URBANISATION, INSECURITY AND VIOLENCE: A SYSTEMATIC REVIEW

Final Report

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Conflicts of interest

There were no conflicts of interest in the writing of this report.

Use of maps

Maps used in this report serve a purely descriptive purpose. The representation of political boundaries in the maps do not necessarily reflect the position of the Government of UK.

Contributions

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Picture

[Source:]

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
CBO	Community Based Organization
CO	Community Organization
DFID	Department for International Development
GBV	Gender Based Violence
icddr,b	International Centre for Diarrhoeal Disease Research, Bangladesh
IPV	Intimate partner violence
INGO	International Non-Governmental Organization
IFRC	International Federation of Red Cross and Red Crescent Societies
IIHS	Indian Institute for Human Settlements
LMIC	Low and Middle Income Countries
NGO	Non-Governmental Organization
RCT	Randomized Control Trial
SAARC	South Asian Association for Regional Cooperation
SDSN	Sustainable Development Solutions Network
SDG	Sustainable Development Goal
UCLG	United Cities and Local Governments
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

SUMMARY

Urbanisation is a process of classical influx of population in one area with characteristics of cities. Currently, urbanisation is taking place at a rapid and unsustainable rate, particularly in the low and middle incomes countries of Asia and Africa. These rapid changes keep the urban inhabitants trapped in an insecure and socially disorganized state. Violence is one of the manifestations of rapid urbanisation that affects the lives of millions, with various long lasting consequences. The trend towards violence is on the rise, associated with the complexity of the process of urbanisation. Social deprivation, political clientalism and institutional indifference or neglect fuel and aggravate the situation further. Therefore, the complex inter-relation between urbanisation, insecurity and violence needs to be investigated critically to find out the best approach(es) to deal with these issues.

One (Goal 11) of the 17 Sustainable Development Goals (SDGs) is to '*Make cities and human settlements inclusive, safe, resilient and sustainable''*. Eventually, for effective achievement, the goal needs to be translated into measurable targets which are relevant, acceptable and doable in the context of countries or regions. To address this complex situation, a number of approaches have been tried in different societies with varied outcomes. These include, but are not limited to, interventions targeting specific violence (e.g., intimate partner violence) or holistically with measures such as legal aid, health services, economic reforms etc. However, evidences that consider violence as an outcome of urbanisation process are scarce. Usually, interventions try to address one concern at a time; addressing the problem from both ends, i.e., urbanisation as well the violence, is rarely reported. Thus, this review aimed to answer the following question to inform policy-makers:

"What is the impact of approaches for addressing insecurity or violence arising from urbanisation?"

METHODS

A comprehensive search was undertaken using PICO[1] approach. Studies were included if targeted towards an urban or semi-urban population of the Low and Middle Income Countries, used experimental (random assignments) or quasi-experimental methods, and considered any intervention that addressed insecurity or violence in the context of urban or urbanisation. Studies focusing on religious, political, and politically motivated conflicts were excluded. The review considered studies which employed rigorous designs for impact evaluation. A modified methodology (Chandler et al., 2016) was used to assess the quality of the studies included and narrative synthesis was undertaken to assess the impact(s) of the intervention(s) following a theory of change. A social-ecological model was developed for this analysis.

FINDINGS

[1] PICO stands for P – patient, problem or population I – intervention C – comparison, control or comparator O – outcome

Nineteen studies were included in this review, nine were randomized controlled trials and 10 followed quasi experimental design. The studies were from different countries and contexts with varying urbanisation characteristics. The nature and extent of violence also varied along with the approaches used to contain them. The results were mixed, with few significant outcomes. However, the dynamics of underlying pathway and the long term sustainability of the approaches remained to be explored further.

Summary of evidence showing interventions and outcomes form methodologically sound studies:

Study	Intervention/s	Outcome/s	Effect/ Effect size
Abramsky et al., 2016*	Community involvement, media advocacy, communication materials, training.	Reduction in physical IPV, sexual IPV, emotional aggression, controlling behaviour, or fear of partner	**Significant**
Cripe et al., 2010**	Training for hiding valuables, signal for seeking assistance, mental preparation to escape, strategies for seeking help, Referral cards.	Women empowerment and coping strategy	**Not significant**
Hidrobo and Fernald, 2013**	Unconditional cash transfer to eligible family	Reduction in physical violence, emotional violence and controlling behaviour	**Inconclusive**
Hidrobo et al., 2016**	Conditional transfer, food supply and voucher.	Reduction in physical and/or sexual violence, emotional violence and controlling behaviour	**Inconclusive**
Miller et al., 2014	Intervention for raising voice against violence for promoting non-violent, gender-equitable attitudes.	Increased mean score of gender equitable attitude	**Significant**
Mutto et al., 2009	Violence prevention curriculum	Reduction of violence incident, negative attitude shifted regarding bullies or abusing one	**Not significant**
Pulerwitz et al., 2015***	Interactive group education, community mobilization and community engagement	Reduction in physical and/or sexual violence toward partner, reduction of any type of violence (physical, sexual, or psychological), positive shift in Gender Equitable Men (GEM) Scale item	**Significant**
Saggurti et al., 2014*	Counselling on marital communication, conflict issues around alcohol, violence, financial stress, poor health of family etc. and street plays	Reduction of IPV, marital conflict and marital sexual coercion (not IPV)	**Not significant**
Wechsberg et al., 2013**	• WHC (Women Health Coop): Peer training on violence, drug abuse, knowledge on risky sexual behaviour for HIV/AIDS • Nutrition group: Peer training on nutrition knowledge	Reduction of physical partner violence	**Inconclusive**

*Cluster-randomized trial, ** Randomized controlled trial, *** Quasi-experimental study

Key findings from various interventions include:

- Four major types of violence were addressed (intimate partner violence, sexual violence, domestic violence and child sexual abuse)
- Gender based approaches worked better in expected reduction in violence.
- Context is important; approaches had significant effect when they were

- targeted to the youths
- targeted to both male and female
- community based and supported, involved multiple stakeholders, and merged with existing health programme at ground level

Based on the evidence emerging from the review, the key elements of a successful intervention could be:

- A comprehensive approach to address the specific contextual aspects of violence (e.g. influence of urbanisation) in the intervention components; ensuring community participation if possible from the design phase.
- Interventions contextualised for geographical and socio-cultural differences.
- The approaches should not only target the intermediary outputs like change in attitude and behaviour, but also the ultimate outcome of the reduction in violence.
- Supporting abused women with capacity building in negotiation skill; empowering them economically (e.g. through income-generation activities) and educationally (formal or informal) will also go a long way in reducing violence.
- Wherever women work or engage themselves, gender sensitive environment should be ensured. In addition, support should be extended for accessing diagnostic and treatment facilities including preventive health.

This review reveals serious knowledge gaps on the relationship between violence and the characteristics of urbanisation which calls for further contextual research. Replication of effective components of the interventions should consider all the methodological challenges discussed in this review in order to measure the true impact of such interventions.

STRENGTH AND WEAKNESSES

The main strength of this review is its robust methodology and guidance from EPPI-Centre and LIRNE ASIA. This review followed tested methodology and were also guided by experts in the relevant sector.

However, it was difficult to indicate effectiveness of any single component for any significant change in any outcome, as most of the interventions are complex and designed with multiple components. Furthermore, meta- analysis was not performed due to the absence of studies with homogeneous intervention package and effect size estimations. The major limitation of this review was total absence of studies exploring urbanisation or urban characteristics and its association with violence.

DISCUSSION AND CONCLUSIONS

This review and its analysis drew conclusions from experimental studies which were mostly from LMICs of the African and Latin American regions except a few from the Asia region, and revealed mixed results with limited significant evidence.

The pathway to violence is complex and the success or failure of any approach thus does not depend only on methodological approaches, but also on other issues (e.g. context, persons and time elements of the macro social circumstances). There is a lack of evidence to say that any one single intervention component was successful in preventing or decreasing violence. Given the complexity of violence, interventions might not be expected to decrease violent episodes instantly but at least the results and experiences can inform the policy makers and practitioners to design a multi-component comprehensive model, embedded in a particular community and context. Thus, such a model may include components related to women's education and income-generating opportunities, community based and supported approach, school based program, infrastructural development and service oriented component. Ensuring stakeholder participation in every stage of the intervention should be prioritized for ownership and sustainability.

1. BACKGROUND

Urbanisation is a classical influx of population. It is a process by which a large number of people become concentrated in an area that has the full characteristics of cities (Moser, 2004; Patel and Burkle, 2012; Winton, 2004). Primarily it refers to the population shift from rural to urban areas with society undergoing a process of adaptation. Currently, urbanisation is increasing at a rapid and unsustainable rate. In 2008, a predominately rurally populated world has transitioned into a dominantly urban one, in a move that was predicted to happen later (Patel and Burkle, 2012). In 1950, only 30% of world population lived in urban areas. This proportion rose to approximately 50% by 2007 (Figure 1) (UN, 2014). The projected population by 2050 was exactly opposite of that in 1950 (Butchart and Mikton, 2014). This urbanisation is concentrated mainly in low and middle income countries and according to statistics, 90% of the urbanisation takes place in Africa and Asia, where economic growth cannot keep pace with the rate of urbanisation (Butchart and Mikton, 2014). India, China and Nigeria are expected to account for 37 per cent of the projected growth of the world's urban population between 2014 and 2050 (UN, 2014). The accelerated rate of urbanisation has fuelled the rapid transition of the rural based world into an urban one (Patel and Burkle, 2012).

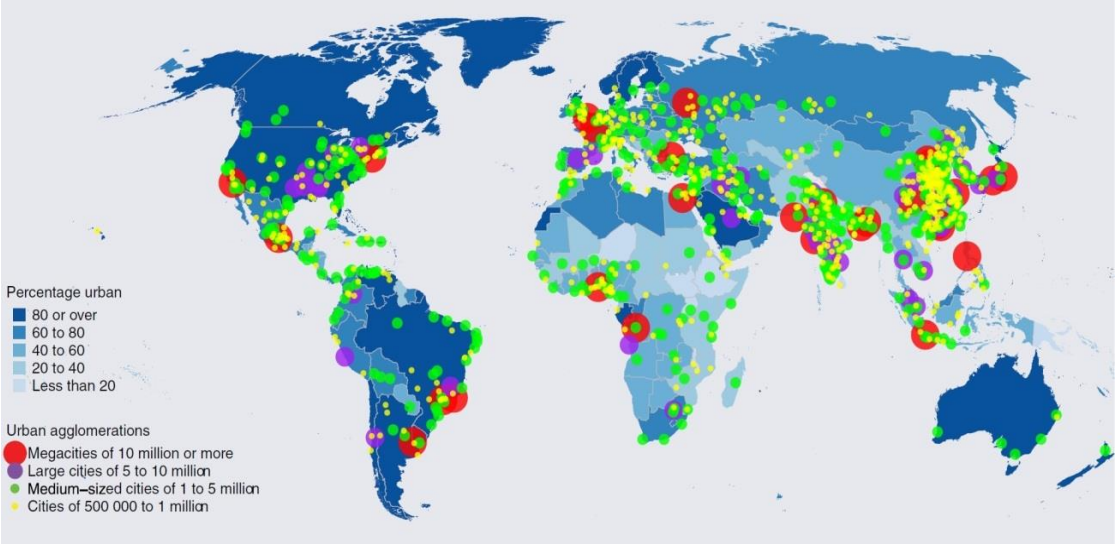


Figure 1: Percentage and location of urban agglomerations with at least 500,000 inhabitants, 2014
[Source: UN | World Urbanisation Prospects: The 2014 Revision, Highlights (UN, 2014)].

The term "urbanisation" has multiple facets which include social, economic, political dimensions etc. (Henderson, 2002; Moser, 2004; Winton, 2004). Moreover, an urbanised place possesses some specific characteristics, such as a high concentration of population, a municipal governance structure, infrastructural services and economic activity to support the population. The imbalance in the growth of one or more of these factors may create "urban problems". Rapid and unplanned urbanisation creates a scarcity of urban resources and it is very difficult to meet the growing demands of urbanisation with these limited resources. This rapid transformation results in a poor economy, housing problems, unemployment and a scarcity of basic services such as supply of food, safe water, sanitation, health etc. All these features provide uncertainty and fear among the population (Patel

and Burkle, 2012) with a fear of exclusion and socioeconomic inequity ultimately posing an impending threat of violence. This can result in individual or collective violence. Violence may sometimes overlap with conflict. Conflict is not always related or limited to urban process, it may also arise from global or local level political and social struggle or changes. Again, violence can arise from insecurity. Therefore, there is a complex relation among these three domains- urbanisation, insecurity and violence (Apraxine et al., 2012; Fang et al., 2016; Feuerschütz, 2012).

Intimate partner violence (IPV) is the most frequently occurring social violence and is usually considered as violence against women and girls and has been reported from around the globe both from high and low economies. IPV is occasionally reported by men (Jewkes et al., 2014). Intimate partner violence is considered a source of physical, sexual and emotional morbidity and as a human rights violation globally (WHO, 2010). A socio ecological model (Hesie, 1998) has been postulated to explain the underlying pathway of IPV which is most widely adapted and used.

Our initial search found a wide array of literature on urbanisation (Cohen, 2006; Henderson, 2002; Moser, 2004; Zaman et al., 2010), insecurity (Feuerschütz, 2012; Moser, 2004) and violence (Apraxine et al., 2012; Evans-Campbell et al., 2006; Fang et al., 2016). Through peer reviewed journals and grey literatures covering these areas, there has been a highly expressed need to understand these changes happening due to urbanisation, interactions among these factors, and resilience resulting from these interactions. In this background, this systematic review aims to identify the effective approaches or interventions of reducing the rate of violence due to rapid growth of urbanisation.

The review question is:

"What is the impact of approaches for addressing insecurity or violence arising from urbanisation?"

The main objective of this review is to identify the existing evidence on approaches to reduce insecurity and violence in urban areas to help policy makers and donor partners in planning and designing urban insecurity and violence reduction programmes/ interventions in South Asia.

1.1 THE RELEVANCE AND IMPORTANCE OF THE REVIEW

Urban inhabitants live in insecure and rapidly growing cities and are potentially prey to social disorganization (Feuerschütz, 2012). Violence is one of the manifestations of rapid urbanisation that affects the lives of millions with various long lasting consequences and it is simultaneously growing with rapid urbanisation. The increasing violence is related to complex social, economic, political and institutional processes of urbanisation. Unequal distribution of resources might be accountable for this increasing violence (Winton, 2004) although, in the urban context, there is an important ongoing debate about which type of violence actually results from poverty and inequality.

Violence in its nature can happen among individuals, in the family, in the community or at any institution (school or commercial centres). Females were found to be the principal victims of more than 90% of all types of violence. Every third women in the world becomes victim of any types of violence in their lifetime (García-Moreno et al., 2013).

The type and intensity of violence is influenced by several factors such as governance, availability of resources, economy, power sharing etc. China and Brazil are examples of countries that have experienced similar rapid urbanisation recently yet have a different burden of violence, probably due

to different governance systems. On the other hand the context of insecurity is different in South Asian region, such as in Pakistan, where social and socio-economic violence as well as political violence are prominent (Blank et al., 2014). Emerging economies, particularly from South East Asia are facing dual challenges of rapid urbanisation, which brings in economic benefits at macro level while creating threats of exclusion and segregation among the city dwellers. It is well debated recently that it is not poverty that fuels insecurity or violence, rather the conflict between power and powerlessness.

Although it is difficult to differentiate between types of violence and their impacts, their source and roots of origin could be diversified. Policymakers and implementers require root specific categorization of violence so that interventions could be formulated specifically and implemented practically. Moser and Mcilwaine (2004) identified six major areas of policy approaches undertaken in many urban societies alone or together according to the types of violence to be addressed. These include: 1. Criminal justice aiming to institute judicial reform, 2. Public health approaches like skill training, cultural activities, and public engagement etc., 3. Conflict transformation and/or human rights approach to combat institutional and governance related injustices, 4. Structural or urban renewal interventions targeting economic or social violence, 5. Citizen/ public/community security also targeting economic and social violence and 6. Social capital to render social support to domestic or family violence.

Strategies to address individual and community level insecurity and violence have been developed and adapted globally and locally in broader premises of prevention and building resiliencies in the families and in the community. A group of global and international organizations, with the assistance and support from the worldwide Compact of Mayors, were successful in including one stand-alone urban goal (No.11) among the 17 Sustainable Development Goals (SDGs) in 2015. Goal 11 reads as 'Make cities and human settlements inclusive, safe, resilient and *sustainable''* (UN, 2015). However, these organizations realized that this goal should be translated into measurable targets and should be relevant, acceptable and practicable to local situations.

Sometimes, legislative measures combined with such social interventions directly or indirectly. For example, the UN adopted a convention as early as 1979 on the Elimination of all Forms of Discrimination against Women. This convention ultimately paved the way to declaring violence against women a discriminatory act as declared by the UN secretary General "UNiTE to End Violence against women 2008-2015" (UN Women, 2012). Similarly, The UN flagship programme "Safe Cities and Safe Public Spaces" built on its "Safe Cities Free of Violence against Women and Girls" Global Programme which was launched in November 2010 and many cities, ministries, global and international agencies participated to achieve the ultimate goal of reducing sexual harassment against women (UN Women, 2015).

The Indian constitution supported the fundamental law (article 14, 15, 19 and 21) to provide equality and prevent discrimination on the basis of sex. The "Bhishaka" guidelines provided by the Indian Supreme Court in 1997, followed by sexual harassment act at workplace in 2013, further strengthened the applicability of these acts. In Bangladesh, the government adopted the "Women & Children Repression Prevention Act" in 2000. This Act contains provisions for prevention of offences related to oppression on women and children, trafficking and kidnapping of children and women, rape, death resulting from rape and dower, sexual harassment etc. The act is based on basic principles of rights of women depicted as fundamental rights of women in the Bangladesh constitution: i. Article 10-Steps

shall be taken to ensure participation of women in all spheres of national life, ii. Article 28(2) women shall have equal rights with men in all spheres of the state and public life and Article 28(4): Nothing in this article shall prevent the state from making special provision in favour of women children or for the advancement of any backward section of citizens.

1.2 RESEARCH BACKGROUND

Due to rapid and unplanned urbanisation the intensity of urban violence or impending threat to violence or insecurity is increasingly high, especially in developing countries. It has already reached a record level in many countries, particularly in LMICs (Henderson, 2002; Patel and Burkle, 2012; Winton, 2004). Violence in daily life is becoming a common reality in many countries in the South Asia (Winton, 2004). Different types of violence are reported in different urban regions that are also varied by their extent; such as – robbery, homicide, crime, drugs, delinquency and violence against women (Evans-Campbell et al., 2006; García-Moreno et al., 2005; Krantz and Garcia-Moreno, 2005; Niaz, 2003). Intimate partner violence is one of the consequences. As the triggering factors of partner violence, it has multiple dimensions (Ajah et al., 2014; Balogun et al., 2012; Feuerschütz, 2012). Recent analyses of global data indicate four groups of factors as major drivers of IPV, including all childhood trauma; quarrelling, women's limited control in relationship and partner characteristics (substance use, unemployment and infidelity) (Jwekes et al., 2017).

Urbanisation, violence and insecurity are interrelated, with violence starting from intra-family conflict that gives birth to insecurity (e.g. social mistrust, lack of unity, fear etc); in reverse, different types of violence arise from insecurity (Apraxine et al., 2012). A lack of preparedness in absorbing changes creates insecurity among the urban population, with issues increasing (Moser, 2004). In urban cities, adolescent delinquency is commonly found (Lambert, et al., 2010). South Asian cities are facing challenges in coping with the degree of evolution regarding the context of urbanisation and violence against women which is more common than other types of violence (Niaz, 2003; Rao, 2006; Vigil, 2003; Winton, 2004). The anthropological aspect showed that urban violence is the manifestation of poverty (Muggah, 2012; Vigil, 2003). Previous studies found clear links between violence in the home and the wider experience of poverty while household tension reflect and radiate broader social conflicts (Apraxine et al., 2012; Feuerschütz, 2012; Moser, 2004; Zhang and Shunfeng, 2003). Violent crimes include lethal (homicide) and nonlethal (rape, sexual assault, robbery, aggravated and simple assault). There is a paucity of reliable time series data on urban violence and urban insecurity. Moreover the "resilience" of households and communities to urban violence is also less well examined (Muggah, 2012). According to the existing literature, interventions should be designed and aimed at strengthening the resilience of the societies affected by urban violence (Apraxine et al., 2012).

