THE ROLE OF THE HEALTH SECTOR IN VIOLENCE PREVENTION AND MANAGEMENT

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Abstract

This paper is one in a series of *Know Violence in Childhood Global Learning Initiative*. The aim of this initiative is to build and promote learning and action across national, sectoral and disciplinary boundaries, stimulate global advocacy, and encourage greater intervention in violence prevention.

In carrying out this review, a number of other reviews (Mikton and Butchart, 2009; McCloskey, 2010; Barlow et al., 2010; Knerr et al., 2011, 2013; Euser et al., 2015) were examined to identify interventions that have been implemented in both High Income Countries (HIC) and Low and Middle Income Counties (LMIC). In describing health system responses, the framework outlined by Garcia-Moreno et al. (2015) was modified, with interventions classified as occurring at the primary, secondary or tertiary level. Overarching issues impacting interventions, such as data collection and research, development of the health workforce, a supportive service delivery system and appropriate financing of services to support interventions were also explored.

Evidence from trials of primary level intervention programmes in the USA, Australia and other developed countries have shown that the Nurse Family Partnership home-visiting programme and the Positive Parenting Programme (Triple P) reduce child maltreatment (Bilukha et al., 2005; Prinz et al., 2009). Several evidence-based projects have also been implemented on relatively small scales in LMIC utilising a variety of models developed in HIC. These primarily home visiting programmes provide health advice, support, child development and general parent education to improve child health, foster parental caregiving abilities and reduce child maltreatment. While several trials have produced evidence of effectiveness in small-scale settings, much less is known about how these programmes can be expanded without losing their effectiveness. The evidence suggests that programmes lose their effectiveness when conducted in large scale field trials (Eisner, 2012; Little et al., 2012). More research is needed to determine the systemisation of studies and transferability of studies from one country to the next.

Secondary level interventions included the establishment of child advocacy centres, use of cognitive behaviour therapy and parent child interaction therapy. No tertiary level interventions were identified.

In order to prevent child maltreatment, the development and testing of both universal and targeted prevention programmes should be prioritised. Ultimately, the success of health interventions will depend on the context/social environment in which they are implemented. Early intervention in the perinatal period is recommended (Barlow). WHO recommended utilising the public health approach to tackle this problem of violence prevention which demands application of rigorous scientific methods of research to define and understand the problem and to finding appropriate solutions.

The research agenda must determine the prevalence of the various forms of violence against children, the determinants /risk and resilience factors, as well as the social and health consequences of the
violence. The health sector has a key role to play in the multi-sectoral responses to the prevention of violence against women and children. This requires the commitment of policies, budgetary support, appropriate health facilities and trained health staff (Mikton et al., 2013; Garcia-Moreno, 2015).

**Keywords:** Child maltreatment, health intervention, public health, health sector
Introduction

This paper has been commissioned to examine the role of the health sector in violence prevention interventions for children, especially in Lower and Middle Income Countries (LMIC). This paper is one in the series of papers for the Know Violence in Childhood Global Learning Initiative. This global learning initiative is based on the premise that “a more comprehensive understanding of the causes and consequences of violence in childhood and the means of prevention can help shift global attitudes and enable children and adults to lead more secure and peaceful lives.” The aim of this initiative is to build and promote learning and action across boundaries – national, sectoral, disciplinary – and stimulating global advocacy and encouraging greater intervention in violence prevention.

Background

Children are exposed to and experience all forms of violence which includes physical, sexual, and emotional abuse, and neglect. These experiences have the potential to have life-long consequences on children’s health, growth, behaviour and development and subsequently, on their health as adults, as well as the likelihood of them becoming perpetrators of violence (Thrives, 2015). Violence against children is, however, under-reported, or goes unrecognised as a form of violence. Meta-analysis of global data found that self-reported child sexual abuse was 30 times higher and physical abuse 75 times higher than official reports (Stoltenborgh, 2011, 2013).

Data from UNICEF (2014) indicates that child homicide rates are highest in Lower and Middle Income Countries (LMIC) ranging from 8 to 27/10,000 compared with less than 7/100,000 in High Income Countries (HIC). Despite the magnitude and seriousness of the problem of childhood violence, relatively little is known about the determinants of this violence, the long term consequences and prevention interventions that can make a difference. Most of the research that has been conducted is in developed countries compared with what has been done in the LMIC where the problem is the greatest.

“Despite the fact that violence has always been present, the world does not have to accept it as an inevitable part of the human condition. As long as there has been violence, there have also been systems – religious, philosophical, legal and communal – that have grown up to prevent or limit it. None has been completely successful, but all have made their contribution to this defining mark of civilization. Since the early 1980s, the field of public health has been a growing asset in this response. A wide range of public health practitioners, researchers and systems have set themselves the tasks of understanding the roots of violence and preventing its occurrence” (Krug et al., 2002). Although the problem of violence is very complex, violence can be prevented and its effects reduced by utilising public health strategies and interventions in a similar manner to that taken in successfully tackling health problems such as infectious diseases or pregnancy related complications. The WHO publication, Violence Prevention: The Evidence, sets out seven briefings which are based on
extensive review of scientific evidence of the effectiveness of interventions to prevent interpersonal and self-directed violence. The violence prevention strategies covered are: developing safe, stable and nurturing relationships between children and their parents and caregivers; developing life skills in children and adolescents; reducing the availability and harmful use of alcohol; reducing access to guns, knives and pesticides; promoting gender equality to prevent violence against women; changing cultural and social norms that support violence; and victim identification, care and support programmes.

Several violence prevention interventions that have been implemented through the health sector have been evaluated and provide evidence of effectiveness. Interventions that develop safe, stable and nurturing relationships between children in their early years and their parents and caregivers have been shown to prevent child maltreatment and reduce childhood aggression (Bilukha et al., 2005; Barlow et al., 2010; Mikton et al., 2013). These have also been shown to have the potential to prevent the life-long negative consequences of child maltreatment on the mental and physical health, social functioning, and on security. There is also some evidence that these types of interventions reduce violence in adolescents and early adult life, and probably help decrease intimate partner violence and self-directed violence in later life.

