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Violence Pathology, Epidemiology, Risks and Rehabilitation: a Global Challenge in the next Century

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Abstract – Violence behaviours are believed to be changeable throughout the human life. Like any kind of illnesses noted in human history, there should be subtypes to be identified, risk factors from all possible aspects to be prevented, symptoms to be treated, complications to be monitored and long-term care to be prepared. Currently, violence rates are underreported and guidelines for its management are not complete. Moreover, only physical violence has been recorded in International Classification of Diseases in hospitals while domestic violence and crimes in relation to physical harms could be charged to prison. The rate of recurrence could be high, but no long-term cost-effective therapy has been scientifically proposed. Since violence research seems to be cross medical, epidemiological, health, social and educational sciences, diagnosing, treating and preventing violence by subtypes will require a multi-disciplinary team with a life course approach to support. In this paper, it was aimed to reflect on previous research activities, to point out current research gap and to propose rectification in scientific research and cooperating with other academic disciplines such as environmental, nursing and philosophical sciences and engineering.

Keywords – *violence epidemiology, human behaviour, public mental health, violence pathology, risk analysis, violence management*

1. Violence as a global health problem

World Health Organization (WHO) Multi-Country Study on Women's Health and Domestic Violence against Women in the early 2000s indicated that violence is not an acceptable part of human relationships (Garcia-Moreno, et alViolenceV, 2005). Knowledge, attitude and perception on violence and its negative impacts should be taught early in life since they are believed to be changeable throughout the human life. Like any kind of illnesses noted in human history and from a population health perspective, violence is no exception. In other words, there should be subtypes (in addition to the known physical harms, domestic violence and assaults) to be identified (violence pathology and diagnosis on both physical and mental violence), risk factors from all possible aspects to be prevented or protective factors to be optimized (violence epidemiology), symptoms to be treated (e.g. offenses and/or crimes to be stopped), complications to be monitored (violence risk management) and long-term care to be prepared (non-violence rehabilitation and nursing). The recent violence events occurred in a welfare state known for its equality policy, Sweden, have gained worldwide attention and has reflected our ignorance on the multiple causes, processes and consequences of human violence behaviors and long-term care plan to eliminate such local, national, regional and global risks.

2. Historical context on human violence

Currently, there are only a few subtypes of violence noted in the International Classification of Diseases 10th version. For example, Physical Violence is coded as R45.6 and a range of subtypes of assaults that are external causes of morbidity and mortality are coded in X85-Y09 Assault.

Violence culture can be of great influence for a long time over generations. Ideally, with the popularity of higher education, we have assumed that violence shall be gradually minimized due to the rationalization of human mind. However, different degrees of conflicts seem to have occurred everywhere in our daily life contaminating all levels of societies over the last decades. Moreover, the age at onset of likely violence behaviours seems to be advanced which could have an origin of environmental influence from family, school or even neighborhood (Flury, et al, 2010; Shiue, 2014). At the global level, how-