The visible manifestation of housing constraints is seen in informal slum settlements, which are scattered around the city. These settlements are the centre of various crime like drug abuse, illegal supply of arms, etc. (Apraxine et al., 2012; Hinds, 2014; Patel and Burkle, 2012; Vigil, 2003). Criminal gangs occupy such settlements often through violent or illegal means (Hinds, 2014). For reducing violence there are some laws and prevention programs in Bangladesh; child maltreatment laws against child marriage were reported in a global violence report in 2014 (Butchart and Mikton, 2014). Sexual violence laws were also reported which were acting against rape and sexual violence without rape (Butchart and Mikton, 2014). But a national action plan against interpersonal violence, youth

violence, sexual violence, child maltreatment and interpersonal violence was absent during this report (Butchart and Mikton, 2014).

Rapid and unplanned migration, unemployment, cultural conflict, economic and social exclusion and sociocultural marginalization have been reported as driving forces behind increasing urban violence (Cohen, 2006; De Snyder et al., 2011; Moser, 2004; Ooi and Phua, 2007; Thrift, 2002; World Bank, 2002). The rapidity and degree of urbanisation may be undesirable while the cities become unable to absorb the increasing population and to cope with diverse demands for infrastructural provision to meet economic and social needs (Cohen, 2006; Mendenhall, et al., 2012; Patel and Burkle, 2012). An unequal distribution of resources becomes prominent and intra and inter-generational infrastructure expenditure increases (Ooi and Phua, 2007), while there are also demands for infrastructural provision to meet economic and social needs (Adams et al., 2015; Cohen, 2006; Ooi and Phua, 2007). These migrants of urbanisation are the victims of social and economic exclusion, which leads them to become involved with illegal activities to fight for survival; and contributes to increasing urban violence (Balbo and Marconi, 2006). This rapid transformation provides a scarcity of basic services and employment opportunities; moreover, poor governance exacerbates the problem. Extremist and criminal groups are able to exploit poor governance and infrastructure to establish patronage and recruitment networks (Hinds, 2014). This situation has already drawn attention to the global leaders and policymakers, yet the roadmaps to change are still slow and not progressing steadily (Moser, 2004).

The urbanisation process transforms society through changes in the urban scenario along with various societal relationships. Social relations in cities are more fragmented than in rural areas. It has also been reported that when women have close friends or someone to share her suffering, then experiences of violence tend to be lower (Kabeer, 1994). In cities where friendship groups are smaller in number, women can be more isolated and therefore less likely to respond to or escape from situations of violence (Flake and Forste, 2006; Heise et al., 2002). Urbanisation creates employment opportunities for women in the industries (e.g. readymade garments sector), which has been one of the prominent changes in women's empowerment in LMICs. Economic and social capabilities and involvement of women have been improved by the employment opportunities generated by the various industries. However, women are generally placed in jobs that require lower technological skills and low paid positions (Paul Majumder and Begum, 2000). Sexual harassment of women workers is extensive, both at the workplace and during their commute. Women do not disclose such experience due to the fear of losing their job. It is difficult for bodies such as trade unions to pursue such cases successfully due to the lack of formal complaints and evidence (Siddiqi, 2003). Often types of work that women are involved in also play a role in terms of experiencing violence. In particular, female sex workers are vulnerable to violence due to the nature of their work. Lack of gender friendly public services in urban areas causes violence against women (e.g. rape and sexual harassment). In Nepal, daily life movements of women were hampered by the absence of gender sensitivity within the public transport system (Action Aid, 2013). In recent times, a gang rape and murder incident on a bus in Delhi, India, shocked the whole nation (Chai et al., 2013). It has been widely reported that there are also specific trigger factors and circumstances in cities that can affect the incidences of violence. Evidence showed that living in urban slums can lead to an incidence of violence against women (Hindin and Adair, 2002; McIlwaine, 2013). Moreover, the places where alcohol is bought and consumed are

also associated with the high incidence of violence in cities and women are victims. Alcohol has been identified as a major triggering factor behind violence (Flake and Forste, 2006). Bar and drug selling locations have been highlighted as dangerous areas for women. In other contexts, women who visit bars and drug selling areas frequently often face the risk of experiencing violence, especially of a sexual nature (Moser and McIlwaine, 2004; McIlwaine, 2013).

Violence and insecurity due to urbanisation is a burning issue and reducing violence is an important development agenda (UN, 2015; Butchart and Mikton, 2014). The World Bank has developed a framework for reducing violence in the Latin America and Caribbean region in 1999. The existing studies describe the types and magnitude of violence in different regions. But, considering the intensity of correlation among urbanisation, insecurity and violence, it is very difficult to draw this complex relation in one straight line. Because urbanisation can make people insecure, it gives birth to violence and as an outcome of violence, again insecurity exists among different groups (Apraxine et al., 2012; Patel and Burkle, 2012; Winton, 2004). The issue is vast and complicated and similarly the approaches to reduce or change it are also complicated, multi-sectoral, and not straightforward, often being difficult to catalogue (Winton, 2004).

Interventions aimed at reducing violence, particularly IPV, have been reported and reviewed. Recent evidence showed that most of the studies were done in the high income countries. There are around 38 studies ongoing, with only 18 from low income countries, most of them from South Africa, Uganda and India (Picon et al., 2017).

1.4 AUTHORS AND FUNDERS OF THE REVIEW

This systematic review is enabled by financial support from DFID, awarded through a call for proposal on pre-defined themes and managed through PwC, India.

Dr. Shahed Hossain (SH) is the lead PI for this systematic review, and provided content area expertise and review experience, participating in the development of the protocol and drafting of the final review. He served as a third party decider of any disagreement over inclusion/exclusion of studies for the review. He led the development of the protocol, oversaw the search and participated in the subsequent screening of abstracts and studies, data extraction. He has conducted analysis/synthesis and led the drafting of the first draft of the full review and dissemination activities.

Dr. Nafisa Lira Huq (NH) provided additional content area expertise to the development of the protocol and to the drafting of the review report. She participated in the development of the protocol, external reviews and search process. She has also conducted analysis/synthesis and contributed to drafting and reviewing the report, published studies and dissemination activities.

Razib Mamun (RM) participated in the development of the protocol and played a leading role in literature screening. He has also conducted analysis/synthesis and has contributed to drafting of the first draft of the full review. He was the main communications person among the researchers/reviewers, Quality Assurance Team, Capacity Building Team and the donors' team.

Iffat Nowrin (IN) participated in the development of the protocol and assisted SH for literature screening, retrieval from the grey literature and screening. She has contributed to drafting of the first draft of the full review.

Saraban Ether (SE) participated in the literature searching and screening. She has contributed to drafting of the first draft of the full review.

Dr. Alayne M. Adams (AA) participated in analysis/ synthesis, methods and theory of change analysis, urban context areas of the review. She also assisted SH for the drafting of the review and in addressing comments on review.

Dr. Asaduzzaman Khan (AK) worked on statistical analysis or other relevant method of data analysis.

Malabika Sarkar (MS) worked on analysis/ synthesis. She wrote the methods section of the review. She gave input in the urban context and policy analysis section of the review.

2. METHODS

2.1 REVIEW APPROACH AND COMPONENTS

The purpose of this review is to find out the impact of approaches addressing insecurity or violence due to urbanisation. The review was undertaken in two stages as per the protocol developed according the standard guidelines and suggestions from the EPPI-Ccentre and addressing the comments from the donors and other reviewers. Stage 1 reported the extent of literature about existing models, approaches, interventions in relation to urbanisation and violence (Appendix 15).

The scoping or mapping review of existing evidence helped to understand which areas of violence in relation to urbanisation could be focused for the Stage 2 review. Through an iterative process which led from one stage to the other, Stage 1 helped to identify the patterns within the available literature as well as identifying gaps in the evidence, and also helped in determining which aspects of the review were of most relevance to policy and practice.

Stage 2 of the review followed the outputs of Stage 1 and synthesized evidence of relationships, impact of interventions and outcomes. This looked at the range of violence reduction interventions that have been evaluated and may affect the success or failure of a program or offer lessons about their applicability to different contexts, especially those of South Asia.

CONCEPTUAL FRAMEWORK

Urbanisation itself creates both opportunities as well as threats to human development and settlements. While urban dwellers enjoy more facilities and amenities than their rural counterparts, they also face more challenges of rapid changes in population dynamics and a complex interplay of governance, power and politics. Urban growth is often unplanned and these conditions lead to a greater risk of conflict and violence. Earlier attempts to understand violence and the interplay of multifaceted issues underlying them were explored holistically by Bronfenbrenner (1977) in an “ecological model” (Bronfenbrenner, 1977). The model explained violence as a multi-level framework that incorporates both individual-level factors (biophysical, psychological, and social) and other external factors (interpersonal, institutional, and structural) that are associated with the individual. On the other hand, Moser and McIlwaine (2004) described another framework (Moser and McIlwaine, 2004) based on their experiences on community perceptions of urban violence. This framework for the first time underpinned factors influenced by violence, fear and insecurity, which again can be identified in terms of structure, identity and agency. Another model explained IPV as the outcome of unequal position of women in a particular relationship and normative use of violence in conflict (Jewkes, 2002). A lack of basic infrastructure due to rapid urbanisation increases conflict that results in violence (de Snyder et al., 2011; Fang et al., 2016; Ooi and Phua, 2007; Patel and Burkle, 2012; World Bank, 2002). Several innovative interventions have been implemented to address violence related issues. Interventions generally included public health approach, human rights approach, criminal justice, education, social awareness, social capital etc. (Moser, 2006).

Based on the findings of the scoping review, a framework has been developed to understand and guide the synthesis stage (Stage 2). The framework proposed by Hiese et al. (2011) has been adopted for this review as it was influenced by the “ecological model” by Bronfenbrenner, which (Hiese) in

turn, was built on or reflected by the works of others (Arango et al., 2014; Ellsberg et al., 2015; Fulu et al., 2015a). Moreover, the Heise framework seemed to capture the sociocultural components of violence (Bronfenbrenner) at the same time as giving importance to the context (e.g. urban or urbanisation), structure and individual psychological aspects of violence and insecurities (as reflected by Moser and McIlwaine and others). In this framework the context is reflected as the macro social environment and the urbanisation, urban population and underlying insecurity characterize the different violence outputs at family and at partnership levels. The theory of change produced by UKAID and partners was also considered to understand the pathways of approaches impacting violence (DFID, 2012).

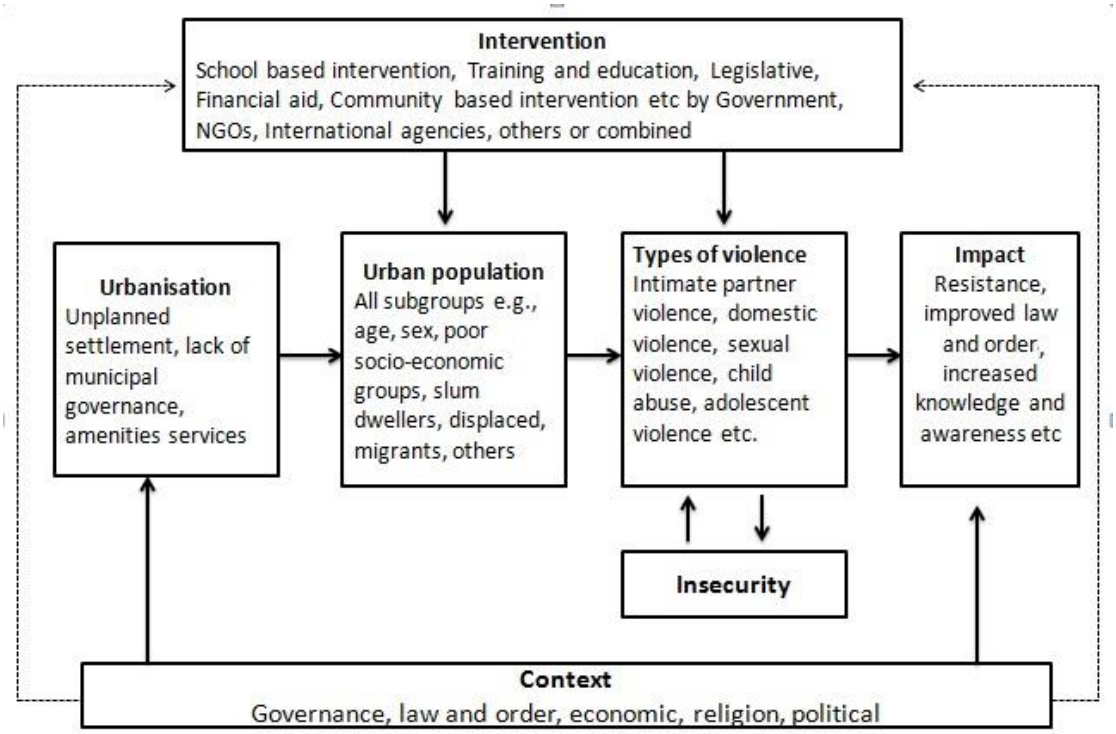


Figure 2: Conceptual Framework

This is a dynamic model where the overall context; social, cultural, economic, environment, the governance and different inputs within which the urban characteristics, societal, economic and the individual factors interplay to create or change insecurity and / or violence in ever changing ways.

1. The major focus of the identified studies was social violence including domestic, inter-partner, youth and child abuse, sexual violence etc.
2. The insecurity created by urbanisation processes impacted into violence, which, in turn, further induced insecurity
3. Different approaches were undertaken at domestic and community level, school based to legislative protection etc.
4. The interventions were undertaken by the government, NGOs or international agencies
5. Impact depended on the urban characteristics, urbanisation processes, the interventions undertaken and types of violence targeted.

6. All the efforts and issues interplayed in the context of socio-economic environment including governance (Figure 2).

The scoping review findings lead to areas that are covered under in-depth analysis in stage 2. These included major violence types reported as inter-partner violence, domestic violence, youth violence, child abuse and sexual violence. Together they constituted 80% of types of violence reported and has been grouped as "Social Violence". The Stage 2 review included all interventions addressing this violence reported from all LMICs in the world.

2.2 IDENTIFYING AND DESCRIBING STUDIES

LITERATURE SEARCH AND IDENTIFICATION OF POTENTIAL STUDIES

Urban and peri-urban populations of low and middle income countries (LMIC- as per World Bank 2016 definition) (World Bank, 2016) inclusive of age, sex, and socio-economic groups, poor, marginalized, slum-dwellers, displaced populations, migrants and others were considered. Urban populations of high income countries and rural populations (unless both urban and rural populations are reported combined) were excluded.

INTERVENTION

Interventions that aimed to reduce insecurity and violence were included, such as urban governance, community policing, slum up-gradation programmes, capacity building programmes for youth, youth rehabilitation programmes, etc.

This review covered programmes and interventions implemented by Governments, NGOS, international organisations or donor agencies. Political violence and politically motivated conflicts reports were excluded. Any intervention addressing insecurity and / or violence in the context of urban or urbanisation were included.

In the second stage, the effectiveness of programmes and interventions that aimed to manage the insecurity / violence as impacts of urbanisation was reviewed.

COMPARISON

The phenomena under investigation were insecurity and resultant violence and their interfaces with human settlements, urbanisation and related activities. Thus the search covered all forms of interventions.

Comparison between baseline with end line, pre-test and post-test, presence or absence of intervention, an intervention comparing with a control arm or an intervention with a different intensity were considered.

OUTCOMES

Reduction of Violence covered the physical force or power against oneself, injury, death, psychological harm, mal-development or deprivation, mortality rates associate with violence, displacement /

resettlement rate, crime reporting rate, access to justice / conviction rate, perception of safety and security, prison population as outcomes.

STUDY DESIGN

This review included only experimental studies investigating the impact of interventions that aimed to address insecurity or violence arising in LMICs. Study designs ranging from RCTs to quasi-experiments were included.

LANGUAGE OF THE REVIEW

The major searchable databases in this connection are in English. It was anticipated that the majority of the literature on impact of approaches for addressing insecurity or violence arising from urbanisation would be in English, particularity within low and middle income countries. Therefore this review was limited to English language studies only.

TIME OF THE REVIEW

The time of the review was limited to the period from 1980 to date (end of September 2016) as most of the databases and related reporting were not widely available before this. Digitized information gradually started to become available after 1980.

DATA COLLECTION AND DATA MANAGEMENT

The initial review screening of the title and abstracts of the articles searched and applied inclusion and exclusion criteria (details in Appendix: 7).This review included studies on the violence conducted between 1980 and September 2016, published in English language. We have excluded studies on religious, political and terrorism related violence. The screening was divided between reviewers. The review authors determined independently if studies met the inclusion criteria. Any confusion was addressed through discussion among the whole team. The quality of screening was assured through the dual application of the inclusion and exclusion criteria. Those articles not meeting the criteria were excluded and were not further reviewed.

Studies meeting inclusion criteria were considered for full-text review. Like the initial screening the review of the full text reports was divided between reviewers. The inclusion and exclusion criteria were re-applied. SH and NLH undertook a 20% of the full text rechecking to ensure quality application of the inclusion criteria. All aspects of the study processes were reviewed to ensure rigour and transparency. The research team met frequently to review articles that were contentious with the team leader making a decision where unresolved.

A coding scheme was developed using ER4 for data abstraction for stage 1 review, according to the research question, conceptual framework and the PICOC criteria. After an initial pilot run and adjustments made, included full text articles were reviewed and codes were applied individually (LH, RM, IN, ST). SH rechecked a random sample of articles and application of coding from all reviewers. Disagreement or uncertainty was resolved through discussions among the team.
A data extraction form for in-depth analysis (Appendix 4) was piloted with four studies to test for the consistency and the objectivity of the form. It included basic information on the study, intervention

type, information about the target groups and its demographics, information on sample sizes, outcome variables, information on intervention and comparison groups, relevant statistics and information on outcome.

QUALITY ASSESSMENT

Risk of bias was assessed independently by pairs of reviewers using a checklist. Any uncertainties and discrepancies were resolved by discussion, further review of the respective study and consultations with a third reviewer, where necessary. Risk of bias assessment checklist was adopted from the criteria outlined in the Cochrane Handbook for Systematic Reviews of Interventions and Effective Public Health Practice Project (EPHPP) checklist.

"Blinding" was not considered as a quality assessment criteria in this review as blinding of participants or intervention implementers is rare in community based intervention. The checklist followed in this review (Appendix 12 and 13) was also adopted and modified from the systematic review done by Kidney et al. (2009). Moreover, we categorized methodological components as "high/ "medium"/ "low" in terms of quality adopted from published systematic review (Kidney et al., 2009).

ANALYSIS

In-depth analysis was data driven. Narrative synthesis was carried out due to the heterogeneity across the studies. Narrative synthesis involves the arrangement of studies into relatively homogenous groups according to a standard format, with similarities and differences compared across studies (Popay et al., 2006; Snilstveit et al., 2012). In the synthesis, the findings of each study were extracted in several templates covering: study identifier, study design, violence type addressed in the study, components of intervention, outcome etc. The synthesis focused on exploring patterns of commonality or difference in the direction of effects in each outcome category. Moreover, possible reasons for any variation in direction of effect were explored. The relationship between the intervention and outcome were explored as per the theory of change.

Meta-analysis was not performed as we could not find two or more studies within a homogeneous intervention package and effect size estimation to pool findings across studies. Considerable differences in the characteristics of the population, intervention package, and types of violence aimed to reduce or prevent and outcomes used in the studies did not comply with the prerequisites of conducting meta-analysis and therefore did not allow calculation of an overall effect size across studies.