The victims of many forms of violence such as child maltreatment and interpersonal violence can be repeatedly victims of violence for years without it coming to the attention of authorities. The victims come to the attention of the health services because they suffer physical injury, or have life-long health and psycho-social consequences such as mental and physical health problems, cardio-vascular disease and cancer due to the adoption of risky health behaviours such as smoking and abuse of alcohol as a means of coping with child maltreatment. They may also experience difficulties with interpersonal relationships and occupational functioning, and are at increased risk of becoming perpetrators of violence. They may also suffer a range of emotional and social problems.

Victims of violence therefore come into contact with a range of health services, including primary care, emergency departments and mental health services (Ilrich et al., 2003; Lo Fo Wong et al., 2007). As a result, health services provide an excellent opportunity to identify victims of violence, provide support and referral to appropriate agencies for additional services (Culross, 1999; Taket et al.). However, a range of challenges and problems can prevent agencies from identifying and supporting victims of violence. Those identified include a lack of recognition of the responsibility and role that the health care service providers and services play, lack of trained health staff, absence of screening guidelines to identify victims of violence, and time constraints (Rönnberg, Hammerström, 2000; Stinson, Robinson 2006; Yonaka et al., 2007). Many victims will not disclose their situation voluntarily and therefore, health and other professionals require the information, knowledge and skills and tools to ensure that they can recognise victims of violence and respond to their needs.

There remains insufficient research and evidence on the long-term effects of violence and maltreatment of children. This paper brings together the evidence of effective primary, secondary
and tertiary interventions offered through the health sector that reduce the risk and effects of childhood violence. It also identifies promising initiatives that are being implemented in HICs and LMICs. The limitations of these interventions and the gaps and challenges posed in implementation are identified.

**Methodology**

A comprehensive internet-based literature search was conducted to identify relevant articles published in academic journals, unpublished papers, and reports from government agencies and international health institutions, such as the WHO. Health databases searched included Pubmed, ResearchGate, and the medical section of Wiley Online Library. The search was limited to the 25-year period from 1990 to 2015 and search terms included “violence prevention”, “health interventions”, “violence against children” and “injury and violence surveillance”. Additionally, a general internet search using similar search terms was done using Google, and relevant organisational websites, such as those of WHO and UNICEF, were searched.

The articles considered for inclusion in this analysis were systematic reviews, comprehensive reviews and meta-analyses of health interventions, as well as reports of individual patient-centred health-based intervention programmes. Additionally, intervention programmes focussed on supporting the work of the health provider, including policy formulation, protocol development, support and training of the health workforce, financing of interventions, and the role of international health networks were considered. Papers were included only if there was evidence of successful intervention through RCTs or evidence of potential for success through an external evaluation report.

Classification of health-based interventions, utilised a framework described by Garcia-Moreno (2015) for violence against women, which was modified to better reflect those interventions suitable for violence against children (Figure 1). Direct patient centred interventions were classified as primary, secondary or tertiary. Primary level interventions are aimed at entire populations regardless of degree of risk and are designed to develop positive relationships between children and their parents/caregivers in order to minimise the risk of domestic and sexual violence and child maltreatment; these may take place in a variety of settings, including public spaces such as community centres and primary care health centres, private homes, or reach a wide population base through the media. Primary interventions are the most desirable forms because they are often more feasible and have greater cost benefit than secondary and tertiary interventions (Garcia-Moreno et al., 2015). Secondary interventions aim at early detection and intervention for specific populations, i.e. those who are identified as being at risk of violence because of recognised socio-demographic features, and those who have been victims of recent or non-chronic violence. Tertiary interventions provide services to victims of severe and/or long term violence to minimise consequences. Secondary and tertiary level services are typically provided within health-care facilities. Overarching these interventions are comprehensive data collection and research, which is used to inform policy and decision-making, and support for the health workforce.
Six previous reviews of health interventions in either HIC or LMIC were identified (Mikton and Butchart, 2009; McCloskey, 2013; Barlow et al., 2010; Knerr et al., 2011, 2013; Euser et al., 2015). No review included interventions in both HIC and LMIC.

Figure 1. Framework

Interventions through the health sector to prevent violence

Patient care interventions

Primary Prevention
- Advocacy/awareness raising
- Interventions to improve parent child interaction and reduce child maltreatment

Secondary Prevention
- Identification of existing violence through screening tools
- Acute care for health problems
- Long-term care for health, including mental health: CBT and parent child interaction therapy
- Inter-agency collaboration and support (Child Advocacy Centers)

Tertiary Prevention
- Rehabilitation
- Long-term mental health and support
- Family social and other support
- Interagency collaboration and support services

Data and research for policy formulation, health workforce development and service delivery

Health interventions

A review of the literature suggests that very few countries have a national health response to the issue of violence against women and children, and most of even the well-known programmes are not widely implemented (Little, 2010). In larger countries such as the USA, Canada, and South Africa, regional responses are documented, but in general, interventions have taken the form of studies that have not been ‘systematised’ (Little, 2010) or integrated into the health sector (Colombini, 2008). Examples of national responses are found in Swaziland, Malawi, and Tanzania, all of which include a health response as part of a national multi-sectoral approach to the problem.
Primary Preventions

Two main forms of primary level intervention were considered: advocacy/awareness building and interventions to prevent and reduce the likelihood of violence against children (VAC). This study found no published evidence of advocacy and awareness building interventions initiated by the health sector, aimed at reducing violence against children. This study also did not identify any health-initiated interventions for which the main or sole objective was the prevention of violence against children. However, a number of intervention programmes were identified for which prevention of VAC was a component or reduction of VAC was an outcome. As indicated by Knerr et al. (2009, 2011), the majority of prevention interventions target parents, particularly mothers, and those with infants and preschool children, i.e. in the early childhood age group. Table 1 provides a summary of these evidence based interventions, with a particular focus on LMIC.