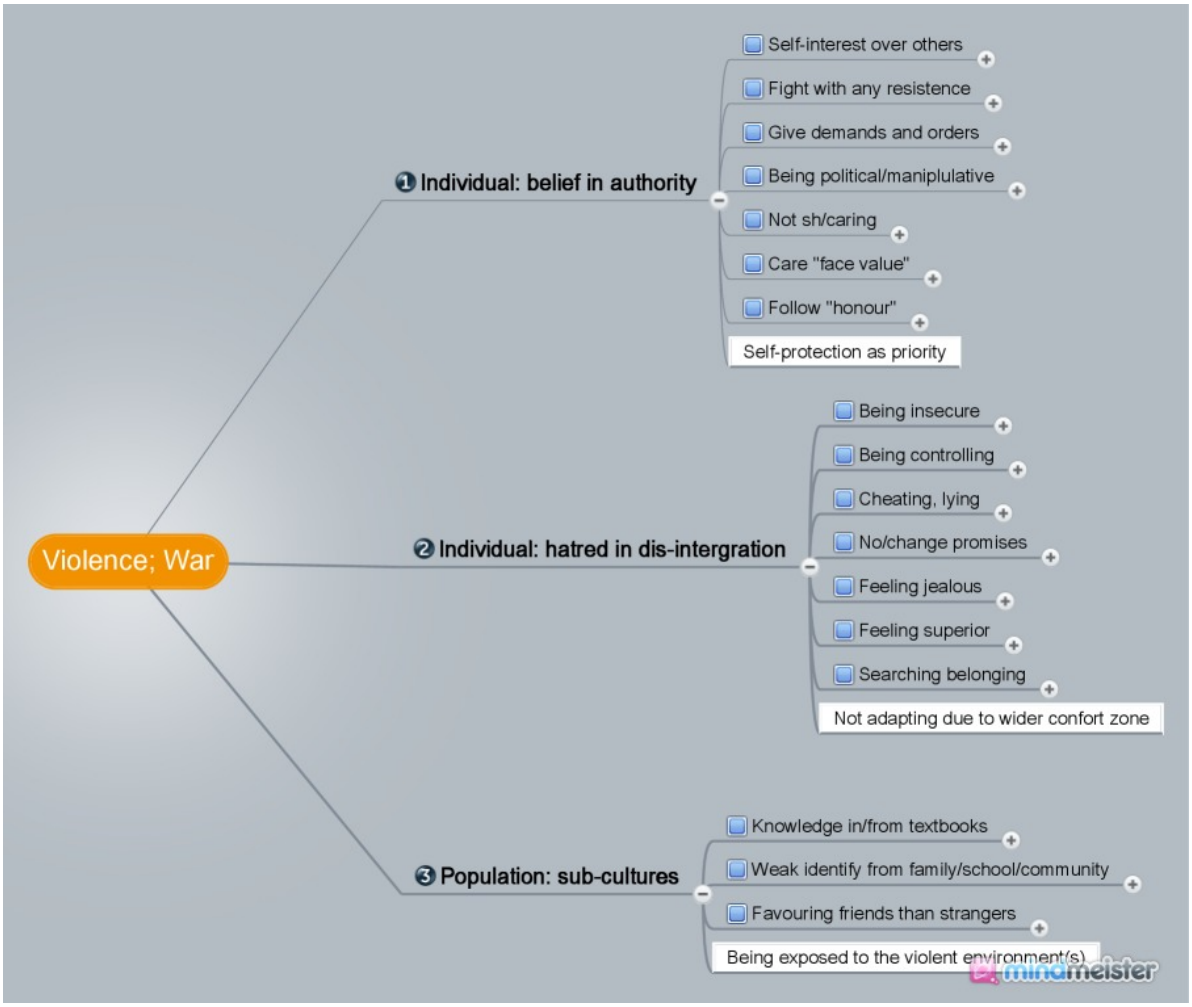

Figure 1: Diagram of observed clinical characteristics of violence initiators

ever, World War I and II and other recorded civil wars could actually have brought the huge hidden environmental influence that we humans could have long underestimated. If we trace back in history and from an epigenetic perspective, we could find out that baby boomers who suffered from the "violence effect at the war time" could have their offspring to "inherit" the "violence gene" (Avinun, et al, 2011). Imagine that every family had more than five children during that time and with the high marriage rate, each child established their own family that has produced 3-5 children until today. The "violence rate" could actually be much higher than we had thought since violence culture can be quite infectious due to the shared risk environments (e.g. same family, same beliefs, same school and same neighbourhood...). Those victims with varying degrees of such "symptoms" could have brought the impact to different corners of world through work, education, religion, sport and so on affecting lots of human behaviors and thoughts resulting in personality and/or political conflicts and eventually society dysfunction. They bring negative impacts, exploit benefits of others, increase discrimination toward others and revenge, restrict individual development, decrease happiness in the surroundings and further "imprint" in the offspring continuously (Vassos, et al, 2013).

3. Possible mechanism and call for global violence surveillance establishment

Although WHO has reported factors that are associated with violence initiation at individual, relationship, community and societal levels (`http://www.who.int/mediacentre/factsheets/fs356/en/`), interventions targeting these factors under this "WHO system" did not seem to bring the world towards non-violence closer indicating a need to revisit these strategies (Jaffee, et al 2002 and Tolan, et al, 2006). This is because all the factors listed were mostly external behaviours but not internal from individuals.

In practice, after seeing many clinical cases worldwide, one may start to think about the common underlying mechanism that possibly motivates the violence initiation across age groups. Figure 1 summarizes the observed clinical characteristics of violence initiators from a brief qualitative research by interviewing International Federation of University Women Connections Network in 2013. Typically, from clinical cases, we have observed that violence initiators usually come from three dimensions, namely violent environments (e.g. during childhood, specific workplace, civil war and etc.), self-protection as priority and then not adapting to changes (lower resilience