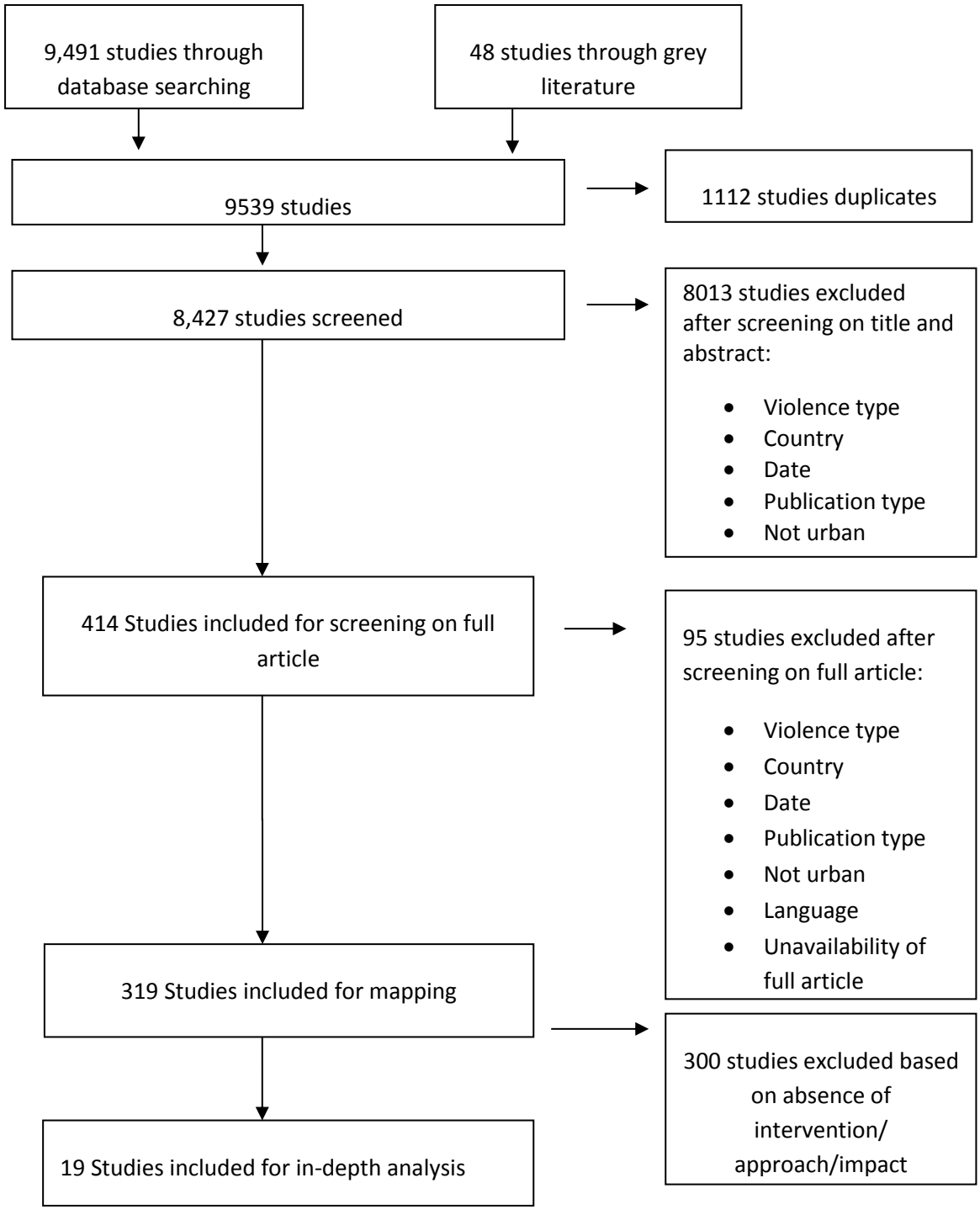
Tables and frameworks were prepared to substantiate the analysis and on a few occasions some outcomes were presented using forest plots with and without pulled estimation for visual presentation. This was expected to provide some directions in which the intervention was leading or working. However the plots should be carefully interpreted as the apparent low heterogeneity was probably due to the low number of studies and small sample sizes in the included studies. In estimating the forest plot the underlying statistical method was Mantel-Haenszel and a Random effect model was utilized.

3. FINDINGS OF THE REVIEW

This chapter describes the findings of the review. In this review each of the included studies addresses review questions: **"What is the impact of approaches for addressing insecurity or violence arising from urbanisation?"**

This review included 19 studies from the low and middle income countries around the world. The studies varied among not only in their settings, but also in the types of violence addressed, intervention approaches, target population, processes and outcomes. Ten of the intervention followed quasi experimental design (Cecen-Erogul and Hasirci, 2013; Cerdá et al., 2012; Dunn, 2011; Jewkes et al., 2014; Kalichman et al., 2009; Krishnan et al., 2016; Miller et al., 2014; Pulerwitz et al., 2015; Silveira et al., 2010, Vogt and Greeff, 2007) while the rest adopted a randomized control design (Abramsky et al., 2016; Carlson et al., 2012; Cripe et al., 2010; Ekhtiari et al., 2014; Hidrobo and Fernald, 2013; Hidrobo et al., 2016; Mutto et al., 2009; Saggurti et al., 2014; Wechsberg et al., 2013) (Appendix 10).

Figure 3: Flow chart of study selection process



This review sought to capture and understand both the dynamics of interventions as well as influencing factors of how the interventions were implemented and impacted. Each intervention was analysed based on the pathway it followed, context, individual and community involvement and the outcomes that were produced or influenced following the conceptual framework (Figure 2). We tried to explain the pathways of interventions by developing tables and matrixes. For example, table 1 described a summary/ characteristics of the included studies where study types, sample size, age limit, target population, intervention duration, geographical location of each studies were provided. In addition to that, table 2 described the mapping of studies according to violence whereas table 3 focused on the major areas of approaches to fight against the violence mentioned there.

Table 1: Evidence Summary of included studies

Experimental/quasi-experimental evaluations of interventions to reduce or prevent violence	Intimate partner violence (IPV) N=10 (52 %)	Gender based violence (GBV) N=2 (11%)	Domestic Violence N=2 (11%)	Sexual violence: violence in children N=3 (16 %)	Neighbour hood level violence and homicide N=2 (11%)	Total N=19 (100%)
Randomized Controlled Trials (RCTs)	7	-	1	1	-	9 (47%)
Quasi-experimental	3	2	1	2	2	10 (53%)
Sample size*						
Less than 100	-	-	-	1	-	1 (5%)
101-299	4	-	-	-	-	4 (21%)
300 – 599	-	1	1	-	1	3 (16%)
600 – 999	3	1	-	-	-	4 (21%)
1000 or more	3	-	1	2	-	6 (32%)
No data	-	-	-	-	1	1 (5%)
Age (in years)						
9-24	3	1	1	3	-	8 (42%)
12-60	-	-	-	-	1	1 (5%)
18 – 45	5	1	-	-	-	6 (32%)
<20 – 79	3	-	-	-	-	3 (16%)
No data	-	-	-	-	1	1 (5%)
Target Population						
Female focused	6	-	1	-	-	7 (37%)
Male focused	1	2	-	-	-	3 (16%)
Both female and male focused	3	-	1	3	2	9 (47%)
Type of Intervention#						
Primary Prevention	10	2	1	3	2	18 (95%)
Secondary Prevention	1		1	-	-	2 (11%)
Duration						
1 -6 months	4	1	2	3	-	10 (53%)
7 month – 1 year	3	1	-	-	-	4 (21%)
More than 1 year	2	-	-	-	2	4 (21%)
No data/not mentioned clearly	-	-	-	1	-	1 (5%)
Geographic location						
East Asia and Pacific	1					1 (5%)
Central Asia	-	-	1	1	-	2 (11%)
Latin America	3	-	-	-	2	5 (26%)
South Asia	2	1	-	-	-	3 (16%)
Sub-Saharan Africa	4	1	1	2	-	8 (42%)

***Sample Size (Large variation among studies, between base and end line. Here only baseline sample size is reported. Average size=810, Median=720)*

 # As per WHO (2010) definition

In terms of methodological aspects of the reviewed studies, eight were medium quality (Abramsky et al., 2016; Cripe et al., 2010; Hidrobo and Fernald, 2013; Hidrobo et al., 2016; Miller et al., 2014; Mutto et al., 2009; Pulerwitz et al., 2015; Saggurti et al., 2014) whereas only one study (Wechsberg et al., 2013) followed good quality methodology. On the other hand, weak methodology was found among rest of the reviewed studies (Carlson et al., 2012; Cecen-Erogul and Hasirci, 2013; Cerdá et al., 2012; Dunn, 2011; Ekhtiari et al., 2014 ; Jewkes et al., 2014; Kalichman et al., 2009; Krishnan et al., 2016; Silveira et al., 2010; Vogt and Greeff, 2007) (Appendix 9).

Table 2: Distribution of studies by types of violence

Violence type	Name of the studies
Intimate partner violence (IPV) (10 studies)	Abramsky et al., 2016; Carlson et al., 2012; Cripe et al., 2010; Hidrobo and Fernald, 2013; Hidrobo et al., 2016; Jewkes et al., 2014; Krishnan et al., 2016; Pulerwitz et al., 2015; Saggurti et al., 2014; Wechsberg et al., 2013.
Gender based violence (2 studies)	Kalichman et al., 2009 and Miller et al., 2014
Domestic violence (2 studies)	Ekhtiari et al., 2014 and Vogt and Greeff, 2007
Sexual violence (3 studies)	Cecen-Erogul and Hasirci, 2013; Dunn, 2011 and Mutto et al., 2009
Others (homicide and neighbourhood violence)	Cerdá et al., 2012 and Silveira et al., 2010

To address the above mentioned violence (Table 2) included studies followed different types of intervention (table 3). Each intervention package was designed with different components in mind. As a result it was difficult to conclude in a single statement that a certain outcome has been achieved due to a single intervention component. Moreover, the intervention packages had similar and dissimilar components. For example, training was a component of many intervention packages (Table 4), and was utilized for a variety of different purposes suitable for that package. Training was given to change awareness, improve knowledge, influence behaviour and build capacity to negotiate or to bargain to have improved social capital. Thus it became difficult to attribute one outcome to any particular component of a package. Even the relative contribution of each component in a package was not focused in the individual reports. We present the results by the interventions tested for each type of violence, followed by respective outcomes reported.

Table 3: Intervention component from reviewed studies

Intervention	Intervention component	Violence addressed	Target population
Community mobilization	- Booklet distribution among parents	Domestic violence	Girl
	- Training/campaign on norm and behavioural change	IPV	Male and female
			Youth male
	- Training for awareness building	IPV	Male and female
	- Mass awareness program and sexual reproductive health campaign	IPV	Male and female
School based intervention	- Training on touch knowledge	Child sexual violence	Boys and girls
	- Training for awareness building	Domestic violence	Girl
	- Training on behavioural change	Gender based violence	Boy
		Child sexual abuse	Boys and girls
System wide approach	- Formation of law	Domestic violence	Male and female
	- Infrastructural development	Homicide	Male and female
	- Advocacy (Awareness building on power and negotiation)	IPV	Male and female
	- Referral card for legal support	IPV	Female
	- Law enforcement and strategic intervention	Homicide	Male and female
Health sector approach	- Knowledge and skill building on HIV risk reduction, health and wellness	IPV	Female
	- Health camp	IPV	Female
	- Social work case management/ counselling	IPV	Female
	- Referral card for health	IPV	Female
Economic and livelihood intervention	- Conditional cash transfer	IPV	Female
	- Unconditional cash transfer	IPV	Female
	- Food supply	IPV	Female
	- Voucher	IPV	Female
	- Training on using existing resources	IPV	Male and female
		IPV	Female

3.1 INTERVENTIONS TO ADDRESS INTIMATE PARTNER VIOLENCE (IPV):

This section describes the approaches identified to address intimate partner violence. The discussion is based on mainly seven RCT (Abramsky et al., 2016; Carlson et al., 2012; Cripe et al., 2010; Hidrobo and Fernald, 2013; Hidrobo et al., 2016; Saggurti et al., 2014; Wechsberg et al., 2013) and three quasi-experimental (Jewkes et al., 2014; Krishnan et al., 2016; Pulerwitz et al., 2015) studies.

Intimate partner violence (IPV) means physical, sexual and psychological abuse in the included studies. Often, husbands become physically or sexually abusive toward their wife, occasionally through getting drunk (Saggurti et al., 2014). To address IPV, most of the authors highlighted both physical and sexual abuse, or sexual coercion (Abramsky et al., 2016; Cripe et al., 2010; Hidrobo and Fernald, 2013; Hidrobo et al., 2016; Jewkes et al., 2014; Krishnan et al., 2016; Wechsberg et al., 2013). Abramsky et al. (2016); Pulerwitz et al. (2015) and Krishnan et al. (2016) mentioned psychological or emotional abuse in addition to physical and sexual violence as a part of IPV. By physical abuse the author referred to experiencing several acts like being slapped, pushed, shoved, kicked, hit with a fist; dragged; or beaten, choked or burned by intimate partner. In addition to that, women involved with drug use are vulnerable to violence and a range of risky sex behaviours, including exchanging sex for drugs or money and inconsistent condom use because of lack of negotiation power. They also mentioned forced sexual intercourse (Jewkes et al., 2014; Pulerwitz et al., 2015; Wechsberg et al., 2013). Beside this, belittling or humiliating one's partner in front of others, or purposefully scaring or intimidating her was discussed as psychological violence (Pulerwitz et al., 2015). Carlson et al. (2012) described female sex workers who were also at risk of IPV. Here, IPV was discussed where both physical and sexual violence was prevalent. The types of violence used against women who exchange sex include harassment and abuse, physical assault, forced confinement, violence with a weapon, and rape. These sex workers often faced violent behaviour both from their paying partner (client) and husband.

IPV is a major social violence which was mostly found in the African region (Abramsky et al., 2016; Jewkes et al., 2014; Pulerwitz et al., 2015; Wechsberg et al., 2013) followed by Latin American countries (Cripe et al., 2010; Hidrobo and Fernald, 2013; Hidrobo et al., 2016) and Asian countries (Carlson et al., 2012; Krishnan et al., 2016; Saggurti et al., 2014). Interventions did not follow any distinctive pattern to address similar types of violence and varied widely from one setting to another. The common components of these interventions were different types of training and awareness building of the participants and target population with the involvement of community.

a) Training: In the included studies, the relation between IPV and HIV/AIDS was focused where mainly women were the victim. Training was mainly given for increasing knowledge and skills, information and education related to HIV/AIDS so that physical or sexual oppression towards intimate partners could reduce (Carlson et al., 2012; Wechsberg et al., 2013).

Information components were availability of HIV services, laboratory tests and motivation through pre and post counselling to accept the results of the test (Voluntary Counseling and testing or VCT) (Wechsberg et al., 2013). Along with this, information package included health and wellbeing (Carlson et al., 2012), training on gender attitudes, gender role and norms, meanings of masculinity, reducing

adversarial attitudes toward women and inequalities, sexual and reproductive health, sexual communication and negotiation skills (Jewkes et al., 2014). Information about drug use and risks, relationship power, myths about rape, violence against women and strategies for avoiding potentially violent situations were also included as training content (Wechsberg et al., 2013). Cripe et al. (2010) discussed providing training on behavioural and attitude change for IPV reduction in their study, in which interventions were given to abused pregnant women. Here, training was provided to make the women empowered and the intervention focused on hiding valuables, signal for seeking assistance, mental preparation to escape, along with a brochure with 13 items of safety plan strategies for seeking help. These were basically proxy indicators of being empowered to protect one from IPV.

For implementing these interventions, some unique approaches were taken where similarities and dissimilarities lay simultaneously. Individual and group sessions were conducted through video screening, role play, drama sessions, critical reflection of particular subject, skills development, training on condom use, sexual communication and peer advocacy (Carlson et al., 2012; Jewkes et al., 2014 and Wechsberg et al., 2013). Among those three studies, Carlson et al. (2012) and Wechsberg et al. (2013) reported three intervention arms in their studies whereas Jewkes et al. (2014) reported a time series design without any control arm rather using a pre-post study design. Demographic characteristics of participants varied in different studies. Such as some men and women aged 18-34 years were main focus in one study (Jewkes et al., 2014); on the other hand, Carlson et al. (2012) and Wechsberg et al. (2013) both considered only women as intervention recipient. Both of those studies included 18+ aged participants and only Wechsberg et al. (2013) limited it up to 33 years.

b) Awareness raising: Awareness raising activities against IPV were provided besides training. Three studies focused on awareness and behaviour change through advocacy and community engagement (Abramsky et al., 2016; Pulerwitz et al., 2015 and Krishnan et al., 2016). In Kampala, Uganda, Abramsky et al. (2016) reported activities to target people to make them aware through peer education whereas Pulerwitz et al. (2015) reported activities to prevent and reduce, through group education and community engagement, violence against women in Ethiopia. For this, a community based quasi-experimental study was initiated in Ethiopia to change the study participants' (youth male) common gender norms that might increase the risk of violence or HIV and other STIs (e.g. support for multiple sexual partners and acceptance of partner violence). It was hoped that participants would be able to identify the potential negative outcomes of enacting these primitive patriarchal norms and see the potential positive aspects of more gender-equitable behaviour. Information was disseminated to the entire community through role play, monthly newsletters and leaflets, music and drama skits. Condoms were also distributed to reduce risky sexual behaviour (Pulerwitz et al., 2015). Similarly, Krishnan et al. (2016) did a quasi-experimental study in Bengaluru, India with the same objective, which was based in a garment factory. Sexual reproductive health campaigns and mass awareness programmes were given through role play, posters and standees which was quite similar to Pulerwitz et al. (2015). Abramsky et al. (2016) reported a behaviour change programme involving the community with the aim of preventing violence against women. Four components such as community involvement, media and advocacy, communication material and training were provided as awareness raising interventions. Under this programme both primary violence (a new onset of IPV that had not previously occurred) and continuation of previous abuse (that previously occurred) were considered. Males and females from the community who were interested in violence related issues received the

behaviour change and awareness raising intervention through training, which was peer facilitated. To assess the impact of the intervention cluster a randomized trial was designed here (Abramsky et al., 2016).

In Pulerwitz et al.'s (2015) study, the intervention targeted only the male youth group aged 15 – 24 years; on the other hand Abramsky et al. (2016) and Krishnan et al. (2016) targeted both males and females in their studies and used a wide age range (18-49 years and 18-60 years respectively) of the study participants.

c) Support service: Different services were identified as important components of interventions to fight against IPV. Two randomized controlled trials (Cripe et al., 2010; Saggurti et al., 2014) discussed services like referral cards (Cripe et al., 2010) and counselling (Cripe et al., 2010; Saggurti et al., 2014) for reducing IPV. In these studies, a counselling service motivated women to act strongly against intimate partner violence (Cripe et al., 2010; Saggurti et al., 2014). In Mumbai, India, counselling was given to women at individual and group levels to reduce physical and sexual abuse from their abusive alcoholic husband, though the main focus of the intervention was HIV risk reduction, alcohol consumption reduction and IPV reduction (Saggurti et al., 2014). In Bengaluru, India garment factory workers were provided with a health camp (Krishnan et al., 2016). Only Cripe et al. (2010) discussed providing referral cards to the participants through which they could seek services from the relevant agencies during a violent situation. Referral cards were given to participants from both experimental and control arms as it was deemed unethical to assign abused women to a true no-treatment control group.

d) Materialistic support: To reduce intimate partner violence, a food supply, voucher and cash transfer programme was reported in two studies (Hidrobo and Fernald, 2013; Hidrobo et al., 2016); whereas Hidrobo and Fernald (2013) reported only unconditional cash transfer and Hidrobo et al. (2016) reported conditional cash transfer along with voucher and food supply. Both of these interventions targeted only women but the unconditional cash transfer targeted those with at least one preschool age child, have no children older than six years old, and who have not been recipients of the previous welfare program of that area. Under this program the eligible family received USD 15/month. Under conditional cash transfer eligible families got USD 40/ month /HH for six months and food supply e.g. rice 24 KG, lentil 8 kg, vegetable oil 4 litre and canned sardines 8 cans (Hidrobo et al., 2016). These two studies mainly aimed to reduce poverty and food insecurity but as a by-product IPV was also reduced.

OUTCOME OF IPV RELATED INTERVENTION

i) Reduction of IPV: With regard to IPV outcomes, community based behaviour change and awareness raising interventions had positive impact on recipients, which indicated lower tendency in continued (previous history of violence) physical violence (aRR 0.42, 95% CI (0.18 – 0.96)), continued sexual violence (aRR 0.68, 95% CI, (0.53 – 0.87)), continued emotional aggression (aRR 0.68, 95% CI (0.52 - 0.89)), continued controlling behaviour (aRR (0.38 95% CI (0.23 – 0.62), $p<0.01$))) and continued fear (aRR (0.67, 95% CI (0.51 – 0.89)). The duration of intervention was three years, which involved the entire community. The effect was also measured in the whole community though the result was focused exclusively on women participants (Abramsky et al., 2016).

Due to training on gender norms and sexual negotiation power, nutrition and HIV counselling, an absence of physical violence was reported by the participants from all arms; at 6 months (OR in 95% CI): [Control / Nutrition= 1.1 (0.8-1.4); Control / WHC= 1.1 (0.8-1.6); Nutrition/WHC= 0.9 (0.7-1.4)] and at 12 months (OR in 95% CI): [Control / Nutrition= 1.02 (0.8-1.4); Control / WHC= 1.1 (0.8-1.6); Nutrition/WHC= 0.9 (0.7-1.7)]. However, after 12 months (HCT Arm: 69% to 75%, f= 2.29, p=0.102; Nutrition arm: 62.4% to 75.4%, f= 5.66, p=0.003; WHC (Women Health Coop) arm: 67% to 77.3%, f=9.82, p<0.001) statistically significant results were reported in every arm. In this study drug abstinence was reported as a primary outcome and IPV was considered as secondary outcome. The intervention was probably influenced by the focus to primary outcome by the implementers, because of presence of other interventions, and also by the prevalence of behavioural problem, drug use among the participants and also chances of contamination (Wechsberg et al., 2013).