Table 1 demonstrates the diversity in approaches to these interventions from the health perspective. Some programme objectives and intervention components included health-based aspects while others did not; some interventions were implemented in health centres while others were not and some programmes utilised health professionals or para-professionals while others did not.

The studies also adapted various approaches/programmes conceptualised in HIC for use in the LMIC. Some of these included the SOS\(^1\) programme implemented in Pakistan and Iran (Oveisi et al., 2010), Levenstein\(^2\) approach implemented in South Africa, Mediational Intervention for Sensitising Caregivers (MISC)\(^3\) model, and HIPPY\(^4\), an Israeli programme, implemented in Turkey. Other interventions, which have wide acceptability in both HIC and LMIC, include the nurse-family partnership, and the Triple P programme and, in fact, these are the main interventions that have been modified for use in LMIC. The Jamaican study developed its own approach and is described in more detail below.

\[^1\] SOS produces resource materials, books, and videos, designed to assist parents with children experiencing emotional or behavioural problem.

\[^2\] Levenstein– theory of cognitive growth in pre-schooler through verbal interaction with mothers (Levenstein, 1970).


\[^4\] Home Instruction Program for Preschool Youngsters (HIPPY) developed in Israel is designed to strengthen the child’s cognitive and early literacy skills, social/emotional and physical development.
### Table 1. Evidence based primary prevention interventions in LMIC

<table>
<thead>
<tr>
<th>Country</th>
<th>Target group</th>
<th>Objectives</th>
<th>Intervention components</th>
<th>Intervention location and length</th>
<th>Origin</th>
<th>How adapted</th>
<th>Health Service provider</th>
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<tbody>
<tr>
<td>Chile (Arecena et al., 2009)</td>
<td>Pregnant women, Children 0-11m</td>
<td>Improve maternal and child physical and mental health, assess cost effectiveness of home visiting</td>
<td>Health counselling; discussion and feedback on parenting skills</td>
<td>Home visitation (up to 15 months)</td>
<td>Similar to structured nurse home-visiting programmes in the US</td>
<td>Not stated</td>
<td>Community monitor supervised by nurse midwife</td>
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<tr>
<td>Jamaica (Powell et al., 1989, Walker et al., 2011)</td>
<td>Growth retarded children 6-24 months</td>
<td>Increase mother's ability to promote child's development, improve mother-child interaction, and to promote self-esteem.</td>
<td>Demonstrating play and communication techniques; encouraging mothers to use positive feedback, language activities, games, songs and toys</td>
<td>Home visitation 1-2 years</td>
<td>Jamaica</td>
<td>N/A</td>
<td>Community Health worker supervised by researcher</td>
</tr>
<tr>
<td>South Africa - Kayelitsha (Cooper et al., 2009)</td>
<td>Pregnant women, Children 0-6m</td>
<td>Promote sensitive and responsive parenting and secure infant attachment to mother</td>
<td>Activities based on neonatal behavioural assessment schedule which sensitise mother to infant capacities and needs</td>
<td>Home visitation 6 months</td>
<td>Preventive intervention programme by health visitors in UK, following the principles of <em>The Social Baby</em> (Murray et al., 2002).</td>
<td>Incorporated the key principles of the WHO document <em>Improving the Psychosocial Development of Children</em></td>
<td>Trained mentors – lay persons</td>
</tr>
<tr>
<td>South Africa (Magwaza et al., 1991)</td>
<td></td>
<td>Improve child cognitive, socio-emotional function via improved parenting</td>
<td>Role-play, observation; positive reinforcement and feedback; materials eg. pictures, toys</td>
<td>Home visitation</td>
<td>Uses approach by Levenstein of verbal interaction stimulation</td>
<td>Not stated</td>
<td>Trained research assistants</td>
</tr>
<tr>
<td>China (Jin et al., 2007)</td>
<td>Children up to 24 months</td>
<td>Test efficacy of WHO CFD in improving child development, China</td>
<td>Counselling, role play and practice with Mother’s Card, which depicts age-specific messages for caregivers related to play</td>
<td>Home visitation</td>
<td>WHO/UNICEF Care for Development (CFD) Mother’s Card, part of the Integrated</td>
<td>Materials used were available in the home and natural environment</td>
<td>Professionals</td>
</tr>
<tr>
<td>Country</td>
<td>Target Group</td>
<td>Intervention Description</td>
<td>Setting</td>
<td>Management of Childhood Illness (IMCI) package</td>
<td>Language Notes</td>
<td>Professional Roles</td>
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<tr>
<td>Turkey (Kagitcibasi et al., 2007)</td>
<td>Mothers Children 3 – 5 years</td>
<td>Investigate the separate and combined effects on children of an educational preschool environment and a mother training programme</td>
<td>Group discussions on nutrition, child health, children's developmental needs. Play activities for preschool children, child discipline and parent–child communication</td>
<td>Management of Childhood Illness (IMCI) package</td>
<td>Not stated – except translation into Turkish</td>
<td>Para professionals and lay persons</td>
<td></td>
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<tr>
<td>Pakistan (Khowaja et al., 2016)</td>
<td>Mothers and pre-school children</td>
<td>Assess the feasibility of offering a 6-week parenting programme for mothers of preschool children attending family health centres</td>
<td>6 major themes, presented and discussed during 6 weekly, 1-hour sessions. Brochures, videos and self-reflect session.</td>
<td>Management of Childhood Illness (IMCI) package</td>
<td>Translated into Urdu</td>
<td>Professional (registered nurse)</td>
<td></td>
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<tr>
<td>Ethiopia (Klein and Rye, 2004)</td>
<td>Families and children 1-3 years</td>
<td>Improve parent–child interactions and child educational learning potential</td>
<td>Role playing; videotape modelling; presentation of pictures depicting positive childrearing</td>
<td>Management of Childhood Illness (IMCI) package</td>
<td>MISC is an approach rather than a programme with specific components</td>
<td>Paraprofessional</td>
<td></td>
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<tr>
<td>Country</td>
<td>Target Group</td>
<td>Aim</td>
<td>Intervention</td>
<td>Location</td>
<td>Training and other materials</td>
<td>Professional Status</td>
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<tr>
<td>Pakistan</td>
<td>Pregnant women</td>
<td>Determine acceptability of programme by CHW and increase mothers’ knowledge and attitudes</td>
<td>Training of CHW; education of mothers and learning to play calendars provided. Follow up visits discussing child’s development using the calendar</td>
<td>Health centre for training. Home visitation for fortnightly follow-up, 6 months</td>
<td>‘Learning Through Play’ programme, developed in Canada for use by lay home visitors working with at-risk multi-ethnic parents and children; adapted for use in many developing countries [96]</td>
<td>Paraprofessional</td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td>Training and other materials translated into Urdu; previously adapted for use in same country and similar contexts</td>
<td></td>
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<tr>
<td>Brazil</td>
<td>Mothers and newborns</td>
<td>Influence mothers' sensitive responsiveness toward their infant</td>
<td>Video and discussion</td>
<td>One session at Health centre, 1 month</td>
<td>Video based on the Neonatal Behaviour Assessment Scale (NBAS), presenting information about newborn competence to interact and affectionate handling of infants, and encouragement to mothers to interact with their infants</td>
<td>Professional</td>
<td></td>
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<td>Not stated</td>
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*Source: Adapted from Knerr, 2011*
**Jamaica Early Stimulation Study**

