller, L. (1999). Out-of-hospital violence injury surveillance: Quality of data collection. *Annals of Emergency Medicine, 34*(6), 745–750.

Christofides, N., & Jewkes, R. (2010). Acceptability of universal screening for intimate partner violence in HIV South Africa and service implications. *AIDS Care, 22*(3), 279–285.

Christopher, L., Naidoo, N., de Waal, B., Mampane, T., Kgosibodiba, K., Chepete, K., & Mahadevan, S. (2014). "Setting the agenda in emergency medicine in the Southern African Region": Conference assumptions and recommendations from 'Emergency Medicine Conference 2014': Gaborone, Botswana. *African Journal of Emergency Medicine*, 4*(3), 154–157.*

Datner, E., Shofer, F., Parmele, S., Stahmer, S., & Mechem, C. (1999). Utilization of the 911 system as an identifier of domestic violence. *American Journal of Emergency Medicine, 17*(6), 560–565.

Datner, E., Wiebe, D., Brensinger, C., & Nelson, D. (2007). Identifying pregnant women experiencing domestic violence in an urban emergency department. *Journal of Interpersonal Violence, 22*(1), 124–135.

Davies, K., & Edwards, L. (1999). Domestic violence: A challenge to accident and emergency nurses. *Accident and Emergency Nursing, 7*(1), 26–30.

DNA Project. (2011, December 17). *Ground-breaking new program developed*. Retrieved from DNA Project: http://dnaproject.co.za/blog/tag/crime-scene-preservation

Edlin, A., Williams, B., & Williams, A. (2010). Pre-hospital provider recognition of intimate partner violence. *Journal of Forensic and Legal Medicine, 17*(7), 359–362.

El-Bassel, N., Gilbert, L., Wu, E., Chang, M., Gomes, C., Vinocur, D., & Spevack, T. (2006). Intimate partner violence prevalence and HIV risks among women receiving care in emergency departments: Implications for IPV and HIV screening. *Emergency Medical Journal, 24*(4), 255–259.

Ellison, G. (2007). Evidence-informed decision making in the absence of definitive evidence. *HIV-SA 2 Seminar*. University of Johannesburg, South Africa: University of London/ St Georges.

Furbee, P., Sikora, R., Williams, J., & Derek, S. (1998). Comparison of domestic violence screening methods: A pilot study. *Annals of Emergency Medicine, 31*(4), 495–501.

Gass, J., Stein, D., Williams, D., & Seedat, S. (2011). Gender differences in risk for intimate partner violence among South African adults. *Journal of Interpersonal Violence, 26*(14), 2764.

Gevers, A., Jama-Shai, N., & Sikweyiya, Y. (2013). Gender-based violence and the need for evidence-based primary prevention in South Africa. *African Safety Promotion Journal, 11*(2), 14–20.

Glasziou, P., Del Mar, C., & Salisbury, J. (2003). *Evidence-based medicine: Finding and applying the best evidence to improve patient care.* London, England: BMJ Publishing Group.

Gregory, A., Ramsay, J., Agnew-Davies, R., Baird, K., Devine, A., Dunne, D., . . . Feder, G. (2010). Primary care identification and referral to improve safety of women experiencing domestic violence (IRIS): Protocol for a pragmatic cluster randomised controlled trial. *Bio Med Central, 10*(54), 1–7.

Gremillion, H., & Kanof, E. (1996). Overcoming barriers to physician involvement in identifying and referring victims of domestic violence. *Annals of Emergency Medicine, 27*(6), 769–773.

Houry, D., Feldhaus, K., Peery, B., Abbott, J., Lowenstein, S., al-Bataa-de-Montero, S., & Levine, S. (2004). A positive domestic violence screen predicts future domestic violence. *Journal of interpersonal violence, 19*(9), 955–966.

Husni, M., Linden, J., & Tibbles, C. (2000). Domestic violence and out-of-hospital providers: A potential resource to protect battered women. *Academic Emergency Medicine, 7*(3), 243–248.

Inter-Agency Standing Committee. (2005). *Guidelines for gender-based violence interventions in humanitarian settings: Focusing on prevention of and response to sexual violence in emergencies (Field Test Version).* Geneva, Switzerland: Inter-Agency Standing Committee.

Jewkes, R. (2002). Intimate partner violence: Causes and prevention. *The Lancet, 359*(9315), 1423–1429.

Jewkes, R., Levin, K., & Penn-Kekana, L. (2002). Risk factors for dmestic violence findings from a South African cross-sectional study. *Social Science and Medicine, 55*(9), 1603–1617.

Joyner, K. (2013). Relevance and feasibility of WHO recomendations for intimate partner violence care in South African primary health settings. *African Safety Promotion Journal, 11*(2), 21–27.