Hidrobo and Fernald (2013) reported the impact of cash transfer whereas Hidrobo et al. (2016) focused on vouchers and food transfer along with conditional cash transfer. Hidrobo and Fernald (2013) highlighted the mean reduction in physical (-0.02) and emotional (-0.02) violence which was not significant and in controlling behaviour the change was -0.06, which was statistically significant (p<0.005). On the other hand, Hidrobo et al. (2016) reported mean change in physical and/or sexual violence, emotional violence and controlling behaviour (-0.06, -0.04 and -0.07 respectively). In both studies sub-group analysis of mothers' education level with more than six years of schooling was done where mean change of emotional violence and controlling behaviour was reported (-0.08 and -0.14 accordingly). The author concluded that for women with greater than primary school education, who have better outside-of-marriage options, a cash transfer programme can significantly decrease psychological violence from her partner. For women with primary school education or less, the effect of a cash transfer programme depends on the woman's education relative to her partner. Specifically, the cash transfer programme significantly increases emotional violence in households where the woman's education is equal to or more than her partner (Hidrobo and Fernald 2013; Hidrobo et al., 2016).

Kalichman et al. (2009) showed significant reduction in physical violence (hitting a sexual partner) (OR=0.3, 95% CI, 0.2 - 0.4) at six month follow up due to behavioural self-management skill focusing gender role and adversarial attitude toward women and reduction of alcohol use intervention (Kalichman et al., 2009).

Integrated intervention with the combination of group education and community engagement activities had statistical significant impact on the recipients. The reduction was measured with the percentage of participants conducting physical and/or sexual violence. It was reported that physical and/or sexual violence decreased from 36% to 16% ($p < .05$) due to 10 months intervention where group education and community engagement were combined. And it was also revealed, due to community engagement physical and/ or sexual violence reduced from 36% to 18% (p<0.05). Similarly, any type of violence (physical, sexual, or psychological) decreased from 53% to 38%, (p<0.05) due to combined intervention of group education and community engagement and reduced from 60% to 37% (p<0.05) due to a single type of intervention. The result showed that gender norm/s was associated with a positive trend toward a reduction in physical violence. The intervention program had a great effect among the intervention group while it was found in the control group that physical and sexual violence had increased from 7% to 14%. It is also evident from the result that the

community engagement program has greater impact than group education. This study did not mention any effect size of the result (Pulerwitz et al., 2015).

Different interactive group sessions and motivational interviews have reduced physical and sexual violence among three groups e.g. Wellness, HIV/STI risk reduction sessions (HIV-SSR) and HIV/STI risk reduction +motivational interviewing (HIV-SSR+MI) group. In the Wellness group physical IPV and sexual violence was reported [OR= 0.15 (95% CI, 0.068 - 0.35) and OR= 0.05 (95% CI, 0.016 - 0.14 respectively)]. In HIV-SSR group, physical violence and sexual violence was reported as [OR=0.11(95% CI, 0.38 - 0.34); OR= 0.06 (95% CI, 0.018 to 0.19) accordingly]. HIV-SSR+MI group also showed significant reduction in physical IPV and sexual violence; [OR=0.29(95% CI, 0.13 - 0.65); OR= 0.15 (95% CI, 0.071-0.33)]. The sample size of this study was very small (Carlson et al., 2012). Moreover, the actual sample size in different groups was not clarified as the follow-up duration of the intervention was short (six months) and there was recall bias (Carlson et al., 2012).

Due to participatory learning approach on HIV and violence prevention training, physical and/or sexual IPV perpetrated by men reduced gradually until the last (4^{th}) round (30.3% to 18.9% in women (p=0.037)). The trend of reducing distinctive physical violence was not significant (P=0.49). This study also ended up with the limitation of small sample size. Along with this, loss to follow up was also mentioned by the author, however the actual rate was not reported (Jewkes et al., 2014).

One study's findings (Saggurti et al., 2014) showed counselling reduced marital conflict (RR 0.4, 90% CI, 0.1 – 0.9, p=0.064,), IPV (RR 0.7, 90% CI, 0.2 – 1.8, p=0.548,) and marital sexual coercion (RR 0.2; 90% CI= 0.05-0.9, p=0.082). It is important to mention that almost one quarter of participants from the intervention areas was absent in every session and the authors mentioned that disapproval of in-laws and/or husband regarding participation in the project was one of the main reasons behind the absence. The study findings did not demonstrate significant intervention impact on reduction of IPV as the IPV had decreased both in experimental and control group (Saggurti et al., 2014).

ii) Changes in attitude: Few studies presented a range of outcomes in terms of attitude change or shift. A workplace based intervention for both males and females made a positive change in the proportion of reported attitude of acceptance of violence against women among intervention group (decreased from 31.1% to 7.3%, p<0.001). This study also reported increased knowledge of getting support from organizations in case of IPV (42.6% to 69.2%, p=0.67) and alcohol use (20.5% to 68.4%, p=0.49) though these results were not significant (Krishnan et al., 2016). Similarly, in another study, Jewkes et al., (2014) reported significant results in mean score on gender equitable attitude scale among men (increased from 50.8 to 52.89; p=0.007) and women (increased from 53.7 to 55.29; p=0.01) due to participatory learning approach on HIV and violence prevention and livelihood training (Jewkes et al., 2014).

iii) Awareness on healthy living: Awareness on healthy living has increased through a participatory learning approach about HIV and violence prevention programmes thus the percentage of having a HIV test among men has significantly increased by 11.8% (Jewkes et al., 2014). Similar findings due to the same kind of intervention were reported in Kalichman et al.'s (2009) study where awareness about testing for HIV among men has increased (OR=0.4, 95% CI=0.2-0.8, p<.01) at the 1-month and (OR=0.5, 95% CI=0.3-0.0, p<.05) at 3-month follow-ups. Likewise, significant decrease (OR=1.7, 95% CI=1.1-2.8, p=0.025) in drug use after 12 months follow up was noticed in the WHC group (where training on

violence, drug abuse, sex knowledge were given) compared to another intervention group named nutrition group (training on nutrition related knowledge were given) (Wechsberg et al., 2013).

iv) Increase in social mobility: Women's social mobility increased and they became involved in different club activities due to livelihood training using community resources. Their social involvement increased to 31.2% from 22.8% (p=0.07). Interestingly it was found attrition was larger among men than women (Jewkes et al., 2014).

v) Increase in earning: Due to livelihood intervention men and women both learned better use of existing resources and skill development which has increased men's mean earnings in the past month by 247% (R*411 (~$40) to R 1015 (~$102)), and women's by 278% (R 174 (~$17) to R 484 (about $48) (trend test, $p < 0.0001$) (Jewkes et al., 2014).

3.2 INTERVENTIONS TO ADDRESS GENDER BASED VIOLENCE

This section describes the approaches identified in response to address gender based violence and the entire discussion was based on mainly two quasi-experimental (Kalichman et al., 2009; Miller et al., 2014) studies.

In South Africa, a gender gap as well as power imbalance was prominently found. This power imbalance was shown mostly towards women. But a violent incident was described in HIV/AIDS context and for this reason sexual violence was highlighted in the gender violence related discussion. The power of women to take the decision of using condoms made them financially vulnerable by their male partner (Kalichman et al., 2009). In the study in Mumbai, India, Miller et al. (2014) considered gender based violence, including sexual and intimate partner violence.

Gender based violence was addressed in two included studies (Kalichman et al., 2009 and Miller et al., 2014). To fight against gender based violence, training and awareness building activities were adopted where community was also involved. In Kalichman et al.'s (2009) study, it was found that men showed greater control and power over women and their sexual partner. Power disparities enable men to keep multiple sexual partner and also reluctant to use condoms which transmitted HIV/AIDS and other STDs to their partner.

a) Training: Kalichman et al. (2009) designed training programmes as their intervention component to reduce gender based violence and men's negative attitude toward women. For doing such, they conducted a quasi-experimental study with 475 men of Cape Town, South Africa and divided them into two groups, where one group was provided with training on skill building and personal goal setting for reducing transmission of sexual disease and gender-based violence. Here, addressing gender roles, meanings of masculinity and reducing adversarial attitudes towards women were discussed. Interactive group activities; skills training on condom use and sexual communication was done through playing videos from popular South African films and television shows and role playing. Training was also provided to men to make them vocal advocates. Another group, which was named as the alcohol and HIV risk reduction intervention group, had the same intervention along with an alcohol use component. Here, instead of GBV issues and peer advocacy training, behavioural self-management and sexual communication skills building were provided. Miller et al. (2014) also conducted a study with students in a school setting in Mumbai, India to increase gender-equitable attitudes, and to reduce disrespectful abusive behaviour against women. Behaviour training was

conducted among athletes, in which men were encouraged to improve self-efficacy and develop skills speaking out and standing up against any disrespectful and abusive behaviours among peers. Interestingly, both studies focused only on males where Miller et al. (2014) considered student athletes aged 10-16 years and Kalichman et al. (2009) considered males whose average age was 30.2 years.

OUTCOME OF GENDER BASED VIOLENCE (GBV) RELATED INTERVENTION

i) Changes in behaviour: Kalichman et al. (2009) reported how an integrated intervention that included interactive group session, sexual communication, advocacy training to males could not make a long lasting significant decrease in the acceptance of violence against women (Baseline: 2.4 ± 0.7; after 1 month: 2.2 ± 0.7, p=.05; 6 months: 2.3 ± 0.7, p=0.7) and losing temper against women (OR=0.5, 95% CI, 0.3 - 0.7, p<0.01 after 1st month; OR=0.7, 95% CI, 0.4 - 1.2 after 3 month; OR=0.5, 95% CI, 0.3 - 0.8, p<0.01 at 6 month follow-up). Increase in condom use was noted at the short-term follow-ups (OR 1.7, 95% CI, 1.1-2.7, p<.05). However, these interventions made significant reduction in the negative attitude regards "unprotected sex" (average) toward women due to GBV/HIV intervention (Baseline: 3.1 ± 7.2, at 6-month follow-up= 2.5 ± 7.2). Here, discussion with one's partner about condoms/sexual communication also increased in long term follow-ups (4.2±6.8/ 9.5±17.3). A similar result was observed in Alcohol/HIV group as well (unprotected sex: 2.0±4.2 / 3.1±10.3; discussion with one's partner about condoms/sexual communication: 3.5±4.9 / 8.7±18.3) (Kalichman et al., 2009).

ii) Changes in attitude: Miller et al. (2014) showed an improvement in gender equitable attitude among male athletes from a sports school of Mumbai, India (Baseline: 3.18, End line: 3.42; adjusted mean scores 0.28, 95% CI, 0.12 - 0.43, p = .001) due to behaviour change training. In this study, the authors mentioned significant changes in outcome, although the study has a few limitations, including discrepancies in tables and text (Miller et al., 2014).

3.3 INTERVENTIONS TO ADDRESS DOMESTIC VIOLENCE

This section describes the approaches identified in response to address domestic violence. The discussion is based on mainly one RCT (Ekhtiari et al., 2014) and one quasi-experimental (Vogt and Greeff, 2007) study.

Domestic violence is basically focused on the range of sexual, psychological and physical coercive acts used against women by intimate male partners (Ekhtiari et al., 2014; Vogt and Greef, 2007). Domestic violence was focused on two studies (Ekhtiari et al., 2014; Vogt and Greef, 2007). Ekhtiari et al. (2014) conducted training and awareness raising activities whereas Vogt and Greef (2007) considered utilization of legislation as a powerful initiative to fight against domestic violence.

a) Training: Ekhtiari et al. (2014) focused on third grade student girls in their study. These students were likely to be leaving school within a year and had the possibility of getting married. They were at increased risk of facing sexual, psychological and physical coercion from their partner. To increase awareness about domestic violence prevention and promote a gender-equitable attitude, interventions like life skills education and verbal sessions were given twice a week until the objectives of the study were reached. For changing students' attitude, focus group discussions were held with the subjects about issues related to domestic violence, including consequences of domestic violence on women's health, benefits and barriers of domestic violence prevention, and ways to

prevent exposure to domestic violence. Educational booklets were distributed among parents to give them an idea about domestic violence (Ekhtiari et al., 2014).

b) Law enforcement: Vogt and Greef (2007) worked with similar types of violence but with a completely different approach. This study discussed IPO (interim protection order) to reduce domestic violence. The study focused on the impact of IPO for the wellbeing of the victims of domestic violence in Western Cape in South Africa. The participants were divided into two groups on the basis of applying for protection order. Participants were requested to take part in the research that applied for protection order for the first time and placed in the experimental group. Participants at the day hospitals in the study areas who had experienced domestic violence but had not applied for protection order were requested to take part in research and considered as the control group. The participants who had a protestation order against them or wanted to apply for protection order were not considered for either experimental or control group (Vogt and Greef, 2007).

OUTCOME OF DOMESTIC VIOLENCE RELATED INTERVENTION

i) Attitude change: One study showed the shift in gender equitable attitude due to life skill education and verbal training where the mean score of gender equitable attitude modified from moderate level to good level (Baseline: 91.69±9.43, moderate level; end line: 99.95±8.26, good level; finally: 112.13±6.98, good level (two months after intervention); $p<0.001$) (Ekhtiari et al., 2014)). The study result that derived from Vogt and Greef (2007) showed that participants in the experimental group experienced more physical, emotional and sexual abuse at the first and second measurement than the participants in the control group. The mean reduction of physical abuse was from 2.33±1.69 to 1.08±1.51 in the experimental group whereas in the control group it was 1.85±1.69 to 0.84±1.51. The mean reduction in emotional abuse was also reported in both groups (Experimental group: 3.58±0.98 to 2.03±1.73 and control group: 3.30±0.98 to 1.80±1.73). In addition, the study result showed the mean reduction of sexual abuse in experimental group from 0.89±1.48 to 0.45±1.08 and in control group from 0.65±1.48 to 0.41±1.08. The point to be noted was that both experimental and control group reflected similar decrease in physical, emotional and sexual abuse. However, it showed that these reductions of violence could not be ascribed to the IPO (Vogt and Greeff, 2007).

3.4 INTERVENTION TO ADDRESS SEXUAL VIOLENCE: VIOLENCE IN CHILDREN

This section describes the approaches identified in response to address violence in children. The discussion was based on mainly one RCT (Mutto et al., 2009)) and two quasi-experimental (Cecen-Erogul and Hasirci, 2013; Dunn, 2011) studies.

Child sexual abuse can result in hopelessness for the future, psychosomatic illness, depression, anxiety, attempted suicide and poor academic achievement among survivors. It was found from the included studies that the majority of sexual violence towards children is prevalent in African countries. Among three studies that reported sexual violence, two derived from the African region (Dunn, 2011 and Mutto et al., 2009) and another one from Ankara, Turkey (Cecen-Erogul and Hasirci, 2013). Different sexual assault, bullying, fighting, beating, oral abuse are quite common among children in

Uganda (Mutto et al., 2009) and war affected South Africa (Dunn, 2011). Through training attitude shift, knowledge and awareness was raised among children toward sexual violence.

a) Training: Training was provided to students to make them aware and knowledgeable about the desired attitude toward violence against woman, specific gender roles and masculinity (Cecen-Erogul and Hasirci, 2013; Dunn, 2011; Mutto et al., 2009). Similarity was found among the school based approaches. Among these, two studies measured the impact of training programs on the knowledge level of sexual abuse (Cecen-Erogul and Hasirci, 2013; Dunn, 2011) and another compared the attitude shift against bullying in school with a control group (Mutto et al., 2009). According to one study conducted in Western Cape, South Africa, a board game called "HOOK" was introduced to the experimental group. A separate venue was chosen for this board game and one group consisted of six learners (Dunn, 2011). In Turkey, training materials on good and bad touch were developed in consistence with the Turkish culture; materials included videos which explain body safety rules through a puppet. The intervention focused on preventing child sexual abuse, psycho-educational training modelling and rehearsal teaching techniques (Cecen-Erogul and Hasirci, 2013). A school-based violence prevention curriculum was developed to reduce conflict, violence and injury among school children. This was an integrated approach with the mainstream teaching and trained class teachers to deliver the curriculum in the classroom. The trained teachers were supervised by their respective head teachers. At least two 40-minute weekly lessons were taught in this intervention (Mutto et al., 2009). Individual and group sessions took place where video screening, role playing, drama session, critical reflection of particular subject, skills development, sexual communication, peer advocacy were provided. All these three studies comprised both male and female students as study participants and their age range and grade varies from 9-16 years old and were between grades 4-5 (Cecen-Erogul and Hasirci, 2013; Dunn, 2011; Mutto et al., 2009).

OUTCOME OF SEXUAL VIOLENCE RELATED INTERVENTION

i) Attitude change: Irrespective of describing the duration of the school based intervention in Northern Uganda, the intervention reported statistically non-significant changes in bullying (OR = 3.6, 95% CI, 1.56 – 8.33, p= 0.010) and non-forgiveness/ fighting for returning stolen book (OR = 3.0, 95% CI, 1.29 – 7.05, p= 0.020). Here post intervention result was also reported in abusing tendency (OR = 2, 95% CI, 1.52 – 2.76, p= 0.002) and self-reporting of verbally abusing others (OR = 0.4, 95% CI, 0.16 – 0.84, p- = 0.027) among students. The students of the intervention group showed lower rate of violent incidents than the control group (incidence rate 190/1000 in the intervention and 350/1000 in the control groups) (Mutto et al., 2009).

ii) Increase in knowledge: The HOOK board game was implemented in Western Cape, South Africa among children which made statistical significant ($p<0.05$) improvement in knowledge score among experimental group on body awareness (knowledge on appropriate and inappropriate touch). In the intervention group the mean knowledge score of inappropriate touch increased than appropriate touch (Appropriate touch: Baseline 5.28, end line 5.81, follow-up 5.61; inappropriate touch: baseline 12.46, end line 14.13, follow-up 14.06). Although the mean knowledge of inappropriate touch was also increased in the control group, the mean knowledge of appropriate touch decreased significantly here (Inappropriate touch: baseline 11.93, follow-up 12.94, Appropriate touch: baseline 5.23, follow-up 4.97) (Dunn, 2011). A similar kind of study focused on 'Good Touch Bad Touch Curriculum Test

(GTBTCT)' and revealed that post-test scores were significantly different (F=43.138; p<.0001). Mean knowledge score on touch among experimental group was 5.33 ± 1.41 in pre-test and 8.66 ±1.28 in post-test. In the control group the pre-test knowledge score on touch was 5.61 ± 1.38 and 6.16 ± 1.42 at post-test. It was found that this is an effective intervention to prevent child sexual abuse for the fourth grade students in Turkey (Cecen-Erogul and Hasirci, 2013).

3.5 INTERVENTION TO ADDRESS OTHER TYPES OF VIOLENCE

"Homicide" is a very common manifestation of a violent condition, which is highly prevalent in countries like Brazil and Colombia. In this review, two studies focused on reduction of homicides in Latin America; one in Colombia (Cerdá et al., 2012) and another in south-eastern Brazil (Silveira et al., 2010).

A quasi-experimental study was designed in a city with high prevalence of homicides reported in Silveira et al.'s (2010) study. The intervention organized workshops and events (sporting, cultural, recreational, citizenship, health and professional) for the residents aged 12 to 24 years on solving local problems in health, education and productive involvement areas to reduce the incidents of homicide. The outcomes were reported on rates of homicides from secondary sources like city police centres (Silveira et al., 2010). Another study reported infrastructural development for reducing neighbourhood level violence such as public transportation system to connect isolated low-income neighbourhoods to the city's urban centre. Beside this government's initiative, the local government and municipality also arranged additional lighting facilities for public spaces; new pedestrian bridges and street paths; ''library parks''; buildings for schools, recreational centres, and centres to promote microenterprises; more police patrols; and a family police station next to a gondola station (Cerdá et al., 2012).

OUTCOME

The proportion of intervention-group respondents reporting that their neighbours would intervene to break up a fight among children increased from 65% to 81%, while the corresponding proportion in the control group was 71%–72% at both time points. In the intervention group the reduction in the homicide rate was 66% greater than that in the control group, and violence reduced 75% more in the intervention group compare to the control group due to development of physical infrastructure along with the collective efficacy of neighbourhood. However, the baseline data on those outcomes was not provided (Cerdá et al., 2012).