This study undertaken by the University of the West Indies had as its objectives to: ‘increase the mother’s ability to promote her child’s development through play, to improve mother-child interaction, and to promote the self-esteem of both mother and child’ (Walker et al., 2011). Weekly home visits by community health workers, who were trained in child development and stimulation, to homes of growth-retarded children (9-24 months) were undertaken over a period of two years (Box 1). Longitudinal study revealed improvements in cognitive and educational development and less involvement in acts of violence which persisted at 18 years of age.

**Box 1. Description of the Early Childhood Stimulation Study**

“We used a structured curriculum which included some Piagetian concepts for children under 24 months, and concepts such as shape, quantity, position, and color for children older than 24 months, using activities we designed. During the weekly 1-hour visit, the CHWs demonstrated play techniques and involved the mother in a play session with her child. Mothers were encouraged to continue play activities between the visits and to integrate them in their daily routines. They were encouraged to chat with their children and to label objects and actions. Emphasis was placed on the use of praise and positive reinforcement, and physical punishment was discouraged. Toys made from commonly discarded household materials and simple picture books were left in the home and exchanged each week. A supervisor monitored the quality of the visits.” (Walker, 2011)

**Nurse-family Partnership**

The nurse-family partnership developed in the USA targeted first-time pregnant women, mainly those in the lower income groups who were at risk of low birth-weight and pre-term infants. The programme has been implemented among a mainly white population in Elmira and an African-American and Hispanic population in Memphis and Denver. Through bi-weekly visits, the public health nurse aimed to build safe, nurturing, and stable relationships between children and their parents or caregivers through instruction and observations and home visiting. Issues addressed included: child maltreatment, delinquency and criminal behaviour, early cognitive development, internalising, mental health issues, physical health and well-being, preschool communication/language development, and reciprocal parent-child warmth. The programme has been adapted for use in England and by the Dutch. Evaluations using RCT have demonstrated positive short and long-term outcomes in several areas including: reduction in domestic violence (Olds, 2006); reduction in childhood injuries and increasing inter-birth intervals (Olds, 2010); and reduction in occurrence of internalising behaviours and in reports of maltreatment (Mejdoubi et al., 2013).
These studies were implemented in specific communities which are not representative of their groups as a whole. However, the programme had been replicated with or without modification in other areas with success, suggesting that it could be considered for implementation in LMIC. Olds (2006) suggested that the programme has been more successful among high-risk clients. Therefore, implementation of such a programme should consider how best to target those in high-risk groups. This becomes especially important in light of the cost of the programme, i.e. approximately US$9100, per child per year to fund, even in the face of positive net benefits (US$17200 at age 15) to society (RAND, 2005).

**Triple P (Positive Parent Programme)**

The Triple P employs a multi-level parenting and family support strategy. It is a multifaceted programme, with various delivery modalities including inter-alia face to face, group, self-directed, and online and media parenting, designed at the University of Queensland, Australia, to improvements in parental knowledge and skills in order to promote positive development and behaviours and manage negative behaviours in their children. Its elements include: principles of positive parenting, strategies for enhancing relationships with the child, the level and nature of the intervention which would vary depending on whether there is a problem and the severity of the problem, multidisciplinary approach, and self-regulation to promote parents’ self-management skills. The Triple P is trademarked, has in-built evaluation tools for different domains of family functioning and behaviour, and has a scoring application for use by professionals and organisations. Currently it is being implemented in 25 countries, mainly HIC, such as the USA, New Zealand, Switzerland, Canada, Belgium, Singapore, Latin America, and Hong Kong. In 2013, the programme was launched in 9 provinces in South Africa with the aim of promoting positive parenting and HIV reduction. Several evaluations have pointed to the success of the programme in improving parental behaviour (Heinrich et al., 2014; Morawska et al., 2014).

**Secondary Prevention**

Secondary prevention programmes aim at preventing further maltreatment by detecting the problem, identifying those at risk and intervening appropriately. Interventions providing support and guidance to vulnerable individuals and their families have been classified as advocacy programmes in the WHO report on Violence Prevention: the Evidence (WHO, 2010). A number of these programmes, which include the provision of information, counselling and referral for other services (Child Advocacy Centres), have reported success in improving the quality of life and social support for victims of violence and reducing re-exposure to violence (THRIVES, 2015; WHO, 2010). In Jamaica, one such project is CAMP Bustamante. Cognitive behaviour therapy and parent child interaction therapy (PCIT) are approaches that have been successfully used in the USA and in some LMIC, for example, Zambia. In this section, secondary prevention programmes such as Child Advocacy Centres with the example of CAMP Bustamante, cognitive behaviour therapy in Zambia, parent child interaction therapy and screening are described.
**Child Advocacy Centres**

The concept of a multiple agency/interdisciplinary approach operating from one facility such as the Children's Advocacy Centres/ Child Crisis Centres (CACs) has been implemented to facilitate secondary victimisation prevention in several countries. Most of these agencies are located in the United States and other developed countries. Similar centres are located in a few LMICs such as Bangladesh, Malaysia, Rwanda and Namibia, but no evidence is available with respect to their effectiveness. These centres, also called ‘On-stop centres’, provide the victim and their caregiver access to a wide range of services e.g. counselling, treatment, referral to legal services. Evaluations of these centres have found that they improve coordination and timely access to support services as well as improve the victims’ safety and reduce the risk of further harm (Wolfteich et al., 2007).