Joyner, K., Theunissen, L., DeVillier, s. L., Suliman, S., Hardcastle, T., & Seedat, S. (2007). Emergency care provision for, and psychological distress in, survivors of domestic violence. *South African Journal of Family Practice, 49*(3), 15–15d.

Judge, M. (2013, April 03). Behind the shock and awe, the violence is 'normal'. *Mail & Guardian.* Retrieved January 15, 2014, from: http://www.thoughtleader.co.za/melaniejudge/2013/04/03/behind-the-shock-and-awe-the-violence-is-normal/

Kilonzo, N., Ndung'u, N., Nthamburi, N., Ajema, C., Taegtmeyer, M., Theobald, S., & Tolhurst, R. (2009). Sexual violence legislation in sub-Saharan Africa: The need for strengthened medico-legal linkages. *Reproductive Health Matters, 17*(34), 10–19.

Kyriacou, D., McCabe, F., Anglin, D., Lapesarde, K., & Winer, M. (1998). Emergency department–based study of risk factors for acute injury from domestic violence against women. *Annals of Emergency Medicine, 31*(4), 502–506.

Lejoyeux, M., Zillhardt, P., Chièze, F., Fichelle, A., Mc Loughlin, M., Poujade, A., & Adès, J. (2002). Screening for domestic violence among patients admitted to a French emergency service. *European Journal of Psychiatry, 17*(8), 479–483.

Lerner, E., Fernandez, A., & Shah, M. (2009). Do emergency medical services professionals think they should participate in disease prevention? *Informa Health Care, 13*(1), 64–70.

Littleton, H., Berenson, A., & Breitkopf, C. (2007). An evaluation of health care providers' sexual violence screening practices. *American Journal of Obstetrics and Gynaecology, 196*(6), 564.e1–564.e7.

Magen, R., Conroy, K., & Del Tufo, A. (2000). Domestic violence in child welfarepreventative services: Results from an intake screening questionnaire. *Children and Youth Services Review, 22*(3/4), 251–274.

Maiuro, R., Vitaliano, P., Sugg, N., Thompson, D., Rivara, F., & Thompson, R. (2000). Development of a health care provider survey for domestic violence. *American Journal of Preventative Medicine, 19*(4), 245–251.

Martin, L., & Jacobs, T. (2003). *Screening for domestic violence: A policy and management framework for health sector.* Cape Town, South Africa: Institute of Criminology, University of Cape Town.

Mason, R., Schwarts, B., Burgess, R., & Irwin, E. (2010). Emergency medical service: A resource for victims of domestic violence. *Emergency Medical Journal, 27*(7), 561–564.

Mayer, B. (2003). Female domestic violence victims: Perspectives on emergency care. *Nursing Science Quarterly, 13*(4), 340.

McCoy, M. (1996). Domestic violence: Clues to victimization. *Annals of Emergency Medicine, 27*(6), 764–765.

McGrath, M., Bettacchi, A., Duffy, S., Peipert, J., Becker, B., & St. Angelo, L. (1997). Violence against women: Provider barrier to intervention in emergency departments. *Academic Emergency Medicine, 4*(4), 297–300.

Morrison, L., Allan, R., & Grunfeld, A. (2000). Improving emergency department detection rate of domestic violence using direct questioning. *Journal of Emergency Medicine, 19*(2), 117–124.

Naidoo, N. (2007). HIV and domestic violence relatedness. *University of London/ HIVSA 2 Seminar on Evidence-informed Decision Making.* University of Johannesburg, South Africa: University of London/St. Georges.

Naidoo, N. (2011). From conception to coherence: The determination of correct research 'posture'. *African Journal of Emergency Medicine, 1*(4), 186–190.

Naidoo, N., & Christopher, L. (2009). Using evidence-informed decision making as a pedagogic tool in health science education. *2nd Annual National Health Sciences Education Conference.* Cape Town, South Africa.

Naidoo, N., Knight, S., & Martin, L. (2013). Conspicuous by its absence: Domestic violence intervention in South African prehospital emergency care. *African Safety Promotion Journal, 11*(2), 76–92.

National Collaborating Centre for Methods and Tools. (2011, July 30). *Online learning module: Introduction to evidence-informed decision making.* Retrieved July 30, 2011, from National Collaborating Centre for Methods and Tools: www.nccmt.ca

Ncayiyana, D. (2007). Evidence-based medicine is not all randomised controlled trials and systematic reviews. *South African Medical Journal, 97*(1), 7.

Norton, A. (2008, April 17). Screening of abuse in ER not a danger. *IOL News.* Retrieved from http://www.iol.co.za/lifestyle/screening-for-abuse-in-er-not-a-danger-1.624045

Pain, R. (2014). Everyday terrorism: Connecting the domestic violence and global terrorism. *Progress in Human Geography, 38*(4), 531–550.