The reduction of average number of monthly homicide due to law enforcement and community mobilization program was reported in different areas; in Morro das Pedras and violent favelas (both are experimental group) the reduction was from 1.92 to 1 and 2.92 to 2.83 respectively. Neighbourhoods of Belo Horizonte and non-violent favelas were treated as control group where homicide rate increased from 23.08 to 53.58 and 8 to 10.17 respectively (Silveria et al., 2010).

Forest plot from similar outcome:

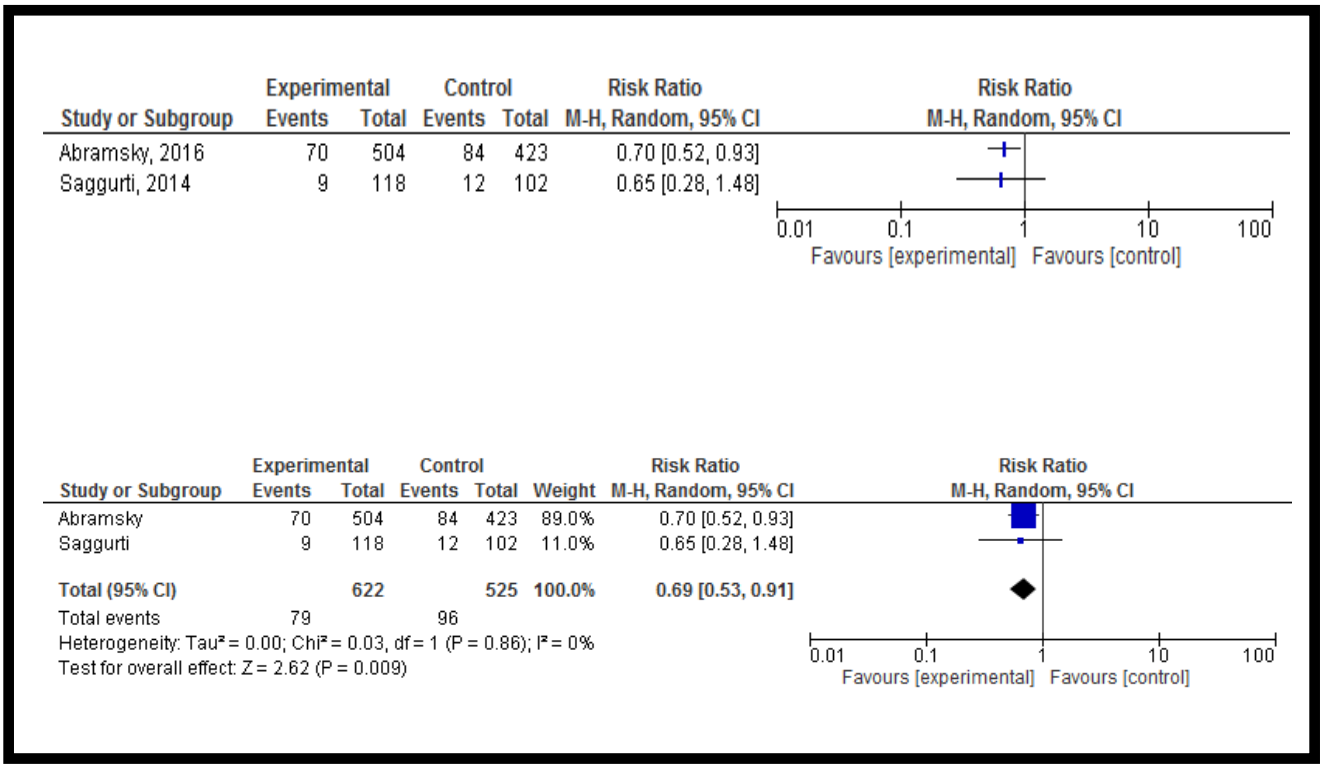


Figure 4: Forest plot: Changes in the risk ratio for the sexual violence in two studies

For Physical IPV

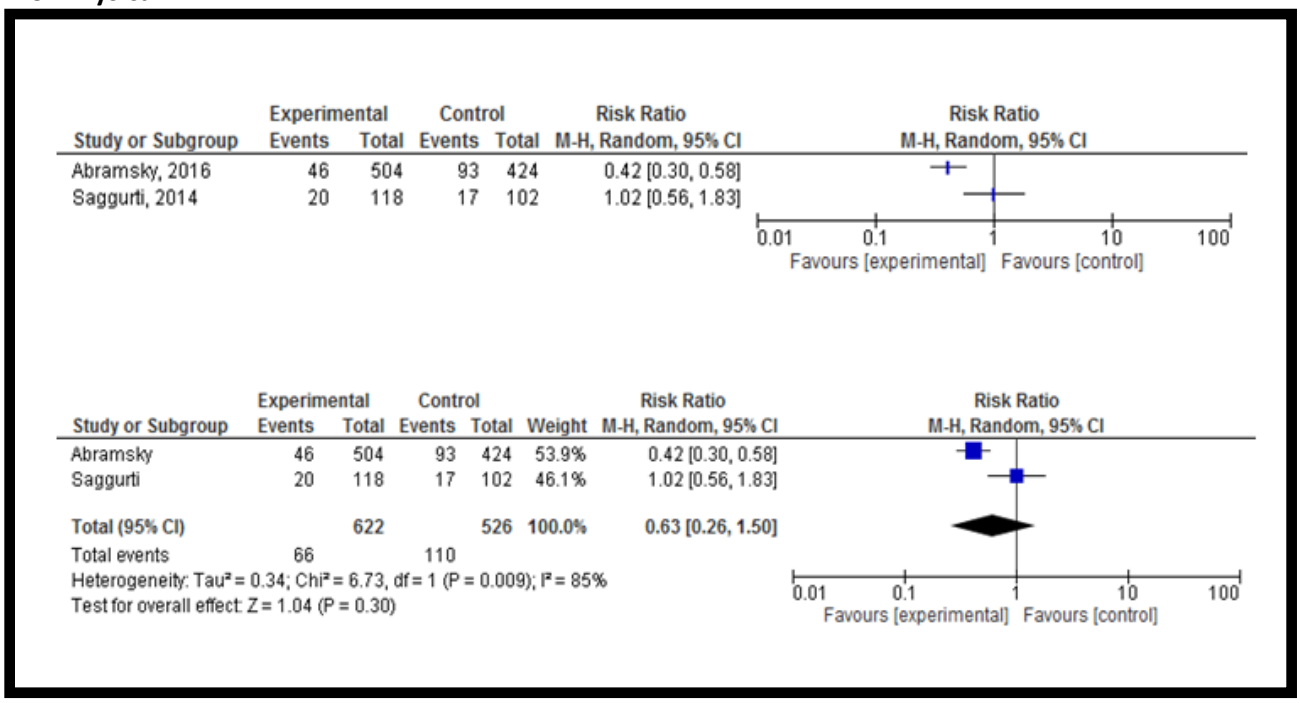


Figure 5: Forest plot: Changes in the risk ratio for the physical violence in two studies

The forest plots visually presented the effect of approaches on sexual and physical IPV. In Abramsky et al.'s (2016) study the aRR was statistically significant for both types of violence, but in the Saggurti et al. (2014) study it was not. In case of sexual IPV the pooled data showed significant results, but not

in cases of physical IPV which ended up with a very wide interval. It is difficult to draw conclusions from only two studies, but this provides some sort direction of the impact of the approaches. Both the studies followed randomised control design, and used community based approaches including training, media involvement, communication materials and counselling. The heterogeneity appears to be low, but it should be considered keeping in mind the low numbers of studies included in the estimate with small samples.

Key elements of the successful intervention:

For reducing different kinds of violence a range of interventions were tried where the packages varied from study to study. As a result it was difficult to reach a conclusion that a certain single component of intervention brought a certain positive result. However, the following interventions from the included studies brought significant results in consideration to the context where these were applied:

- It was found from the included studies that when interventions were focused on **youth group** significant outcomes could be achieved (Miller et al., 2014; Pulerwitz et al., 2015). To prevent violence against women Pulerwitz et al. (2015) described how group education for male youths were tested in significant outcomes. Similarly Miller et al. (2014) also targeted male youths to increase gender-equitable attitude, and to reduce disrespectful abusive behaviour against women. Due to the intervention mean score of gender equitable attitude increased significantly among male youth athletes (Miller et al., 2014) where significant decrease was also noticed in physical, sexual and any types of violence in Pulerwitz et al. (2015) study.
- Some studies were based on **school premises** and **involved both girls and boys** where touch knowledge was taught and their knowledge was measured through knowledge score. Significant improvement in touch knowledge was found in these studies (Cecen-Erogul and Hasirci, 2013; Dunn, 2011). Mutto et al. (2009) also described a school based intervention targeting both girl and boy students where significant attitude shift against bullying, abuse and emotional aggression were found among the intervention group (Mutto et al., 2009).
- Few studies (Abramsky et al., 2016; Jewkes et al., 2014; Krishnan et al., 2016) targeted both **male and female participants** during designing interventions. It was evident that if intervention was designed with different types of training, skill building and advocacy and contained both male and female participants, significant results could be achieved in the case of reducing physical and sexual IPV, emotional aggression and increasing knowledge and awareness against IPV (Abramsky et al., 2016; Jewkes et al., 2014 and Krishnan et al., 2016).
- Evidence from the review showed that the initiatives **involving community** had become successful in reducing different types of violence (e.g. IPV, domestic or gender based violence) (Abramsky et al., 2016; Jewkes et al., 2014). These studies involved community to raise awareness and change behaviour through advocacy and training gender norms and livelihood skill (Abramsky et al., 2016; Jewkes et al., 2014; Krishnan et al., 2016) and were able to achieve significant reduction of violence along with positive attitude shift.
- Interventions that challenged gender norms and gender inequalities and behaviour towards intimate partner supportive of violence (IPV/domestic) were often integrated with other approaches of **existing community organization** (Hidrobo and Fernald, 2013; Hidrobo et al., 2015; Miller et al., 2014; Pulerwitz et al., 2015). Initiatives such as rallies, message dissemination through newsletter and leaflet distribution had been developed to reduce domestic violence that incorporates components to change cultural and social norms (Pulerwitz et al., 2015). To reduce violence by controlling poverty and increasing women's empowerment, materials helped like cash

transfer to the women of food programmes, which was able to make significant reduction in physical or sexual violence (Hidrobo and Fernald, 2013; Hidrobo et al., 2015).

- For implementing intervention on reducing intimate partner violence, few studies used **existing health facilities or health program** which gave significant results on reducing physical and sexual violence (Carlson et al., 2012) and creating empowerment among women (Cripe et al., 2010).

The included studies of the review showed that if interventions ensure the inclusion of all stakeholders then outcome of those interventions could be significant. Abramsky et al. (2016) and Jewkes et al. (2014) showed that due to involvement of community in the process and implementation of program significant results could be achieved. Here, peer training was given to the community people and trainer and vocal advocates were selected from the community (Abramsky et al., 2016; Jewkes et al., 2014).

Most of the included studies showed improvement of the intermediary outputs like changes in behaviour and attitude. However, few studies showed ultimate outcomes of violence reduction (Abramsky et al., 2016; Wechsberg et al., 2013; Hidrobo and Fernald, 2013; Hidrobo et al., 2016; Kalichman et al., 2009; Pulerwitz et al., 2015) besides behaviour and attitude change.

Few studies supported abused and vulnerable women to empower them. Because of interventions, their communication and negotiation skills improved as well as their awareness. Cripe et al. (2010) focused on abused pregnant women. Due to the intervention they had been empowered and learned how to escape from violent situations. On the other hand, Carlson et al. (2012) took an intervention for sex workers where they learned communication and negotiation skills and about healthy living.

Wherever women work, or engage themselves, a gender sensitive environment should be created. Miller et al. (2014) provided intervention to the male youth athletes in Mumbai for raising voices against violence towards girls for promoting non-violent, gender-equitable attitudes. As a consequence, gender equitable attitude increased significantly.

In addition, support should be extended in terms of health services or medical testing facilities. Kalichman et al. (2009), Pulerwitz et al. (2015), Saggurti et al. (2014) and Wechsberg et al. (2013) incorporated HCT services along with intervention against violence.

Contextualization of intervention components could have significant impact on outcomes. Ekhtiari et al. (2014), Mutto et al. (2009) and Wechsberg et al. (2013) described interventions where components were adopted and modified based on context. Violence reduction, awareness building related outcome indicators showed significant changes in those studies.

3.6 URBANISATION AND VIOLENCE IN INCLUDED STUDIES

This section focuses on the link between urbanisation and violence.

All 19 included studies were conducted in urban areas. Studies with only experimental research were considered for this systematic review. None of the studies directly discussed the causal relationship between urbanisation and violence. Studies unevenly discussed the context of urban areas.

In Mongolia, 36% of the population live below the poverty line (Carlson et al., 2012), which results in increased alcohol use, homelessness, street children, migratory workers, and survival sex work (Carlson et al., 2012).

Similarly, Little Japan and Mbazwana, situated in eThekwini District, KwaZulu-Natal, South Africa. Urban informal settlements are common in this area, which is characterized by overcrowding, lack of decent housing, electricity, water and sanitation, and poor or no healthcare facilities and roads inside the settlement (Jewkes et al., 2014). Similar area characteristics were also found in other studies and violence toward partner and non-partner are prevalent here (Ekhtiari et al., 2014; Hidrobo and Fernald, 2013; Krishnan et al., 2016; Saggurti et al., 2014). Due to poverty, women in Mongolia are engaging in sex work and they often lack negotiation power with their customer, which results in sexual violence. Along with this, women outside of sex work also faced IPV in Mongolia (Carlson et al., 2012). IPV is a result of poverty in Ecuador also (Hibrodo et al., 2016). While women work outside to resolve economic hardship then norms related to masculinity are challenged, which can make husbands more violent toward their partner. Husbands' inability to meet social expectations regarding economic provisions hurts their ego, which results in violence (Krishnan et al., 2016; Saggurti et al., 2014). Gender norms within this mindset often cause intimate partner violence. In Ethiopia, there is a social acceptance of holding multiple sexual partners and partner violence (Pulerwitz et al., 2015). Similar norms are found in Kampala, Uganda (Abramsky et al., 2016). Women often experience unwanted sexual contact due to patriarchal norms and less negotiation power with their partner which results in STIs/ STDs, also a form of IPV (Kalichman et al., 2009, Pulerwitz et al., 2015). Limited social capital, absence of education and lack of skills to self-negotiation among women also results in physical and sexual IPV and constrain women's access to social support and other resources to fight against IPV (Krishnan et al., 2016). Sometimes because of weak social legislation and weak implementation and practice of laws IPV takes place as there is no other resistance to masculine violent behaviour towards women (Cripe et al., 2010). All these studies reported violence against women from cities and urban areas of the countries from LMICs.

Violence against women and children has unfortunately reached epidemic proportions in South Africa (Dunn, 2011; Mutto et al., 2009) though the incidents of child sexual abuse are not reported as often as it takes place (Cecen-Erogul and Hasirci, 2013). Child sexual abuse is also triggered by poverty and orthodox gender norms rooted in the society from generation to generation. If a child grows up seeing the domestic violence inside and outside of their family then gradually they also grow up abiding by the violent activities (Dunn, 2011; Miller et al., 2014). In South Africa, it was seen that child abuse was created by the conditions of children's lives. When both parents work outside of home for a longer period of time then the child lacks security. As in South Africa unemployment is a nationwide problem so it creates the opportunity for rape by the number of unemployed men who remain idle at home to those otherwise unattended children (Dunn, 2011). Northern Uganda has been a war affected area

for 20 years. Children of this area tend to perpetrate violent activities from childhood as they have grown up in a restless political situation, particularly in urban areas. Different sexual assault, bullying, fighting, beating, oral abuse are quite common among children in Uganda (Mutto et al., 2009).

4. DISCUSSION

This review reports on the effectiveness of approaches to reduce insecurity and violence arising from urbanisation in low and middle income countries. The review discussed interventions specifically targeted to urbanisation and social violence, which includes intimate partner violence (IPV), domestic violence (DV), sexual violence (SV) and other violence against women, children and adolescents. IPV is a commonly studied area and several reviews are available from around the globe (Arango et al., 2014; Ellsberg et al., 2015; Fulu et al., 2015a; Heise, 2011; Jewkes, 2002; WHO, 2010). However, most of the studies in these systematic reviews were from high income countries and were related to secondary (response after IPV) or tertiary prevention (long term rehabilitation etc.) of violence. Again, IPV includes all types of physical, sexual and emotional violence which occurs between intimate partners. None of these reviews or included studies undertook any sub group analysis to relate their intervention, results or outcomes in relation to the processes of urbanisation (e.g. migrant people, governance, insecurity etc.). Urbanisation as a determinant for societal change resulting in violence was less studied and interventions were not targeted to influence that root cause of insecurity and violence.

The impact of approaches addressing IPV varied from little to highly significant outcomes, and came from mixed quality studies. In many cases the interventions were packages of different components and were implemented at multiple levels (group or community) along with the main target population, usually women above 18 years. One attempt to visualize changes (meta-analysis) in IPV and SV found that results become significant when pooled together in case of SV, while in physical violence (PV) pooled data showed a wider confidence interval (Figure 5) (Abramsky et al., 2016; Saggurti et al., 2014). Both the included studies had multiple components including community involvement, training, individual or group counselling, media advocacy and communication strategies. Packaged interventions also demonstrated significant reduction in IPV and other forms of violence in the studies. The quasi experimental trial in Ethiopia provided interventions in three different cities which received either interactive group education, or community mobilization or community engagement activities. The trial showed statistically significant reduction in physical, sexual or psychological violence towards partners in relation to the control town measurements (Pulerwitz et al., 2015). In addition to physical violence, these studies also reported reduction in sexual and psychological or emotional IPV. However, community engagement group intervention remained marginally significant after multivariate analysis. These results need careful interpretation considering the characteristics of the sample; men only intervention, not equal at the base line and earlier exposure to the intervention components. The pathway probably influences sociocultural norms, the stigma and beliefs to an extent to impart changes in IPV and related issues differentially among three groups. While group education is labour intensive and more focused, community engagement probably diffuses the outcomes more widely. Participation increased when such things were discussed openly, which helped to shift the so called practiced rituals towards good outputs.

It has been noted that when integrated with health issues the acceptability and effectiveness of the approaches are likely to provide successful outcomes. Three randomized controlled trials and two quasi experimental designs provided violence prevention interventions mixed with HIV prevention programmes such as voluntary counselling and testing (VCT) services. RCT among sex workers who were provided with VCT plus STI risk reduction information or motivation showed significant change

in reduction of physical, sexual and emotional violence in all arms of the trial (Carlson et al., 2012). Again this study had limitations like small sample size, short follow up and probable measurement biases. Some RCTs utilized awareness building through group or individual session, counselling, peer education and street plays and displayed significant reduction of IPVs (Carlson et al., 2012; Saggurti et al., 2014, Wechsberg et al., 2013). The quasi experimental studies intervened with livelihood training, peer training on sexual negotiation skills, in addition to HIV risk reduction activities, and also showed significant reduction of physical and sexual violence, in addition to change in attitude and lower risk of HIV (Jewkes et al., 2014, Kalichman et al., 2009). Significant statistical changes were noted in some studies which induced the changes in the behavioural aspects that lead to violence. Health camps, a mass awareness campaign focusing on sexually transmitted infection and reproductive health for both males and females resulted in significant improvement in knowledge score for IPV (violence against wives not acceptable), though knowledge for support service for IPV and alcohol use did not change much (Krishnan et al., 2016). Training has been a consistent component in most of the intervention studies, be it directed to individuals (abused women) or at group level (at risk population) and could achieve successful change in knowledge, behaviour or attitude (Cripe et al., 2010; Kalichman et al., 2009) and reduction of IPV (Saggurti et al., 2014; Wechsberg et al., 2013). These changes in knowledge and attitude are weak evidence for the reduction of IPV and the fall in the intermediary pathway of changes and do not guarantee reduction in IPV. They need further follow up to ensure that real changes occurred.

Two RCTs experimented with incentives to influence violence behaviours at household level. Both cash and kinds were offered in different groups and revealed (Hidrobo and Fernald, 2013; Hidrobo et al., 2016) a six to seven percent reduction in physical or sexual violence in the intervention groups. However this change was more marked among the mothers who had six or more years of schooling. Though the general premise is that IPV happens more among the poor, whether incentives in term or cash or kinds empower women to negotiate the reduction in IPV in the household is debatable and creating economic opportunity for women can reverse the status. This intervention using incentives also showed encouraging outcomes in preventing child marriage, keeping girls at school or undertaking higher education (Ellsberg et al., 2015).