**Child Abuse and Mitigation Project (CAMP) Bustamante – Jamaica**

CAMP Bustamante was developed and implemented as a component of the Healthy Lifestyles Project as part of the National Strategic Plan for the Promotion of Healthy Lifestyles in Jamaica (2004-2008). The aims of the project were to develop a rapid hospital based response to suspected child abuse, by identifying and treating children between of 0 and 12 years of age who attended the Accident and Emergency Department for injuries sustained as a consequence of violence, improve parenting skills and conflict resolution, develop and implement an intervention model within the child's environment (home, school, church) through interaction with existing community based programmes. The children were identified from data generated by the Jamaica Injuries Surveillance System at the hospital or by a health provider who attended the patient. The project was designed utilising an ecological approach that addressed the needs of the family, the school and the community through the establishment of a multi-agency response that drew on the support and expertise of child protective services and community and non-governmental agencies in an effort to mitigate violence related injuries in children.

Children who were identified with violence related injuries were then assigned to a social worker for case assessment which involved home and school visits with interviews with parents, teachers and other relevant persons, and appropriate referrals for further investigation and support. Rehabilitation interventions included after-school and summer programmes, parent forums and individual parent counselling sessions. In addition, various media and fora were used to raise awareness of child abuse.

No structured evaluation was done but an assessment indicated that the intervention was well accepted by the hospital staff, teachers and support agencies. Parents reported improved parent-child relationships. Only 1 percent of cases had repeat episodes of injury (Jones et al., 2008). Unfortunately, in spite of the apparent success, there was no attempt to integrate the project and it was discontinued due to constraints.
**Cognitive Behavioural Therapy in Zambia**

Murray et al. (2013) reported on a study conducted by an NGO to monitor and evaluate the feasibility of implementing Trauma Focussed-Cognitive Behavioural Therapy (TF-CBT) to address trauma and stress-related symptoms in orphans and vulnerable children (OVC) in Zambia. TF-CBT treatment was provided by lay counsellors to children aged 5-18 years. Pre-and post-treatment assessments were conducted which showed significant improvements in severe trauma and shame symptoms. Although this was not a randomised trial, it demonstrates the feasibility of implementation of this treatment method in similar settings in LMIC countries (Murray et al., 2013).

**Parent-child Interaction Therapy**

Parent-infant relationship during the first few years of life has been shown to be important in the development of the infant’s brain and exposure to stress during this period can lead to problems in learning and behaviour (Schore, 2008; Center for the Developing Child, 2007). Barlow et al. (2010) reviewed the effectiveness of interventions aimed at addressing parent-infant relationships. Despite limitations in the study designs and the limited evidence provided from the studies reviewed, the authors recommended that given the importance of infant-parent relationships in early life on later functioning of the child, families with serious mental health problems, abuse, or child protection concerns should be referred to infant mental health specialists and parent-infant psychotherapists for psychotherapy. Therapy should be initiated during pre-natal/postnatal period.

**Screening**

Screening tools have been developed for detection of child abuse in emergency department of hospital in the UK and North America (Benger et al., 2002; Hooker et al., 2015). Children are often victims of domestic violence episodes. Hooker et al (2015) conducted a process evaluation of domestic violence/assault (DVA) screening at an Emergency Department (ED) by using a maternal health and well-being checklist and found that screening was sustained due to greater nurse discussion and training. They concluded that discussion and monitoring of domestic violence work is needed to ensure domestic violence disclosure by women, and this can be aided by the use of the tool. Other interventions utilising screening tools in emergency departments have been tried and evaluated, and found to be effective, in particular to identify victims of intimate partner violence, for referral to appropriate services, including obtaining psychosocial therapy to reduce mental health problems associated with violence (WHO, 2010). On the other hand, Ramsay et al. (2002) suggest that there is insufficient evidence on its effectiveness in reducing violence. Furthermore, evidence from studies evaluating the effectiveness of screening tools for child maltreatment showed that there was a high percentage of false positives and the recommendation is that such screening tools should not be used (Nygren et al., 2004; McMillian et al., 2000). Benger, et al. (2002) found that a simple reminder flowchart to screen for intentional injury, inserted in the docket of children attending ED with an injury, can increase consideration of child abuse in screening, but was unable to determine the level of false positives.
Tertiary

Evidence based interventions for rehabilitation, long term mental health and other support appear to be largely lacking for the early childhood period as none were found through the search terms used. Tertiary level interventions for victims of abuse and violence take place in settings that provide services to the general population.

Health Systems to Support Health Care Providers

Policies and Plans of Action

A few countries have developed national inter-sectoral policies and plans which focus on prevention of violence against women (Garcia-Moreno, 2015), but do not focus on the role and actions required by the health sector. Jamaica has developed and approved The National Plan of Action for Integrated Response to Childhood Violence 2012-2017 which includes some actions to be taken through the health sector, but evaluation reports are not yet available. A similar multi-sectoral plan of action has been developed by Tanzania for the period July 2013 to June 2016 but evaluation reports are also not yet available. Spain has taken a systematic and standardised health systems approach to address the problem of violence against women. This approach includes working groups that focus on: epidemiologic surveillance; standardised records design, healthcare aid protocols, ethical and legal aspects, healthcare professionals’ training and performance evaluation to develop information systems, implementation of protocols, processes, training, and coordination and continuity of care in addition to accreditation and dissemination of good practices. Among the challenges identified were: the need to sustain and reinforce the basic training and competences of the health professionals to manage victims of violence, improved inter-sectoral coordination to ensure clear pathways of referral to other services, the need for institutional leadership to support implementation, the need to address structural inadequacies and too little time to due to case overload and the need to continue to improve the information and data management (Garcia-Moreno et al., 2015). Lessons can be learnt from Spain’s experience and applied by other countries as they develop or revise their plans of action to prevent violence against women and children.