Republic of South Africa. (1998). Domestic Violence Act 116 of 1998. *Government Gazette.* (Vol. 402, No. 19537). Pretoria, South Africa: Republic of South Africa.

Rickard, C. (2011, November 24). Horrific weekend of domestic violence. *IOL News.* Retrieved from http://www.iol.co.za/blogs/carmel-rickard-1.681228/horrific-weekend-of-domestic-violence-1.1185652

SA domestic violence as grim as HIV. (1999, July 27). *IOL News.*. Retrieved from http://www.iol.co.za/news/south-africa/sa-domestic-violence-as-grim-as-hiv-1.7506

Shefer, T. (2013). Editorial: Critical reflections on contemporary responses to gender violence within public, political, health and research contexts. *African safety Promotion Journal, 11*(2), 1–13.

Straus, S. E., Richardson, W. S., Glasziou, P., & Haynes, R. B. (2008). *Evidence-based medicine: How to practice and teach EBM.* (3rd ed.). London, England: Elsevier Churchill Livingstone.

te Kolstee, R., Miller, J., & Knaap, S. (2004). Routine screening for abuse: opening Pandora's box. *Journal of Manipulative and Physiological Therapeutics*, 27(1), 63-65.

Thompson, R. R., Thompson, D., Barlwo, W., Sugg, N., Maiuro, R., & Rubinowice, D. (2000). Identification and management of domestic violence: A randomized trial. *American Journal of Preventative Medicine, 19*(4), 253–163.

Vetten, L. (2005). *Addressing domestic violence in South Africa: Reflections on strategy and practice..* Vienna, Austria: UN Division for the Advancement of Women; United Nations Office on Drugs and Crime.

Waalen, J., Goodwin, M., Spitz, A., Peterson, R., & Saltzman, L. (2000). Screening for intimate partner violence by health care providers: Barriers and interventions. *American Journal of Preventative Medicine, 19*(4), 230–237.

Wadman, M., & Mulleman, R. (1999). Domestic violence homicides: ED use before victimisation. *American Journal of Emergency Medicine, 17*(7), 689–691.

Waller, A., Hohenhaus, S., Shah, P., & Stern, E. (1996). Development and validation of an emergency department screening and referral protocol for victims of domestic violence. *Annals of Emergency Medicine, 27*(6), 754–760.

Warby, V. (1999, December 14). Domestic violence laws are given teeth. *IOL News.* Retrieved from http://www.iol.co.za/news/south-africa/domestic-abuse-laws-are-given-teeth-1.23179

Weiss, S., Ernst, A., Blanton, D., Sewell, D., & Nick, T. (1999). EMT knowledge about domestic violence and the effectiveness of training. *Annals of Emergency Medicine, 34*(4), S37.

Weiss, S., Ernst, A., Blanton, D., Sewell, D., & Nick, T. (2000). EMT domestic violence knowledge and the results of an educational intervention. *American Journal of Emergency Medicine, 18*(2), 168–171.

Weiss, S., Garza, A., Casaletto, J., Stratton, M., Ernst, A., Blanton, D., & Nick, T. (2000). The out-of-hospital use of a domestic violence screen for assessing patient risk. *In Prehospital Emergency Care, 4*(1), 24–27.

Witting, M., Furuno, J., Hirshon, J., Krugman, S., Périssé, A., & Limcangco, R. (2006). Support for emergency department screening for intimate partner violence depends on perceived risk. *Journal of Interpersonal Violence, 21*(5), 585.

World Health Assembly (2003). *Implementing the Recommendations of the World Report on Violence and Health: WHA Resolution 56.24*. New York, NY: World Health Assembly. Retrieved February 16, 2015, from http://www.paho.org/hq/index.php?option=com_docman&task=doc_details&gid=20225&Itemid=270&lang=en

World Health Assembly (2004). *Road Safety and Health: WHA Resolution 57.10*. New York, NY: World Health Assembly. Retrieved February 16, 2015, from: www.who.int/gb/ebwha/pdf_files/WHA57/A57_R10-en.pdf

World Health Assembly (2007). *Health systems: Emergency care systems: WHA Resolution 60.22.* New York, NY: World Health Assembly.

World Health Organization (2007). *Health systems: Emergency-care systems.* Geneva, Switzerland: World Health Organization.

World Health Organization (2013). *Responding to intimate partner violence and sexual violence against women: WHO clinical and policy guidelines.* Geneva, Switzerland: World Health Organization. Retrieved November 15, 2013, from: www.who.int/reproductivehealth/publications/violence/9789241548595/en/index.html

World Health Organization Regional Committee for Africa (2012). *62nd Session of the regional committee: Review of the health promotion strategy for the African region.* Luanda, Angola: World Health Organization.