In some settings, prevention of violence intervention utilized law enforcement for security and women protection in order to curtail the underlying insecurity due to drug trade or other criminal activities. In one quasi-experimental study, exposition to Interim protection order (IPO- a legislative protection) showed a mean reduction of physical, sexual and mental violence in the intervention group in legislation. Another study with legislative law enforcement was able to show some changes in the monthly homicide rate in the intervention areas. However the results varied greatly with the phases of implementation, which were of very short duration. Public policies and legislative support has been developed and adopted in LMICs for a considerable period of time. The main weakness is in their implementation and follow up. Corruption is another crucial element to be considered in LMICs impeding stressful implementation of legislative measures to prevent violence.

The reviewed school based violence prevention interventions appeared to be targeting training and game shows as interventions and knowledge and attitude changes among the children as primary outcomes. Almost all the interventions provided an impression to have promising effect in increasing

knowledge and attitude against violence irrespective of its types and short follow up period after implementation of an intervention.

The athletics-focused GBV prevention program (Miller et al., 2014) demonstrated a positive shift in attitudes towards gender equity among the male athletes of the intervention group. A near two week long full-time training program with the coaches was assumed to be the most contributing factor for translating the gender equity messages effectively to the male athletes. A cluster randomized trial (Mutto et al., 2009) tested a peace education curriculum focusing on conflict and violence among schoolchildren. The study concluded that there were indications of beneficial efficacy based on changes in children's attitudes towards conflict and violence and reduction in injury and violence rates among schoolchildren.

We found mixed results from the included cluster randomized and quasi experimental trials. On narrative synthesis we found some significant outcomes in the prevention or reduction of violence in IPV, DV, and SV from some of the included studies. However, very few studies had potential results to fit in a meta-analysis. The possible reasons could be large variation in the intervention components, sample and sampling methods, target populations, multiple effect measurements, short duration of follow up to assess the impact of the interventions and wide variation in the context where intervention was given (table 3). Other methodological challenges included small sample size (average 800, Table 2) from few small clusters in randomized cluster trials and often many losses to follow up at the final analysis. In some studies promising results were advocated though statistically significant outcome was not reached. Sometimes this short duration of follow-up with small sample showed good quick significant results but its sustainability remained questionable. Another obstacle to reaching impressive results was probably targeting a wide range of age group, for example participants from 12 to above 60 years in a single intervention. The approaches and measures did not work equally for all of them probably due to the different reception among these target people in this wide age group for the intervention components. Attempts have been made to control the confounders but are not applicable in the case of all studies.

The main limitations in the review of the school based studies were inadequate statistical power, short follow-up period for measuring the changes and use of only knowledge and attitude scale towards sexual abuse and violence as primary outcomes for measuring the effectiveness of interventions. The generalizability of two studies' (Cecen-Erogul and Hasirci, 2013; Dunn, 2011) effectiveness also remained unclear as the intervention was limited to only grade 4 students and in schools (number of schools not mentioned) of one location. Nevertheless, the promising results derived from the regression analysis, as well as the observed conducive environment, revealed the potentiality of expanding the implementation of the sexual abuse education prevention program to other schools at a different geographical location. However, the randomized sampling technique used for allocating the children in the intervention and control group and the results should be interpreted within the light of methodological challenges, as intervention and control groups were from the same school and both groups were exposed to the campaign program prior to the intervention. The drop of knowledge score on inappropriate touch after six weeks among grade 4 students might be inherently associated with poor retention on a new knowledge like sexual abuse. That supported a recommendation that measuring significant effectiveness of such interventions should follow after a longer duration of implementing an intervention. None of the studies were intended to assess a valid causal association

between attitude and behaviour relationship. Only one study (Mutto et al., 2009) reported for reduction of violence among the schoolchildren, although this behaviour change was debatable for lack of using the adequate scale items recommended for measuring a true behaviour change of violence. Measuring only change in knowledge and attitude to violence as a measure of effectiveness of a violence prevention intervention seemed insufficient. Therefore, it should be suggested that more attention should be given to the complex process of changing behaviour dynamics as a primary outcome of violence reduction intervention in school prior to recommending the scaling up of intervention.

5. RECOMMENDATION AND POLICY IMPLICATION

In view of the evidence from this review there is a dearth of studies identifying approaches that effectively address the insecurity and violence resulting from urbanisation. At the same time this review indicates that the prevalence of violence is high in urban areas of the LMICs and that various efforts have been tried to curb the violence with mixed outcomes. However, it is difficult to say whether a single intervention component is successful to prevent or reduce violence or not. Evidence shows that interventions are most likely to be effective when designed with a package of components. Training was a cross cutting issue and an essential component in almost every major approach to reduce violence.

COMMUNITY PARTICIPATION

Participatory monitoring and evaluation could accelerate community ownership and be a pathway to sustainability. Evidence showed that community based intervention has significant impact on reducing violence. Interventions have been found effective if community mobilisation has been ensured through active participation of community members in training, awareness building, implementation and evaluation activities from the beginning. However, none of the studies in this review have ensured community participation in each step of the project implementation. Therefore, sustainability through community ownership needed to be trialled.

STRENGTHEN ECONOMIC POWER

Changing economic empowerment to influence (incentives) pathways had equivocal effects and data that might influence the pathway, like conflict, negotiation power, family dynamics, and culture etc. are needed to be explored rigorously. This could help to better understand the pathways through which the approach impacts violence. Further experiments exploring employment opportunities or microfinance mechanisms can also be blended and tried.

EDUCATION FOR ALL

Education for all could be one way to empower girls/women and to understand their rights and to have the confidence to claim those. One study showed that women having an education level of higher than the fifth grade were less likely to experience violence than those with lower levels of education. However, the dynamic of violence is broadly complex and robust information is needed to understand the violence pathways. Further experiments integrating the employment opportunities or microfinance mechanisms with the education program can also be explored.

MEN'S PARTICIPATION

'Engaging men' in violence prevention intervention is found to be a common element in this review. This review found that engaging males has been included in 12 studies (9 male and female, 3 only male) among 19 studies. Data indicates that significant changes might occur with the involvement of male counterpart of violence. However, due to the lack of sub group analysis it was difficult to explore the changes in men's attitudes towards any forms of violence against women and hence their role in

reducing violence. Therefore, efforts to engage men in violence prevention interventions should be explored separately to observe their role in preventing violence.

EARLY PREVENTION EFFORT: SCHOOL-BASED INTERVENTION

School-based programs or interventions have been considered as effective approaches to increase knowledge of violence among children and adolescents. However evidence is based on short term follow up. Whether the lessons learnt persist even after leaving school need to be documented. Careful attention in intervention component selection is imperative and intervention component should be contextualized.

INVESTMENT IN INFRASTRUCTURE DEVELOPMENT

Infrastructural development often has a significant role in decreasing violence. One study showed that making a rapid transit system (safe transport with support environment) in the urban area can also have impact on decreasing violence.

SUPPORT SERVICE

Victim support service is crucial to prevent harm as a consequence of violence. The United Nations declaration on “Basic principles of justice for victims of crime and abuse of power” should be followed by the government. In addition, interventions can be designed with components related to victim support service, which could include safe shelter, legal support and health related services along with referral linkage. The idea of “One stop service centre” for victims should be implemented.

INTERVENTION AT WORKPLACE

Organizational policy and workplace environment should have great impact on violence. There is a lack of evidence about gender based violence in workplace, especially in urban cities in LMICs. One study focused on this issue indicated that with appropriate gender sensitive policy backing and training, the incidence of violence could be reduced. Interventions and their effectiveness focusing on workplace violence needed to be experimented.

CONTEXTUALIZED INTERVENTION COMPONENTS

Some of the interventions provided promising results, yet the results are highly context specific and the underlying dynamic differed geographically and culturally. It is therefore necessary to examine the results and intervention components carefully so that context specific components of the interventions could be replicated in other countries. Nonetheless, it could be recommended that highly context specific intervention components would be replicated after modification in line to other context keeping the lessons learned from the already tested intervention.

MORE STUDY

There is a lack of studies focusing on the relationship between violence and the characteristics of urbanisation. None of the studies in this review has explored this relationship. Further comprehensive

study in this issue is needed. Every country has strict judicial laws to prevent violence, although at the same time it is well recognized that laws alone will not eliminate violence. A broad approach should be taken and therefore more study in this issue is needed to explore context specific effective approaches to reduce violence and its sustainability.

METHODOLOGICAL ISSUES

Replication of effective components of the interventions should consider all the methodological challenges that were mentioned in this review in order to measure the true impact of such interventions.

Similarly outcome measurement should not only be limited to intermediary outcomes like knowledge, attitude and intent to change rather than considering a true prevention and reduction of violence.
Prior to scaling up an intervention cost analysis is needed to motivate the policy makers for adoption of such intervention and overall replication with modification in specific cultural context should be the utmost consideration to achieving the success of intervention.

6. STRENGTHS AND LIMITATIONS OF THE REVIEW

This is one of the first systematic reviews that has attempted to explore the effectiveness of violence reduction related interventions which were implemented in urban areas in LMICs and also have focus on urbanisation context. The progress of this review was assessed and guided by a Quality Assessment Team (QAT) from EPPI-Centre and a Capacity Building Team (CBT) from LIRNEAsia, Sri Lanka. This review adopted robust methods in an attempt to minimize error and bias. A comprehensive systematic search of major electronic databases and key websites was conducted to identify studies. Additionally, references of included studies were checked. Randomized control trial and quasi experimental trial were considered to capture all varieties of intervention. Study quality and the risk of bias of included studies were assessed systematically following a quality assessment checklist adopted from adopted from the criteria outlined in the Cochrane Handbook for Systematic Reviews of Interventions and published systematic review done by Lassi et al., 2011; Kidney et al., 2009. Nearly half of the included studies were of medium to high quality.

The review has several limitations that potentially influenced it. Most of the interventions are complex and designed with many components. It was difficult to indicate effectiveness of any component towards any significant changes in any outcome. Meta-analysis was not performed due to the absence of two or more studies within homogeneous intervention packages and effect size estimation to pool findings across studies. Additionally, synthesizing the findings of the studies was challenging due to the variations in the characteristics of the population, settings, intervention package and types of violence the intervention aimed to reduce. Another significant limitation of the review was the lack of detail in the description of intervention components in many studies (e.g. duration of training, number of training etc.). Moreover, process evaluations associated with the interventions were absent in included studies. There are limited sub group analyses in this included studies which prevented drawing conclusions on the performance of specific group or providers engaged in the trials. Furthermore, the reported result was insufficient or partial in few studies.

The major limitation of this review was a lack of studies exploring urbanisation and its association with violence. This systematic review was limited to studies published in the English language only. However, there could be rich evidence published in other languages.

7. CONCLUSIONS

This review provided mixed evidence on the effectiveness of approaches to reduce / prevent social violence in urban areas of LMICs. We identified wide ranges of interventions with different types of approaches for implementations and outcomes measurement; violence reduction was seldom the primary outcome of the included studies. The major domain of the included studies was IPV, followed by sexual abuse. The review did not find any stand-alone violence reduction approach nor any attempt made to address the root causes of urbanisation and its association with insecurity and violence. Interventions when holistic and with multi sectoral approaches, tagged with an existing health programme, targeting both men and women, had components of training and at least one community component in the package were more likely to produce significant impacts on IPV or DV reduction. School based approaches showed some promising results to change attitude, behaviour, gender equity, norms and knowledge on physical or sexual violence. These intermediary outcomes are not measures of true violence reduction but may influence future behaviours towards violence if provided from an early age at the schools. Few studies carried out sub group analysis to demonstrate that increased education or income status might influence the rate of IPV, however, no attempt was taken to associate these results with urbanisation.

This review and its analysis drew conclusions from both randomized and quasi experimental trials of some good, medium and low quality studies. Most of the studies came from Africa and Latin America with a few from the Asian region. It is obvious that large-scale, high-quality research including RCTs are essential to provide further evidence about the effect of certain interventions, yet some of the quasi experimental trials produced significant results. One of the cardinal issues of these approaches was the diversification of the context from one another. Social violence is a product of interaction among the social ecological environment and hence its reduction also follows the complex interaction of the ecological context. The success and failure of any approach thus does not depend only on methodological approaches, but also on the context, persons and time elements of the macro social circumstances. Given the complexity of social violence, intervention of non-randomized designs, short duration of implementation might not be expected to decrease violent episodes instantly but at least the results of these studies could be suggestive of an intervention model to try out in other contexts.

Implementation challenges for future scaling up were not often described in the included studies, nor could any single study be indicated to be a successful model for prevention of IPV or SV. One or two particular components or strategy of some studies could be identified to be effective in violence reduction so that a bundle of those strategies could be suggested for future scale up in another setting. Future research should also focus on appropriate outcome measures and to include process indicators in evaluating effectiveness. Scaling up of approaches will also require information about the cost and cost effectiveness of any successful intervention. Complex problems like IPV or DV probably need a comprehensive approach with the participation of all stakeholders from affected persons to implementer and with a long term vision to change the existing situation.

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APPENDICES

APPENDIX 1.1: DETAILS OF AUTHORSHIP

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Conflicts of interest:

None

APPENDIX 1.2: LIST OF STAKEHOLDERS

1. Researchers
2. Policy makers
3. Program managers
4. Developmental organizations
5. Community people
6. Civil society
7. Academician
8. Judicial bodices
9. Law and order enforcement departments
10. Civil administration

APPENDIX 1.3: LIST OF NETWORKS

1. Peer reviewed journals
2. Mass media such as TV channels, newspapers, websites
3. icddr,b website, Twitter, Facebook
4. Relevant conference platform

APPENDIX 2: SEARCH STRATEGY

1 Search: Population terms:

(("urbanicity" OR urbanisation[tiab] OR urbanization[tiab] OR urbanization[mh] OR "Urban health"[mh] OR "Urban Population"[Mesh] OR urban*[tiab] OR metropol*[tiab] OR city[tiab] OR cities[tiab] OR town*[tiab])) OR (((City OR town* OR slum)) AND (((migrate OR migration OR growth OR growing)))

AND

2 Search: Insecurity and violence related terms:

(((“abused women” OR “forced sex”[tw] OR rape[tw] OR “violence” [tiab] OR violent[tiab] OR “unwanted sex”[tw] OR "Spouse abuse"[Mesh] OR "spouse abuse"[tiab]OR "physical abuse"[Mesh] OR"physical abuse"[tiab])) OR ((("intimate partner violence"[Mesh] OR torture[Mesh] OR "sex offenses"[Mesh] OR homicide[Mesh] OR homicidal[tiab] OR “homicide death” [tiab] OR murder*[tiab] OR assault OR "bodily harm"[tiab] OR "physical harm"[tiab] OR "people trafficking"[tiab] OR terrorism[tiab] OR torture[tiab]OR "physical harm"[tiab])))) OR (("people trafficking"[tiab] OR terrorism[tiab] OR torture[tiab]OR"physical harm"[tiab] OR robbery[tiab] OR kidnap*[tiab] OR crime[tiab] OR “social disorganization” [tiab] OR “violent crime” [tiab] OR “urban security” [tiab] OR “urban crime” [tiab] OR insecurity[tiab] OR “threatening behaviour"[tiab]OR "threatening behavior"[tiab] OR "threatening behaviours"[tiab] OR "threatening behaviors"[tiab]))

AND

We will limit the search to only low and middle income countries as defined by World Bank recent list of 2016 of LMIC. We will follow LMIC EPOC filter. e.g. "developing countries"[mh], the terms are taken from the LMIC EPOC filter http://epoc.cochrane.org/lmic-filters accessed Jul 01, 2016.

The review will be focused on English language literature. We will exclude all studies published prior to 1st January 1980.

APPENDIX 3: SEARCH SOURCES

Bibliographic databases:
Health: Web of Science (Social Science Citation Index), PubMed/MEDLINE, CINAHL, Popline

Political/Sociological: Scopus, Informit Humanities and Social Sciences and Health Collection

QUAKELINE Database: http://mceer.buffalo.edu/utilities/quakeline.asp
Gender studies database

Impact Evaluation Databases: 3ie Impact Evaluation repository, World Bank: Development Impact Evaluation Initiative (DIME), Asian Development Bank: Independent Evaluation, World Bank: Independent Evaluation Group's, USAID: Development Experience Clearinghouse, African Development Bank: Evaluation Reports, DFID: Evaluation Reports

Systematic Review Data Bases:
EBM Reviews: Cochrane Database of Systematic Reviews
Johanna Briggs systematic reviews, EPPI-Centre systematic reviews database, Campbell Collaboration database, 3ie database of systematic reviews

Key journals:
Hand search of the following key journals:
World Bank Economic Review
Asia Journals Online: http://www.asiajol.info/

Websites:
ALNAP http://www.alnap.org/
Bridge http://www.bridge.ids.ac.uk/
Endvaw (End violence against women) http://www.endvioLenceagainstwomen.org.uk/
Gender and Disaster Network http://www.gdnonLine.org/
Gender-based Violence Network: Essential Tools for GBV Prevention and Response in Emergencies http://www.gbvnetwork.org/ Note: Replaced by Gender-based Violence Network Africa http://www.preventgbvafrica.org/
International Development Research Centre
JOLIS (World Bank and IMF Library catalogue)
Overseas Development Institute
http://www.policypointers.org/
Reproductive Health Response in Crisis (RHRC) Consortium's GBV in conflict online bibliography
Sexual Violence Research Initiative
Stoperapenow
Women's Initiatives for Gender Justice http://www.iccwomen.org/
Women's International League for Peace and Freedom International Rescue http://womenpeacesecurity.org/members/wilpf/

Bilateral Aid Agencies:
DFAT (formerly AusAID), DFID, USAID, JICA, SIDA, DANIDA, NORAD, CIDA, GIZ (previously GTZ)

United Nations:
WHO, UNDP, UNFPA, UNICEF, UNHABITAT, UNWomen,

INGOs:
OXFAM, Plan, World Vision, Action Aid, Save the Children, Care, Caritas, IFRC, Concern Worldwide, Practical Action, HelpAge International.

APPENDIX 4: DATA EXTRACTION SHEETS FOR STAGE 1

Categories	Sub-categories/ description
Type of document (select one)	- Journal article - NGO report - World Bank report - UN report - Donor report - Independent research report - Master or doctoral thesis - Other [describe briefly]
Region (select one)	East Asia & pacific; Latin America & Caribbean; South Asia; Europe & Central Asia; Middle East & North Africa; Sub Saharan Africa; North America; Multiple region; not specified
Country (select one or more)	Name of LMIC
Discipline	Social, Health, Development
Type of study (select one)	- Experimental - Observational - Systematic review - Review study
Research Design (select one)	- Observational - Experimental - Others
Study type	- Qualitative - Quantitative - Mixed - Other
Type of violence	- Social violence - Economic violence - Institutional violence
Type of data	- Primary - Secondary - Both
Type of violence addressed (select one or more)	Sexual violence, domestic violence, child maltreatment, youth violence, intimate partner violence, elder abuse, various/multiple or other
Specific urban population group (select one or more)	- Poor - Children - Elderly - Female - Migrants - Slum - Non slum - Disabled - Male - Multiple group - All - other
Period of the intervention	- 1980-1989 - 1990-1999 - 2000-2009

	- After 2010 - N/A
Principal program or sector(s) being investigated [select one or more]	- School/college based program/ intervention - Slum based program/ intervention - Home based program/ intervention - Parenting education - Sexual abuse avoidance training - Pre-school enrichment - Mentoring - Gender equity training - Community development program - Professional awareness campaign - Public information campaigns - Caregiver support - Urban governance - Community policing - Capacity building program for youth - Youth rehabilitation program - Formation of policy and law - Mosque/temple/ church based intervention - Other - Multiple - Unclear - N/A - Prevalence/ perception/ fact of violence
Scale of program/intervention [select one]	- Small (localised project in one community) - Medium (localised project in multiple communities) - Large (large scale project at national level) - Unclear - Other - N/A

APPENDIX 5: DATA EXTRACTION SHEETS FOR STAGE 2

Study identifier Study design Location Country	Area characteristics Sampling methods and eligible population Recruitment methods and response rate Sample demographics Content of intervention Interventions/services received by comparison group Sample size Data collection Baseline comparisons Analysis method Power calculation Length of follow up Attrition rate	Outcomes within scope of review Other outcomes Findings (for outcomes within scope) Subgroup analysis	Limitations identified by author Limitations identified by reviewer Funding of study

APPENDIX 6: RISK OF BIAS CRITERIA STAGE 2 REVIEW

	High quality	**Medium quality**	**Low quality**
Selection bias:	Studies with randomisation, allocation concealment, similarity of groups at baseline	RCTs with some deficiencies in randomisation e.g. lack of allocation concealment, or non-randomised studies with either similarities at baseline or use of statistical methods to adjust for any baseline differences	Non randomised, with obvious differences at baseline, and without analytical adjustment for these differences.
Performance bias:	Differed only in intervention, which was adhered to without contamination, groups were similar for co-interventions or statistical adjustment was made for any differences.	Confounding was possible but some adjustment was made in the analysis	Intervention was not easily ascertained or groups were treated unequally other than for intervention or there was non-adherence, contamination or dissimilarities in groups and no adjustments made.
Measurement bias:	Outcome measured equally in both groups, with adequate length of follow up (i.e. at least 6 weeks postpartum), direct verification of outcome, with data to allow calculation of precision estimates.	Inadequate length of follow up or length not given	Inadequate reporting or verification of maternal mortality or differences in measurement in both groups
Attrition bias:	No systematic differences in withdrawals between groups and with appropriate imputation for missing values		Incomplete follow-up data, not intention-to-treat analysis or lacking reporting on attrition

APPENDIX 7: EXCLUSION CRITERIA FOR STAGE 1 AND STAGE 2

	Exclude if....	For stage 1: scoping review	For stage 2: in-depth review
Exclude on country	Not LMIC.	***Exclude*** if not on World Bank List of low and middle-income countries. World Bank recent list of LMIC will be adopted.	***No change***
Exclude on language	Language is not English.	Exclude if study titles and abstracts are not in English.	No change
Exclude on publication type	News article, editorial, comment, periodical, update, speech, book, book chapter, book review, fiction, film, symposia, write up of workshops	***Exclude*** if study is news article, editorial, comment, periodical, update, speech, book, book chapter, book review, fiction, film, symposia, write up of workshops.	***No change***
Exclude on publication date	Publication before 1st January 1980.	Exclude all studies published prior to 1st January 1980.	No change
Exclude on violence type	Not about insecurity or Violence	***Exclude*** if any condition is ***not*** related to insecurity or violence as identified by the author/s in title & abstract. Social and political violence including terrorism related violence will be excluded as these have no direct relation with urbanisation.	***No change***
Exclude on study design type	No restrictions on study design.	No restrictions on study design	Exclude if not experimental study in design

APPENDIX 8: LIST OF INCLUDED STUDIES

Abramsky, T., Devries, K.M., Michau, L., Nakuti, J., Musuya, T., Kyegombe, N. and Watts, C., 2016. The impact of SASA!, a community mobilisation intervention, on women's experiences of intimate partner violence: secondary findings from a cluster randomised trial in Kampala, Uganda. *J Epidemiol Community Health*, pp.jech-2015.