Research, Monitoring and Evaluation

In the World Report on Violence and Health (WHO, 2002), Krug et al. discussed extensively the public health approach to addressing the problem of violence. The authors clearly outline the rationale for utilising the public health approach to tackle this problem which demands the application of rigorous scientific methods of research to define and understand the problem and to find appropriate solutions. The research agenda must therefore determine the prevalence of the various forms of violence against children, the determinants/risk and resilience factors, as well as the social and health consequences of the violence. The example of Columbia was cited where this approach was used in tackling their problem of high violence and homicides. The process was led by
a public health specialist who was also the Mayor and involved multiple sectors. The Centres for Disease Control (CDC) Injury Prevention and Control: Division of Violence Prevention utilises this same public health approached which is shown in Figure 2.

Figure 2. The Public Health Model

In December 2013, WHO launched a survey of 130 governments to determine the progress and gaps in the area of prevention of all types of violence, including violence against children, in preparation for the proposed development of a global plan of action. Currently, there is a draft report which will provide details of progress and gaps, but it is not available for citation. The World Health Assembly (WHO) in May 2014 approved the Resolution “Strengthening the role of health system in addressing violence against women and girls and against children”.

To address the gaps in understanding the magnitude of the problem of violence in children, the risk factors and its implications for public health, several countries have partnered with “Together for Girls” to conduct the national Violence Against Children Survey (VAC) to better understand the issue of sexual violence against children. This was a population-based household survey among females and males aged 13-24 in which nationally representative data on prevalence, risk factors, consequences and help seeking behaviour for emotional, physical and sexual violence against children was collected to help countries develop policies and action plans to tackle the problem. The “Together for Girls” is a public-private partnership, which included technical expertise from the World Health Organization, the Joint United Nations Programme on HIV/AIDS, UNICEF, CDC, USAID, the Presidents Emergency Plan for AIDS Relief, and others partners. The countries where these surveys have been conducted are mainly in Africa. The surveys were multi-sectoral and included the health and the social services sectors. The findings from these surveys were presented at a meeting in Swaziland “From Research to Action: Advancing Prevention and Response to Violence against Children: Report on the Global Violence against Children Meeting”; Ezulwini, Swaziland | 28 – 30 May 2014 Swaziland (2007). The countries reporting included Swaziland, Cambodia (2013), Haiti (2012), Indonesia (2013), Kenya (2010), Malawi (2013), Tanzania (2009),
and Zimbabwe (2011). Additional VACS are being planned or implemented in Botswana, Cote d’Ivoire, Laos PDR, Mozambique, Nigeria, Rwanda, Uganda, and Zambia. Some countries like Tanzania have developed national plans of action using the findings from the survey, whilst others such as Swaziland, Malawi, and Mozambique, have used the findings to mobilise their governments to utilise the multi-sectoral response to tackle the problems of violence against children. The VACS produce comparable data which can assess the progress being made with respect to the prevention of violence, nationally and internationally. To date, no country has conducted a repeat survey (Ezulwini, Swaziland, May 2014).

Three longitudinal birth cohort studies undertaken and/or facilitated by health professionals have been conducted in LMICs which included questions related to violence which was of great concern to health professionals as it was affecting the emergency medical services and the growing reports of behavioural problems of children in families and schools. The studies have the potential to identify the magnitude of the problem, the risk and protective factors as well the outcomes. These are: The Jamaican Birth Cohort Study, 1986; Pelotas Birth Cohort Study, 1993; and Brazil and the Birth to Twenty Study, South Africa. A follow-up study of a sub-sample of urban children at age 11/12 years old from the Jamaican Birth Cohort Study examined the children’s experience and level of exposure to community violence (Samms-Vaughan et al., 2004). The extent to which the information obtained has guided policy is not known. Murray et al. compared the 11 year olds in the Pelotas, Brazil cohort study to a similar group in Britain in the Avon Longitudinal Study of Parents and Children (ALSPAC) to determine whether key risk factors, such as childhood behavioural problems were influential in the development of crime and violence similarly in LMIC and HIC settings. The findings indicate that conduct problems and hyperactivity were similarly found to be precursors of violent and nonviolent crimes in these two different country settings. They concluded that “conduct problems and hyperactivity potentially represent both markers of other childhood risk factors, and possible risk mechanisms increasing the chances of engagement in adolescent crime and violence.”

Surveys such as the VACS are excellent for providing a wide collection of information on several variables related to violence. However, they only provide time snap-shots of the situation, are costly and require significant technical expertise and staff which many LMICs cannot afford. On the other hand, surveillance is a systematic ongoing process which can be built into existing operations of the health care services and is much less costly. It provides data collection, analysis, interpretation and dissemination of health information for understanding and monitoring a particular health problem or accessing achievements. Most countries do not have surveillance systems for violence. CDC and WHO recommended the establishment of injury surveillance system which includes violence related injuries. They identified the questions that surveillance could address, namely: “what is the problem? (who and how many are being injured and in what ways?); what is the cause? (what are the risks that contribute to injury?); what works? (how can you intervene and which interventions best reduce the risks and the harm?); how do you do it? (how do you make the best use of available resources to stop people from being injured or to reduce the harm done? And how do you add to your resources if they are insufficient?) (Holder et al., 2004). The Ministry of Health, Jamaica, successfully designed and
implemented a violence-related injury surveillance system (VRISS), at the Accident and Emergency Department of its main hospital located in the capital city. The VRISS is based on the International Classification of External Cause of Injury (ICECI), collects demographic, method and circumstance of injury, victim-perpetrator relationship and patient's discharge status data (Ward et al., 2002). The system has been expanded to 7 regional and specialist hospitals but challenges remain with respect of sustaining the supervision and functioning of the system. Similar systems have been implemented in Nigeria (John et al., 2008), Nicaragua, Colombia and El Salvador (Clavel-Arcas and Concha-Eastman, CDC/PAHO, 2005).

Health Workforce Development

Appropriate training of the health workforce, especially of those providing health care, is critical to the success of any intervention. The Sexual Violence Research Initiative project funded by Ford Foundation (SVRI, 2015) recognised that while there have been some initiatives to improve the care of women and children's experiences of sexual abuse, there was little focus on the psycho-social needs of the survivors. The training programme targeting health care workers was based on the South African national curriculum “Caring for survivors of sexual assault and rape: A training programme for health care providers in South Africa” and adapted for different disciplines, geographical and socio-cultural settings. It has been conducted in 7 African countries with requests from other African states. From one of the countries there were a number of cross-cutting recommendations including:

- Establish one stop centres at district hospitals if not available at a provincial level;
- Ensure protocols for Sexual and Gender Based violence (SGBV) victim care and support and perpetrator management are available in all health services;
- Increase partnership and collaboration with all stakeholders in fighting against SGBV;
- Ensure the availability of essential medicine;
- Develop guidelines for the clinical management of SGBV;
- Increase sensitisation and community awareness through local leaders and parties that work with communities on daily basis; and
- Accelerate the GBV clinical management training

Another initiative aimed at the development of the health workforce is The Nursing Network on Violence Against Women International (http://www.nnvawi.org/) whose mission is to eliminate violence by advancing nursing education, practice, research, and public policy.

Gaps

The health sector has a key role to play in the multi-sectoral responses to the prevention of violence the children and women. This requires the commitment of policies, budgetary support, appropriate health facilities and trained health staff. Mikton et al. (2013) in an assessment of 5 LMICs readiness to implement evidence-based child maltreatment prevention programmes on a large scale identified major gaps in almost all the countries. These included “a lack of professionals with the skills,
knowledge, and expertise to implement evidence-based child maltreatment programmes and of institutions to train them; inadequate funding, infrastructure, and equipment; extreme rarity of outcome evaluations of prevention programmes; and lack of national prevalence surveys of child maltreatment.” Garcia-Moreno (2015) identified the absence from national budgets of funding to address violence against women and girls.

There is evidence that links violence against women with violence against children. Women are usually the caregivers for children and are therefore exposed to similar acts of violence, risk factors are similar, as well as the consequences. Development of integrated plans of action and programmes in the health sector for the prevention of women and children have the potential of creating links with other health related programmes such as HIV/AIDS and so could improve the efficiency and reduce costs of service delivery. This integration has been done successfully by adapting tools originally designed to improve care for women who experienced violence to meet the needs of children, as set out in guidelines on the clinical management of children and adolescents who experienced sexual violence (Day et al., 2013).

It is only through population based surveys, surveillance data, evaluation and research studies that the magnitude and determinants of the problem of violence in childhood can be understood and the necessary policies and plans implemented to effectively address the problem. CDC and WHO recommended the establishment of injury surveillance system which includes violence related injuries and a few countries have adopted this recommendation. Appropriate screening tools applicable for identification child abuse among children attending health centres and emergency departments in LMIC need to be developed. Eisner et al. (2012) stated that recent research indicated that evidence-based prevention ‘needs to be based on the correct identification of the causal risk factors and mechanisms that lead to violence and aggressive behaviour, as well as knowledge about the mechanisms that impede the manifestation of problem behaviours even where risk factors are present’. Building on protective factors would be more likely to result in effective programmes. This highlights some of the critical study design and evaluation issues that have been identified in reviews of effectiveness of interventions for prevention of childhood violence.

While several trials have produced evidence of effectiveness in small scale settings, much less is known about how these programmes can be expanded without losing their effectiveness. The evidence suggests that programmes lose their effectiveness when conducted in large scale field trials (Eisner et al., 2012; Little et al., 2012). Furthermore, little has been done to determine the transferability of studies from one country to the next. Therefore, research is needed to address these issues of systematisation and transferability.

Although countries have incorporated some training initiatives to improve the knowledge of health professionals, mainly nurses and doctors, these initiatives have been on the job training, often associated with a particular study, and not been incorporated into the curricula for the training programmes. Training programmes that have been evaluated and reported in the literature have been
associated with relatively small scale research trials and has not been scaled up to the national level. Even where training exists, one study found that nurses had the theoretical knowledge of the nature and consequences of domestic abuse, but were lacking in confidence in detecting and managing abuse and were therefore insufficiently prepared to deal with the issue (Bradbury-Jones et al., 2015; García-Moreno et al., 2015). The effectiveness of the interventions have been found to be dependent on the selection of the health professional, with the higher level professional, such as the nurse, being more effective than paraprofessionals (Olds et al., 2010).

Studies have shown that health professionals interfacing with victims of violence (Van Der Wath et al., 2015; Goldblatt, 2009) are vulnerable to the effects of the stress and may in turn suffer negative emotional consequences which affect their personal and professional lives. Yet there appears to be no training programmes in this regard to support health workers.

**Discussion**

It is important that evidenced based prevention should always be based on the correct identification of the causal risk factors and the mechanisms that lead to violence and aggressive behaviours as well as factors that reduce the risks. Prevention interventions have been found to be more effective when it combines the reduction of risk factors with reinforcing the factors that are protective (Coie et al., 1993). However, most interventions have traditionally tended to focus on the reduction of risk factors (Eisner et al., 2012). It is therefore not surprising that findings from several studies often have mixed results which may be attributed to design differences. Among those that have demonstrated positive outcomes, these have mainly been in relation to parental attitude and behaviour rather than in reduction and/or prevention of child maltreatment (Knerr, 2011). Nurse Family programme is one such programme that has shown positive effects to the parents’ behaviour rather than its effect on child maltreatment.