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Krishnan, S., Gambhir, S., Luecke, E. and Jagannathan, L., 2016. Impact of a workplace intervention on attitudes and practices related to gender equity in Bengaluru, India. *Global Public Health*, *11*(9), pp.1169-1184.

Miller, E., Das, M., Tancredi, D.J., McCauley, H.L., Virata, M.C.D., Nettiksimmons, J., O'Connor, B., Ghosh, S. and Verma, R., 2014. Evaluation of a gender-based violence prevention program for student athletes in Mumbai, India. *Journal of Interpersonal Violence*, *29*(4), pp.758-778.

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Vogt, T. and Greeff, A., 2010. The impact of an Interim Protection Order (Domestic Violence Act 116 of 1998) on the victims of domestic violence. *Families in Society: The Journal of Contemporary Social Services*, *91*(1), pp.45-51.

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APPENDIX 8A: LIST OF STUDIES AWAITING REVIEW

Naved, R.T. and Amin, S., 2014. Impact of SAFE intervention on sexual and reproductive health and rights and violence against women and girls in Dhaka slums. Dhaka; icddr,b.

APPENDIX 9: DEFINITIONAL AND CONCEPTUAL ISSUES

Urbanisation: Urbanisation is the process by which large numbers of people become permanently concentrated in relatively small areas, forming cities (Patel and Burkle, 2012; Moser, 2004; Winton, 2004). One or more of the followings can define an urban area: administrative criteria or political boundaries (e.g., area within the jurisdiction of a municipality or town committee), a threshold population size (where the minimum for an urban settlement is typically in the region of 2,000 people, although this varies globally up to 50,000 and more , population density, economic function (e.g., where a significant majority of the population is not primarily engaged in agriculture, or where there is surplus employment) or the presence of urban characteristics (e.g., paved streets, electric lighting, sewerage).

Insecurity: The insecurity generated by violence is expressed in fear, which has been defined as "the institutional, cultural and psychological repercussion of violence", and identified as an outcome of destabilization, exclusion and uncertainty. In socio-economical aspect, fear of exclusion and segregation leads to insecurity. Recently it has been debated that inequality rather than crisis for materialistic resources fuels insecurity. Although perceptions of insecurity cannot be reflected in statistical evidence, they fundamentally affect wellbeing of population (Butchart and Mikton, 2014).

Violence can be defined as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development or deprivation."(Krugg et al., 2002). It is emerging as the significant economic, social welfare, health and governance issue (Moser and Shrader, 1999). Often violence overlaps with conflict and crime, although there are significant distinctions. Conflict-based power struggles do not necessarily inflict physical or mental harm on others, while violence by its very nature does (Apraxine et al., 2012; Butchart and Mikton, 2014).

Social violence: is the intentional use of physical force or power, threatened or actual, by a person or a small group of people against another person or small group that either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development or deprivation. Much social violence is gender-based but it also includes ethnic violence, sexual violence and child abuse (Butchart and Mikton, 2014; Moser, 2004).

Economic violence: This type of violence is motivated by material gain which includes organized crime, delinquent, business interests, robbery etc. (Moser, 2004).

Institutional violence: It is perpetrated by state institutions, especially the police and judiciary, but also by officials in sector ministries such as health and education, as well as groups operating outside the state, such as social cleansing vigilante group (Moser, 2004).

Domestic Violence: The term 'domestic violence' encompasses any kind abuse by any member of a household (WHO, 2012).

Intimate partner violence: The term “intimate partner violence” describes physical violence, sexual violence, stalking and psychological aggression (including coercive acts) by a current or former intimate partner (i.e., spouse, boyfriend/girlfriend, dating partner, or ongoing sexual partner) (Breiding et al., 2015).

Sexual Violence: Sexual violence is defined as: any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed, against a person’s sexuality using coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work (WHO, 2015).

APPENDIX 10: DETAILS OF INCLUDED STUDIES

Study Details		Intervention components	Target population / Sample size	Quality Assessment	Outcome(s)
Author (Year)	**Design**				
Randomized Controlled Trial (RCT)					
Abramsky et al., 2016 Kampala, Uganda	Cluster-randomized trial 4 intervention 4 control clusters **Time period:** 2007-2012 **Methods of measurement:** ITT	SASA intervention: Four components Community involvement, media advocacy, communication materials, training.	Both* male and female aged 18-49 years **Baseline:** 1583 Intervention:793 Comparison:790 **Follow-up:** 2532 Intervention:1368 Comparison:1164 *Result focused only female.	1. Low 2. High 3. High 4. High	**Adjusted Risk Ratio (RR) of -** **Continued physical IPV** 0.42, 95% CI (0.18 – 0.96) **Continued sexual IPV** 0.68, 95% CI, (0.53 – 0.87) **Continued emotional aggression** 0.68, 95% CI (0.52 to 0.89) **Continued controlling behaviour** (0.38 95% CI (0.23 – 0.62), p<0.01) **Continued fear of partner** (0.67, 95% CI (0.51 – 0.89)
Carlson et al., 2012 Ulaanbaatar, Mongolia	Cluster randomized trial; 3-arms intervention **Time period:** 2007-2009 **Methods of measurement:** Multi-level logistic model with random effect, ITT	- HIV/STI risk reduction sessions (HIV-SSR) : (n = 49), - HIV/STI risk reduction +motivational interviewing (HIV-SSR+MI) (n = 58) - Wellness control condition: a four session control condition focused on wellness promotion (n = 59)	Women aged 25 + years N=222	1.High 2.Low 3.High 4.Low	**i) Wellness group** **Physical IPV** OR= 0.15 (95% CI, 0.068 - 0.35) **Sexual violence:** OR= 0.05 (95% CI, 0.016 to 0.14) **ii) HIV-SSR group** **Physical violence:** OR=0.11(95% CI, 0.38 - 0.34) **Sexual violence:** OR= 0.06 (95% CI, 0.018 to 0.19) **iii) HIV-SSR+MI group** **Physical IPV** OR=0.29(95% CI, 0.13 to 0.65) **Sexual violence:** OR= 0.15 (95% CI, 0.071 to 0.33)
Cripe et al., 2010 Lima, Peru	Randomized trial 2-arms intervention **Time period:** 2007	**Intervention:** Hiding valuables, signal for assistance, mental preparation to escape,	Abused Women of 18-45 years. 220 abused women Intervention: 110 Control: 110	1.Low 2. High 3.High 4. High	**Intervention/ Control:** **- Hide money** (44.6% /34.3%) - Signal for assistance (19.6% / 16.2%)

	Methods of measurement: Two sample t-tests and chi-square tests of mean differences	Brochure with 13-items safety plan strategies for seeking help. Connection with advocates. **Control:** Referral card for getting IPV services.			- **Ask neighbours to call police during violence** (6.9% / 1.0%) - **Available bank account numbers** (17.1% / 3.1%) - Valuable jewellery (8.4% /3.8%) **- A hidden bag with extra clothing** (9.0% / 3.1%).
Ekhtiari et al., 2014 Tehran, Iran	Randomized controlled trial 2-arms intervention Time period: 2010-11 Methods of measurement: Chi square test, ANOVA	Intervention: - Life skills education on DV - Training - Booklets to parents.	Girls of 4th grade Total: 510 Intervention: 255 Control: 255 *Short follow-up of 1-2 months	1.Low 2. High 3.Low 4. High	**i) Mean gender equitable attitude score** *(Base/ after intervention/ 2 months after intervention): 91.69±9.43/ 99.95±8.26/ 112.13±6.98 (p<0.001) ii) Mean knowledge score (Base/ after intervention/ 2 months after intervention): 7.67±2.43/ 14.06±1.6/ 15.27±1.39. (p<0.001)
Hidrobo and Fernald, 2013 Northern Ecuador	Randomized controlled trial (base line and follow ups data). 2 stage stratified random sampling **Time period:** 2004 - 2006 **Methods of measurement:** β coefficients from a linear probability followed probit model	**Intervention:** Unconditional cash transfer to eligible family USD 15/month	Female. Average 23.6 years **Intervention:** Baseline n= 1564, Follow Up: n=836 **Control:** Baseline n=790, Follow up n=414	1.Low 2. High 3.High 4. High	**Intervention:** Mean change -physical violence: -0.02, SE 0.03 (not sig) Emotional violence: -0.02, SE 0.03 (not sig) Controlling behaviour: -0.06, SE 0.03 (p<0.005) **Subgroup analysis:** Mothers with more than six years of schooling: emotional violence: 8% (-0.08, SE 0.04) Controlling behaviour: 14% (-0.14 SE 0.05).

Hidrobo et al., 2016 Northern Ecuador	Randomized controlled trial (base line and follow ups data) 2 stage stratified random sampling **Time period:** Not mentioned 2011 **Methods of measurement**: β coefficients from a linear probability followed probit model.	**Intervention:** Conditional transfer, food supply and voucher.	Female. Average 23.6 years **Intervention:** **Baseline:** 1705 (Household)-1487 (female headed)-1021 (15-69 years)-eligible, 1004 was given IPV module at baseline and **End line:** 881. **Control:** **Baseline:** 652-577-412- 409 **End line:** 345	1.Low 2. High 3.High 4. High	Mean change in physical and/or sexual violence: -0.06, SE=0.03 Mean change in emotional violence: -0.04, SE=0.03 Mean change in controlling behaviour: -0.07, SE=0.03 **Subgroup analysis:** Mothers with more than six years of schooling: emotional violence: 8% (-0.08, SE 0.04) Controlling behaviour: 14% (-0.14 SE 0.05).
Mutto et al., 2009 Northern Uganda	Cluster-randomized controlled trial **Time period:** Not mentioned **Methods of measurement:** Factor analysis, adjusted Pearson X2 tests, generalised estimation equation modelling.	Violence prevention curriculum	1027 grade 5 students	1.Low 2. High 3.High 4. High	**Post-intervention differences:** **-** Regarding bullies: OR = 3.6, 95% CI (1.56 – 8.33), p= 0.010; - A person who abuses one: OR = 2, 95% CI (1.52 – 2.76), p= 0.002; - Self-reporting of verbally abusing others OR = 0.4, 95% CI (0.16 – 0.84), p- = 0.027) **Mean rate of violence incident:** **Control:** Base/End: (370/1000)/(350/1000); p=0.452 **Intervention:** Base/End: (270/1000)/ (190/1000); p=0.356.
Saggurti et al., 2014 Mumbai, India	Cluster-randomized controlled trial **Cluster:** 13; 7 intervention and 6 control clusters. **Time period:** 2010-2011 **Methods of measurement:** χ2 analyses, logistic generalized linear mixed models, exploratory dose analyses, post-hoc analyses.	**Intervention:** "RHANI Wives". Counselling through individual and group session. **Control:** Awareness on risk and prevention of HIV through street plays.	Married women aged 18-40 years N= 220; Intervention: 118 Control: 102	1.Low 2. High 3.High 4. High	**<u>Intervention Group:</u>** - IPV: RR 0.7, 90% CI (0.2 – 1.8), p=0.548 - Marital conflict: RR 0.4, 90%CI= 0.1- 0.9; p=0.064 - Marital sexual coercion (not IPV): RR 0.2; 90% CI= 0.05-0.9, p=0.082

Wechsberg et al., 2013 Cape Town, South Africa	Randomized controlled trial 3-arms study **Time period:** 2008-2012 **Methods of measurement:** Generalized-linear mixed model, ITT	**Intervention:** • WHC (Women Health Coop) peer training (violence, drug abuse, knowledge on risky sexual behaviour for HIV/AIDS) • Peer training on nutrition knowledge **Control:** • HCT-HIV counselling and testing	Women aged 18 - 33 years 720 WHC:360 Nutrition:181 HCT:179	1.High 2. High 3.High 4. High	**- No physical partner violence (Adjusted OR with 95% CI):** **At 6 months:** Control / Nutrition= 1.1 (0.8-1.4) Control / WHC= 1.1 (0.8-1.6) Nutrition/WHC= 0.9 (0.7-1.4) **At 12 months:** Control / Nutrition= 1.02 (0.8-1.4) Control / WHC= 1.1 (0.8-1.6) Nutrition/WHC= 0.9 (0.7-1.7) None of these relations were statistically significant. **- Proportion of physical partner violence:** **Control Arm** Base/ 6 mon/ 12mon: 118/171(69%)- 96/122 (78.7%) - 90/120 (75%), f=2.29, (p=0.102) **Nutrition arm** Base/ 6 mon/ 12mon: 108/173 (62.4%)- 104/133(78.2%)- 90/130 (75.4%), f=5.66, (p=0.003) **WHC arm** Base/ 6 mon/ 12mon: 230/344 (66.9%) - 205/253 (81%) - 191/247(77.3), f=9.82, (p<0.001)

Quasi-experimental study					
Cecen-Erogul and Hasirci, 2013 Ankara, Turkey	Quasi experimental **Time period: Not** mentioned **Methods of measurement:** ANCOVA, paired sample t test.	Training on knowledge (personal rights, good touch and bad touch, body safety rules, sexual abuse is never a child's fault) **Intervention:** Role-playing, role modelling, rehearsal teaching techniques, video screening and lecture.	Male and female. 36 fourth grade students (20 male, 16 female) Intervention:18 Control:18	1.Low 2.Low 3.High 4.High	**Mean knowledge score** **Experimental group:** Pre-test: 5.33 ± 1.41 Post-test: 8.66 ±1.28 **Control group:** Pre-test: 5.61 ± 1.38 Post-test: 6.16 ± 1.42 F=43.138 Paired sample t test; t=0 .644
Cerdá et al., 2012 Medelin, Colombia	Quasi-experimental design (Pre-post design) **Time period:** 2003-2008 **Methods of measurement:** Propensity score matching, Permutation tests	**Intervention:** Infrastructure development. Built a public transit system, improvements to neighbourhood services.	Both male and female; 12-60 years **Baseline:** 599 **End line:** 466 Intervention=225, Control= 241	1.Low 2. High 3.High 4. Low	**- Drop in Homicide rate:** OR=1.7; 95% CI (-1.7 to - 0.5) **- Reported violence:** (OR=2.2, 95% CI,(-2.2 to -0.4)
Dunn, 2011 Western Cape, South Africa	Quasi experimental study **Time period:** 2003-2004 **Methods of measurement:** ANOVA	**Intervention:** HOOK board game to raise awareness.	Students both male and female aged 9 - 12 years. **N=**1697; **Intervention:** 407 **Control:** 1290	1.Low 2. High 3.High 4. Low	**Mean knowledge score:** **Intervention:** - Appropriate touch (Base/End line/Follow): 5.28/5.81/5.61 - Inappropriate touch (Base/End line/Follow): 12.46/ 14.13/14.06 **Control:** - Appropriate touch (Base/Follow): 5.23/4.97 - Inappropriate touch (Base/Follow): 11.93/ 12.94
Jewkes et al., 2014 Durban, South Africa	Quasi-experimental design (interrupted time series design) **Time period:** Not mentioned **Methods of measurement:** Regression analysis	**Intervention:** Group intervention; combination of learning on livelihood and resources, HIV and violence prevention.	18-34 years Total participants 232 Men = 110 Women = 122	1.Low 2. High 3.High 4. Low	**Physical and/or sexual IPV:** 30.3% to 18.9% in women (p=0.037).