In view of the evidence that the high stress levels in the early years of life can adversely affect the infant and child’s brain development and lead to lifelong learning, behavioural and health problems Barlow et al. (2010) recommended that evidenced based programmes that support parenting, the strengthening of parent-infant relationships and that address maternal mental health issues be implemented during the perinatal period. This will require a comprehensive policy framework for Maternal and Child health services that include a focus on the perinatal, postnatal period and first year of life in particular. The training, education, supervision and allocation of adequate resources and technical expertise will be essential for success.

Olds (2006) pointed out the greater positive results by utilising trained professionals rather than paraprofessionals to conduct the intervention. This has serious cost implications for the transportability of these interventions from HICs to LMICs. Also, many LMICs have a serious insufficiency of qualified health staff and suffer from a high turnover of these professionals. Consequently, paraprofessionals and lay persons are often used, especially for home visitation.
Small scale trials which have been found to be effective have not produced the same results when implemented on a large scale (Eisner, 2012). Such large scale studies need to be properly designed and adequately funded. There is some evidence that some effective and promising interventions from HICs could be successfully implemented in LMICs but more research is required to determine transportability of these type of interventions. However, the social and cultural must always be taken into account. Mikton and Buchart (2009) pointed out the importance of taking into account the differences in culture, risk factors and institutional capacity for the implementing and evaluating of evidence-based child maltreatment programmes in LMICs. These programmes may require significant adaptation and re-evaluation to determine their effectiveness in these new settings.

**Conclusions**

Evidence from trials of programmes in the USA, Australia and other developed countries has shown that the Nurse Family Partnership home-visiting programme and the Positive Parenting Programme (Triple P) reduce child maltreatment (Bilukha et al., 2005; Prinz et al., 2009). Several evidence based projects have also been implemented on relatively small scales in LMIC. These home visiting programmes provide health advice, support, child development and parent education to improve child health, foster parental care-giving abilities and reduce child maltreatment. Chen (2016) in a meta-analysis of 37 studies, found that parenting programmes ‘reduced substantiated and self-reported child maltreatment reports and reduced the potential for child maltreatment’ and reduced risk factors while enhancing protective factors. They found that programmes were effective at all levels i.e. whether primary, secondary or tertiary intervention programmes. On the other hand, a meta-analysis of 20 intervention programmes, did not find significant combined effects in the ‘reduction or prevention of child maltreatment in the general population, at-risk or maltreating families’ (Euser, 2015). This they attributed, in part, to focus on parenting behaviours and at risk factors, rather than actual changes in child maltreatment. They conclude that in order to prevent child maltreatment and ‘protect all children against maltreatment, the development and testing of both universal and targeted prevention programmes should be prioritized’.

Ultimately, the success of health interventions will depend on the context/social environment in which they are implemented. Forde points out that although the USA has the best evidence-based programmes to improve child well-being, it ranks well below other industrialised rich countries indicators of child well-being (Forde, 2014). This, he attributes to the differences in social climate between the countries and the lack of a comprehensive welfare and safety net in the USA.

Most studies implemented in the LMIC have utilised model/approaches from HIC and adapted them for implementation in their own country. Adaptation of HIC programmes to LMIC therefore seems feasible once the cultural, social economic and other factors are adequately considered.

Systemising evidence based studies is also a challenge. Little argues that this will not occur unless they fit within and adapt to natural processes (Little, 2010). At the same time, systematic
implementation must be delivered with fidelity if it is to obtain similar effects as the study, but without more wide scale implementation, the effectiveness of these evidence-based studies becomes limited.

**Core Findings and Implications for Policy**

- Evidence from trials of programmes in the USA, Australia and other developed countries have shown that the Nurse Family Partnership home-visiting programme and the Positive Parenting Programme (Triple P) reduce child maltreatment. Several evidence based studies have also been implemented on relatively small scales in LMIC mainly using the Nurse Family Partnership or Triple P approach. Such health interventions for the prevention of violence against children need to systematised and integrated in the health sector.

- Several trials have produced evidence of effectiveness in small scale settings but the evidence suggests that programmes lose their effectiveness when conducted in large scale field trials. Therefore, more research is needed to determine the systemisation and transferability of studies from one country to the next.

- Child Advocacy Centres have reported success in improving the quality of life and social support for victims of violence and reducing re-exposure to violence. Cognitive behaviour therapy and parent child interaction therapy (PCIT) are approaches that have been successfully used in the USA and in some LMIC for example Zambia. These programmes should be scaled up and implemented in LMIC.

- The health sector has a key role to play in the multi-sectoral responses to the prevention of violence the children and women. This requires the commitment of policies, budgetary support, appropriate health facilities and trained health staff. (Mikton et al., 2013; Garcia-Moreno, 2015).

- Countries must therefore formulate policies and plans of action that focus on the role of the health sector with adequate budgetary support, appropriate health facilities and trained staff.

- Very few countries have a national health response to the issue of violence against women and children, and most of even the well-known programmes are not widely implemented (Little, 2010). In larger countries such as USA, Canada, and South Africa, regional responses are documented, but in general, interventions have taken the form of studies that have not been ‘systematised’ (Little, 2010), or integrated into the health sector (Colombini, 2008).

- WHO recommended utilising the public health approach to tackle this problem of violence prevention which demands the application of rigorous scientific methods of research to define and understand the problem and to finding the appropriate solutions

- The research agenda must determine the prevalence of the various forms of violence against children, the determinants /risk and resilience factors, as well as the social and health consequences of the violence.

- In view of the evidence that the high stress levels in the early years of life can adversely affect the infant and child’s brain development and lead to lifelong learning, behavioural and health problems Barlow et al. (2010) recommended that evidenced–based programmes that
support parenting, the strengthening of parent-infant relationships and that address maternal mental health issues be implemented during the perinatal period. This will require a comprehensive policy framework for Maternal and Child health services that include a focus on the perinatal, postnatal period and first year of life in particular.

Limitations

There are likely to be interventions that have the potential for implementation in other settings that are not evidence based, and those that are evidence based but not published. This paper would not have been able to access these reports.
References