Kalichman et al., 2009 Cape Town, South Africa	Quasi-experimental study (Pre-post intervention) **Time period:** Not mentioned **Methods of measurement:** Chi-square, ANCOVA, logistic regression	**Intervention:** Training and skill building on consequences of GBV, HIV/AIDS, and behaviour change modification and sexual negotiation skill. **Control:** No control group	Male. Average 30.2 years. **Group 1:** GBV+HIV risk reduction N=242 **Group 2:** alcohol + HIV risk reduction N=233	1.Low 2.Low 3.High 4. High	**i) Primary outcomes:** **- Reduction of losing temper with a woman who had at base: 1 mon/3 mon/ 6 mon:** (OR=0.5, 95% CI, 0.3 - 0.7, p<0.01)/ (OR=0.7, 95% CI, 0.4 - 1.2)/ (OR=0.5, 95% CI, 0.3 - 0.8, p<0.01). **- Hit a sex partner in the past month:** **1 mon/ 6-mon:** OR 1.3, 95% CI, 0.8 – 2.0/ OR= 0.3, 95%CI, 0.2-0.4. **ii)Secondary outcomes:** **GBV/HIV intervention:** **- Unprotected sex:** Base a past 1 mon/3 mon/6-mon:3.1 ± 7.2/3.9±10.9/2.5±7.2 **- Talk with partners about condoms (**Base at past 1 mon/3 mon/6-mon): 4.2±6.8/ 7.3±13.7/ 9.5±17.3 **Alcohol/HIV group:** **- Unprotected sex: (**Base at past 1 mon/3 mon/6-mon**):** 2.0±4.2/1.7±4.3/ 3.1±10.3 **- Talk with partners about condoms (**Base at past 1 mon/3 mon/6-mon**):** 3.5±4.9/ 7.2±13.4/8.7±18.3
Krishnan et al. 2016 Bengaluru, India	Quasi experimental design (Base and end). **Time period:** Not mentioned **Methods of measurement:** Chi-square, student t-tests, linear regression model	**Factory based**: Sexual Reproductive Health Campaign, mass awareness programme, health camps.	Male and female 18-60 years. Average 28 years. n= 926; Intervention= 428 Control= 498	1.Low 2. High 3.High 4. Low	**Intervention:** - Violence against wives acceptable: (Base/ end): 31.1%/7.3% (p<0.001). - Knowledge of support services for IPV (Base/ end): 42.6% / 69.2% (p=0.67) - Knowledge of support services for alcohol use (Base/ end): 20.5% / 68.4% (p=0.49).
Miller et al., 2014 Mumbai, India	Quasi-experimental design (Baseline and 12 months follow-up survey)	**Intervention:** Intervention to youth athletes for raising voice against violence for promoting non-violent, gender-	Male (10-16 years) Baseline=663 Follow-up, Intervention=168, Control=141	1.Low 2. High 3.High 4. High	- Mean score of gender equitable attitude (Base/ follow): 3.18/ 3.42 (adjusted mean scores 0.28; 95% CI= 0.12-0.43, p = .001)

	Time period: 12 month (year wasn't mentioned) **Methods of measurement:** Bi-variate analysis through Chi square and t-test.	equitable attitudes.			
Pulerwitz et al., 2015 3 sub-cities, Ethiopia (Gulele, Kirkos and Bolele) in Ethiopia	Quasi-experimental study 3-arms study **Time period:** 2011 **Methods of measurement:** Bivariate and multivariate logistic regression analyses, McNemar tests (for paired data), Chi square test	**Intervention:** Gulele:(interactive group education (GE), community mobilization and community engagement (GE + CE) Kirkos: CE only. **Control:** Bolele: No intervention.	Youth male; 15-24 years **Baseline 729**; Gulele: 244 Kirkos: 287 Bole: 198 **End line: 645** **Gulele: 235 (GE+CE),** **Kirkos: 251 (CE)** **Bole: 159**	1.Low 2. High 3.High 4. High	**Intervention Group:** - Physical and/or sexual violence toward partner: <u>GE+CE (Gulele):</u> 36% to 16%; (P < .05). <u>CE only group (Kirkos):</u> 36% to 18%; (P < .05) - Any type of violence (Physical, sexual, or psychological): <u>GE+CE (Gulele):</u> 53% to 38%. (p<0.05) <u>CE only group (Kirkos):</u> 60% to 37%. (p<0.05) - Gender Equitable Men (GEM) Scale items- <u>GE+CE (Gulele):</u> Positive shift in 7 items. <u>CE only group (Kirkos):</u> Positive shift in 5 items. **Control arm:** - Number of physical and sexual violence: From 7% to 14%.
Silveira et al., 2010 Morro das Pedras, Belo Horizonte, South-eastern Brazil	Quasi experimental with time series analysis 2-arms study **Time period:** 2002-2006 **Methods of measurement:** generalized linear models	**Intervention:** Morro das Pedras, and violent favelas. enforce the law, guarantee security for community and impede the drug trade **Control:** Belo Horizonte and non-violent favelas.	Used secondary data.	1.Low 2. Low 3.High 4. Low	**Average number of monthly homicide:** **Intervention:** - Morro das Pedras (Base/ Phase 1/ Phase 5): 1.92/1.2/1.0 - Violent favelas (Base/ Phase 1/ Phase 5): 2.92/5.2/2.83 **Control:** **-** Non-Violent favelas (Base/ Phase 1/ Phase 5): 8/13.2/ 10.17 - Neighbourhoods of Belo Horizonte (Base/ Phase 1/ Phase 5): 23.08/35.4/53.58

Vogt and Greeff, 2007 South Africa	Quasi-experimental design 2-arms study **Time period:** June-December, 2004 **Methods of measurement:** Bonferroni post hoc analysis, Anova (repeated measure and one way), chi square test.	**Intervention:** Exposed to IPO (Interim protection order).	Total= 1,009 Intervention= 884 Control=125	1.Low 2. High 3.High 4. Low	**- Mean reduction of physical abuse:** **Intervention:** Base/ End: 2.33/ 1.08 **Control:** Base/ End: 1.85/ 0.84. **- Mean reduction of emotional abuse:** **Intervention:** Base/ End: 3.58/ 2.03 **Control:** Base/ End: 3.30/ 1.80 **- Mean reduction of sexual abuse:** **Intervention:** Base/ End: 0.89/ 0.45 **Control:** Base/ End: 0.65/ 0.41.

APPENDIX 11: CHECKLIST FOR INTERVENTION BY STUDIES

Study name/ Intervention	Community mobilization				School based intervention			System wide approach					Health sector approach				Economic and livelihood intervention				
	Booklet distribution among parents	Training/campaign on norm and behavioural change	Training for awareness building	Mass awareness program and sexual reproductive health campaign	Training on touch knowledge	Training for awareness building	Training on behavioural change	Formation of law	Infrastructural development	Advocacy	Referral card for legal support	Law enforcement and strategic intervention	Knowledge and skill building on HIV risk reduction, health and wellness	Health camp	Social work case management/ counselling	Referral card for health	Conditional cash transfer	Unconditional cash transfer	Food supply	Voucher	Training on using existing resources
Abramsky et al., 2016			√							√											
Carlson et al., 2012													√								
Cecen-Erogul and Hasirci, 2013					√																
Cerdá et al., 2012									√												
Cripe et al., 2010											√				√	√					√
Dunn, 2011					√																
Ekhtiari et al., 2014	√					√	√														
Hidrobo and Fernald, 2013																	√				
Hidrobo et al., 2016																		√	√	√	
Jewkes et al., 2014				√																	√
Kalichman et al., 2009		√		√									√								
Krishnan et al., 2016		√		√									√	√							
Miller et al., 2014						√	√														
Mutto et al., 2009					√		√														
Pulerwitz et al., 2015		√	√										√								
Saggurti et al., 2014		√		√											√						
Silveira et al., 2010												√									
Vogt and Greeff, 2007								√													

Wechsberg et al., 2013				√								√								

APPENDIX 12: QUALITY ASSESSMENT OF RANDOMIZED CONTROLLED TRIAL

1. Abramsky et al., 2016					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	No	High risk	
		Random sequence generation?	Unclear	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas.	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Yes	Low risk	High
2. Carlson et al., 2012					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	High
		Description of the context?	Yes	Low risk	
		Random sequence generation?	Yes	Low risk	
		Allocation concealment	Yes	Low risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	Low
		How the intervention was given: equally in both areas	No	High	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Unclear	High risk	Low
3. Cripe et al., 2010					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	Yes	Low risk	
		Random sequence generation?	Yes	Low risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.		Is it clear that how the data were collected?	Yes	Low risk	High

	Measurement Bias	Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Yes	Low risk	High

4. Ekhtiari et al., 2014

	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	No	High risk	
		Random sequence generation?	Yes	Low risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Unclear	High risk	Low

5. Hidrobo and Fernald, 2013

	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	Yes	Low risk	
		Random sequence generation?	No	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Yes	Low risk	High

6. Hidrobo et al., 2016

	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	Yes	Low risk	
		Random sequence generation?	No	High risk	
		Allocation concealment	No	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Yes	Low risk	High

7. Mutto et al., 2009					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	Yes	Low risk	
		Random sequence generation?	Unclear	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Yes	Low risk	High
8. Saggurti et al., 2014					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	No	High risk	
		Random sequence generation?	Unclear	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Yes	Low risk	High
9. Wechsberg et al., 2013					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	High
		Description of the context?	Yes	Low risk	
		Random sequence generation?	Yes	Low risk	
		Allocation concealment	Yes	Low risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Yes	Low risk	High

APPENDIX 13: QUALITY ASSESSMENT OF QUASI EXPERIMENTAL STUDIES

10. Cecen-Erogul and Hasirci, 2013					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	No	High risk	
		Random sequence generation?	Unclear	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	Low
		How the intervention was given: equally in both areas	Unclear	High risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Yes	Low risk	High
11. Cerda' et al., 2012					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	Yes	Low risk	
		Random sequence generation?	Unclear	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Unclear	High risk	Low
12. Dunn, 2011					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	Yes	Low risk	
		Random sequence generation?	Unclear	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Unclear	High risk	Low

13. Jewkes et al., 2014					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	No	High risk	
		Random sequence generation?	Unclear	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Unclear	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Unclear	High risk	Low
14. Kalichman et al., 2009					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	Yes	Low risk	
		Random sequence generation?	Unclear	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	Low
		How the intervention was given: equally in both areas	No	High risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Yes	Low risk	High
15. Krishnan et al., 2016					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	Yes	Low risk	
		Random sequence generation?	Unclear	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	No	High risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Unclear	High risk	Low

16. Miller et al., 2014					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	No	High risk	
		Random sequence generation?	Unclear	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Yes	Low risk	High
17. Pulerwitz et al., 2015					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	No	High risk	
		Random sequence generation?	Unclear	High risk	
		Allocation concealment	Unclear	High risk	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Yes	Low risk	High
18. Silveira et al., 2010					
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	Yes	Low risk	
		Random sequence generation?	Unclear	Unclear	
		Allocation concealment	Unclear	Unclear	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	Low
		How the intervention was given: equally in both areas	Unclear	High risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Unclear	High risk	Low

	19. Vogt and Greef., 2007				
	Bias	**Quality assessment question**	**Yes/No/ Unclear**	**Risk**	**Quality Assessment**
1.	Selection bias	Is the research aim clearly stated?	Yes	Low risk	Low
		Description of the context?	Yes	Low risk	
		Random sequence generation?	Unclear	Unclear	
		Allocation concealment	Unclear	Unclear	
2.	Performance Bias	Description of the sample procedure?	Yes	Low risk	High
		How the intervention was given: equally in both areas	Yes	Low risk	
3.	Measurement Bias	Is it clear that how the data were collected?	Yes	Low risk	High
		Methods of analysis explicitly stated?	Yes	Low risk	
4.	Attrition Bias	Loose to follow up or incomplete outcome	Unclear	High risk	Low

APPENDIX 14: KEY OBSERVATIONS AND THE VALUE OF THE MAPPING

National leaders across the globe are concerned with the rapid growth rate of cities. In many parts of the world this rate is failing to keep balance among the elements of growth, population, support services and economic opportunities. Any disproportionate change among these elements is resulting in fear and insecurity for citizens and hence leading to violence. During recent decades unprecedented urban growths became blasted with unparalleled increase in population and the threatening rise in violence. The world governments, particularly from low and middle income economies try to cope with the situation through various measures, such as undertaking interventions, drawing legislatures, or implementing many developmental activities. Among some sporadic success and failures, a common, easily applicable and practical pathway is yet to be achieved. The UN declared SDG goal 11 pledged to create inclusive, safe, resilient and sustainable cities by 2030. However, in order to translate that goal into action requires effective, acceptable and tested approaches that should also be practicable to local situation.

This initial scoping review explored the evidence base information on various types of violence to understand the lessons available around the globe. In order to respond the review question “What is the impact of approaches for addressing insecurity or violence arising from urbanisation?, the review was undertaken in two stages; an initial scoping of literature and the stage 2 review will be followed with the objective to conduct in-depth assessment of the literature including approaches; if possible to review the studies which had significant impacts in addressing insecurity or violence resulting from urbanisation. This report on scoping exercise provided a comprehensive description of literature on insecurity or violence in urban areas of low and middle income countries in relation to the review question. This scoping exercise added information with an overview of literature covering the impact of urbanisation on insecurity and violence, in general.

A wide range of literature was covered under this review from electronic databases to different grey sources. Thereby, this scoping would be able to provide a wide mapping of publications covering areas of social sciences, health, economic, political and developmental studies. Thus the findings will be equally useful to the social leaders, politicians, economists, academicians, community people as well as development workers and leaders. The review included publications from peer reviewed journals, reports from developmental organizations, donor organizations, world bodies (e.g. WHO, UN) to independent research studies, masters and doctoral theses. Only reports and studies from low and middle income countries were included. Thus any new information generated from this review has wider global implications.

The mapping covered all possible types of violence. The subject area covered Intimate Partner Violence (IPV), Domestic Violence (DV), Sexual Violence (SV) both from partner and non-partner, child abuse to youth and elder abuse and even homicides. Studies also included interventions and approaches addressing the different types of violence. The spectrum of approaches varied from location to location, country to country and was mainly implemented as vertical stand-alone progarmme or sometime in package of interventions project. The approaches consisted of school based, home based, community based, and governance improvement, extend judicial coverage, capacity building, behavioural change therapy for individual, in infrastructure to psychological

supports. Thus, it is likely to conclude that this review provided a valuable insight of the existing literature around violence in urban areas, emerging issues, the gaps in information, and at the same times the existing lessons or best practices whenever available.

Among the studies identified, the common study designs were either descriptive or cross sectional. A number of view, review and systematic review studies were also identified. The total number of citations, the variety of violence and the approaches studied in different perspectives and use of different methods indicate that the underlying issue is highly important and vigorously studied all across the globe. While descriptive studies provided some description of the prevailing conditions and their environment, occasionally some studies probed beyond the prevalence and tried to provide some insights and in-depth discussions about violence or insecurity. Some review studies tried to relate issues like destabilization, poverty and social exclusion with urbanisation and resultant violence. Based on these descriptions it is difficult to draw any conclusion, however, the overall indication points towards that the relation between urbanisation and violence is probably not linear and there are many intermediate or intervening factors influencing or associated in the pathway.

The majority of the studies had quantitative data, also many used qualitative approaches and some utilized mixed methods in data collections. The review also identified several approach studies reporting either the outcomes of interventions, or result of an existing programme, or evaluation report. These studies created an opportunity to look in-depth into approaches that either can or cannot change the situation and can or cannot influence to reduce violence in urban areas and the reasons behind the changes. The in-depth assessment can therefore examine the impact and effectiveness of the successful approaches, and also will pave the way to undertake further appraisal of these approaches for their applicability in local or other conditions. However, it should also be taken into consideration that these approach studies were conducted in eight different countries and addressed a wide selection of violence including gender based violence to IPV and homicide. The intervention approaches were similarly different from one another, in design, target population, methods of implementation and outcomes. This raises serious concern how to proceed to reconcile these diversified approaches and experiences and synthesize into a meaningful message.

This scoping identified that most of the included studies belonged to social sciences. Most of these studies were form sub-Saharan and Latin American countries. Recently rapid urbanisation has been observed in those regions, and with it are reports of increased unrest and violence in cities in those areas. In addition to rapid urbanisation other ingredients that contribute to insecurity and violence are: lack of governance and justice, lack of basic services, disaster and poverty, are in abundance in LMICs of those regions. In some places the situation is further aggravated due to ongoing political unrest, war or conflict conditions. In Latin American countries violence is mainly connected with drug dealing and addiction which is already in rise. Thus in those areas all types of violence (social, political, economic, organizational, institutional) are occurring in mixed and separately.

One important feature of this review is that women were the victims of violence in most of the cases. Included literature indicates that this condition is prevailing equally across the globe. Most often women are comparatively less provided with work, less paid, deprived of food and nutrition, education, opportunities and amenities, pushed back by religion and community, victimized by traditional harmful practices and becoming the prey of sexual, physical, emotional and psychological harassments. Governments and societies in these LMICs usually ignored these facts, did not protect

the women and legislature remained silent or not implemented. Among reported violence towards women, the most frequent studies were about IPV, followed by SV and DV. While most of the IPV studies were from Sub-Saharan Africa, SV and DV were reported from across all LMICs.

The scoping exercise has been useful to identify that there is a dearth of primary studies that have addressed the association between urbanisation and insecurity or violence. Even general descriptive studies were also not found to discuss violence as an outcome of urbanisation. Violence is common in urban areas and it is increasing in many rural settings. How the urbanisation process instigates insecurity and results in acts of violence was not probed directly in any studies. Risks factors for violence in the urban setting have been discussed in some studies that tried to have an association of violence with urbanisation. Among factors investigated inequity in terms of wealth and poverty was considered as a prime mover to the path to violence in an urban setting. However, in theory it was difficult to establish this type of association as in many LMICs inequity of wealth does not exist between rural to urban areas. It is therefore postulated that different elements of urbanisation (as given in the conceptual framework) work to influence the pathway to violence. Poverty could be the major influencer or effect modifier.

Among the intervention studies, most of them addressed the behavioural aspects of violence like education-training, community motivation, partner education, school curriculum modification or sometimes providing protection of victims in emergency. Only a few studies targeted economic aspects of violence by offering direct cash transfer for support or modeling neighborhood living condition to influence outcomes of violence. Therefore it will be difficult to test the hypothesis that inequity in terms of poverty instigates violence in urban areas. It will similarly be difficult to make a direct link that urbanisation resulted in increased frequency and quality of violence. However the impacts of the interventions to ameliorate the situation could be further examined and probably some best practices or meaningful lessons could be identified.

The scoping exercise covered a wide range of studies from a variety of sources and was successful in identifying a significant number of important studies in relation to urbanisation and insecurity or violence. The included studies were from all continents across the globe (except North America, not included) and covered varied disciplines of subjects, designs, types of studies including approach studies, reviews and systematic reviews. Thus it provided a broad base of evidence to explore and understand the complex pathway from urbanisation to insecurity to eruption of violence. Hopefully we will be able to assess the impacts of approaches to a greater extent despite their wide variability and heterogeneity in type and targets.

APPENDIX 15: EXECUTIVE SUMMARY OF THE SCOPING REPORT

Research question: **"What is the impact of approaches for addressing insecurity or violence arising from urbanisation?"**

A two stage review method was adopted to answer this question. In stage 1, the extent and dispersion of literature on urbanisation and violence was mapped out and based on the findings, a stage 2 impact analysis review is planned. The stage 2 will explore more in-depth the approaches that were successful impacting on violence reduction, improving the situation assess and how it was done.

In stage 1 scoping review the target **population** was the urban and peri-urban population from low and middle income countries and all social, institutional and economic violence were included. Any programme implemented by the governments, NGOs, international organizations or donor agencies were included. The review included any type of **comparison** reported and the major outcomes considered according to a proposed conceptual framework were "reduction of violence", "built safe society", "victims rehabilitated", "legal protection extended", "normalcy restored", "awareness built" etc.

A wide range of literature was searched from diverse disciplinary perspectives including social sciences, health, legislature, governance, and developmental sciences. Reports and studies as well as grey literature were searched from related organizational websites and other open sources. The search was iterative, built on appropriate keywords, synonyms and other relevant entry terms. Findings from known sources and existing literatures were also considered. Both MS Excel and EndNote (version 5) software were used to manage the search outputs. Duplicates were checked, identified and excluded again using EndNote. Endnote libraries were then imported into EPPI-Reviewer 4.0 (ER4), the EPPI-Centre's online review software (Thomas et al., 2010).

The initial screening by checking the title and abstracts was done by ER4 according to a predefined inclusion and exclusion criteria. The full texts of the selected articles were retrieved and uploaded in the ER4 again. In the next step data was extracted from the selected articles after primary screening by reading through the full texts and using a predefined coding arrangement created in the ER4 for this purpose. The scoping report is based on this coding arrangements and reading of the selected full articles. A subset of articles those will meet the criteria as proposed for the stage 2 protocol will be selected and will be reviewed for further in-depth analysis.

FINDINGS FROM SCOPING EXERCISE

In total, 319 studies have been identified in stage I (scoping review) by the exclusion and inclusion criteria. The scoping review found dominant studies from Sub-Saharan Africa, Latin America and Caribbean regions with strong emphasis on violence. Studies from social science were foremost in number and a variety of methods were found within studies. The scoping review found studies on prevalence, perception and violence related facts as well as interventions studies aiming to reduce violence.

The scoping review found studies from different regions. Studies from the sub-Saharan Africa region were foremostin number (n=95) followed by Latin America and Caribbean (n=77) and South Asia (n=50). However, the scoping review did not find any literature from LMICs in North America region. From sub-Saharan Africa region the highest number of studies were found from South Africa (n=60). The Latin America and Caribbean body of literature was found predominantly from Brazil (n=47).

South Asian literature was rich from India (n=32) and Bangladesh (n=18). A wide range of studies were found from social sciences discipline (n=283) followed by health science (n=35).

Varieties of violence types were reported in the included studies. Studies on intimate partner violence was largest in number (n=93) followed by domestic violence (n=76), sexual violence (n=56) and youth violence (n=28). In addition, a notable amount of literature focused on various or multiple types of violence (n=47).

In terms of victims of violence in included studies, the scoping review showed that female population were greater in number (n=175) than any other group. A noteworthy amount of studies focused violence on adolescent group (n=42) and children (n=38).

The review included 19 experimental studies including quasi experimental (n=10), randomized control trial (n=9). These studies sometimes followed a single type of intervention approach and sometimes used combined approaches. Sometimes interventions were based in school premises (Cecen-Erogul and Hasirci, 2013; Dunn, 2011; Ekhtiari et al., 2014; Miller et al., 2014; Mutto et al., 2009) and sometimes these were based on community level (Abramsky et al., 2016; Cerdá et al., 2012; Cripe et al., 2010; Hidrobo and Fernald, 2013; Hidrobo et al., 2016; Jewkes et al., 2014; Kalichman et al., 2009; Pulerwitz et al., 2015; Saggurti et al., 2014; Silveira et al., 2010; Wechsberg et al., 2013). Few studies were based on hospital or service centre or work place level (Carlson et al., 2012; Cripe et al., 2010; Krishnan et al., 2016). Intervention types also varied from study to study and sometimes few studies took mixed types of interventions. Community mobilization, school based curriculum development or training, system wide approaches, health sector approaches and economic and livelihood interventions were the main intervention that included studies followed.