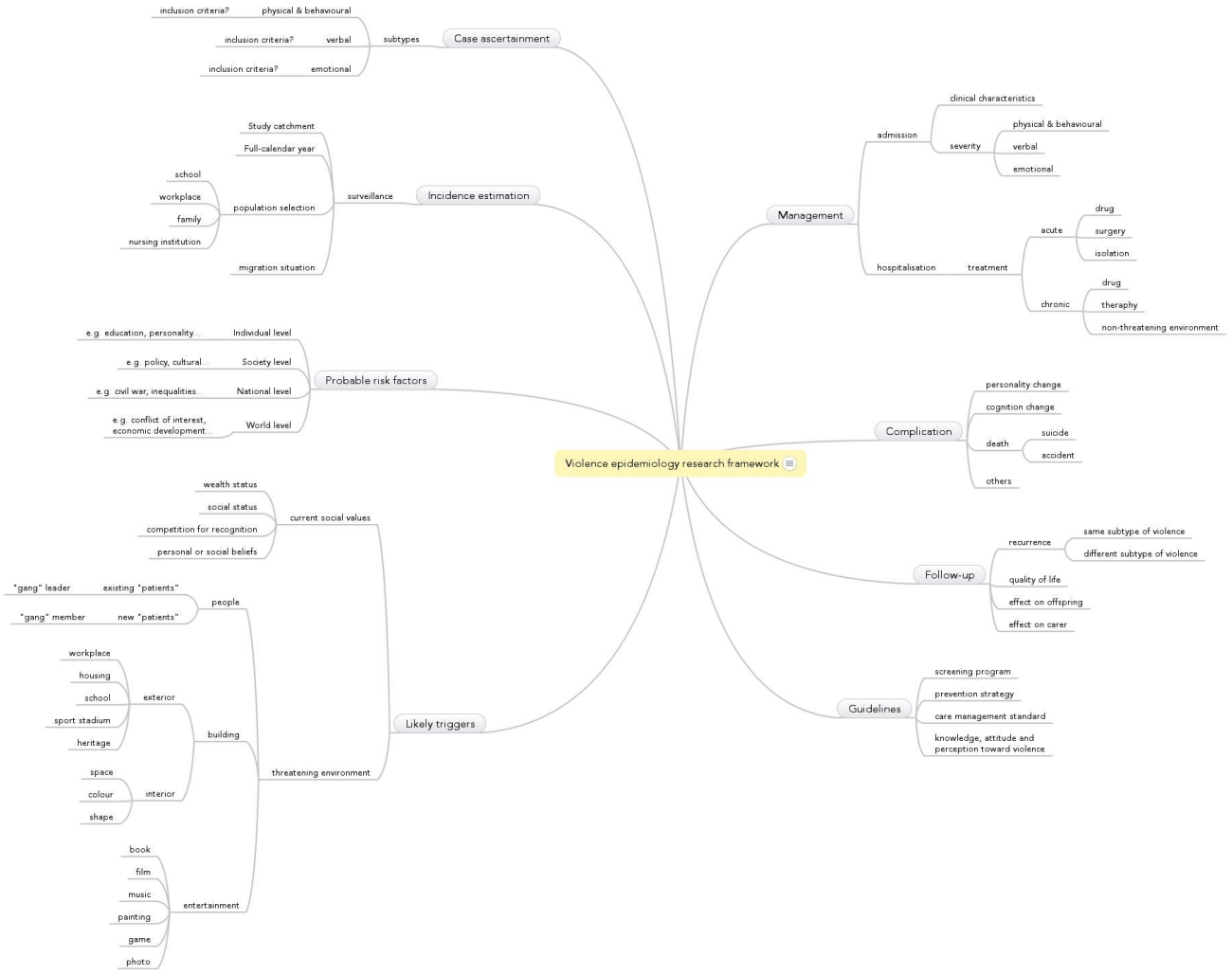

Figure 2: Violence epidemiology research framework

ability) due to wider individual comfort zone. Violent environments are usually from sub-cultures while strong self-protection survival is as a result of a firm belief in authority or power. Since authority or power is not normally shared, the "winner's interest" must be over others' by manipulating behaviors and/or thoughts which could lead to less empathy or no empathy for others. This could imply that certain traits such as being selfish could initiate different degrees of conflicts and consequently physical and/or mental violence on people close to them, being consciously or unconsciously, since their self-interests have to be met before others'. Moreover, people with violence potential tend to have a wider comfort zone and not to adapt to any change in their life. They forbid any change from his/her life circle as well since any change will be perceived as threats leading to harms to them and they do not hold resilience ability to cope with any "surprising" event. Therefore, in their perceived world, any "dis-integrated" member will be punished and also antagonism and discrimination attitudes will emerge. Then, what could scientific research do?

4. Rectification of violence science research

Firstly, I am proposing a rectification for violence science that would include violence pathology, violence epidemiology and violence rehabilitation. Anyone who is familiar with disease epidemiology method firstly ascertains the diagnosis for illnesses. According to WHO, violence is defined as the intentional use of physical force or power, threatened or actual, against a person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation (WHO, 2002). However, without a definitive case ascertainment in the community, we have been constantly told that violence cases were underreported. This is because violence events mostly found are only "fatal events" that involved physical harms or loss leading to crimes to be recorded and charged. What is lacking in the WHO's definition is that the use of mental/spiritual force or power being likely to against a person, a group or community should also be included as since it could eventually affect injury, death, psychological harm, maldevelopment or deprivation as well due to fear and loss of personal development and life interest.

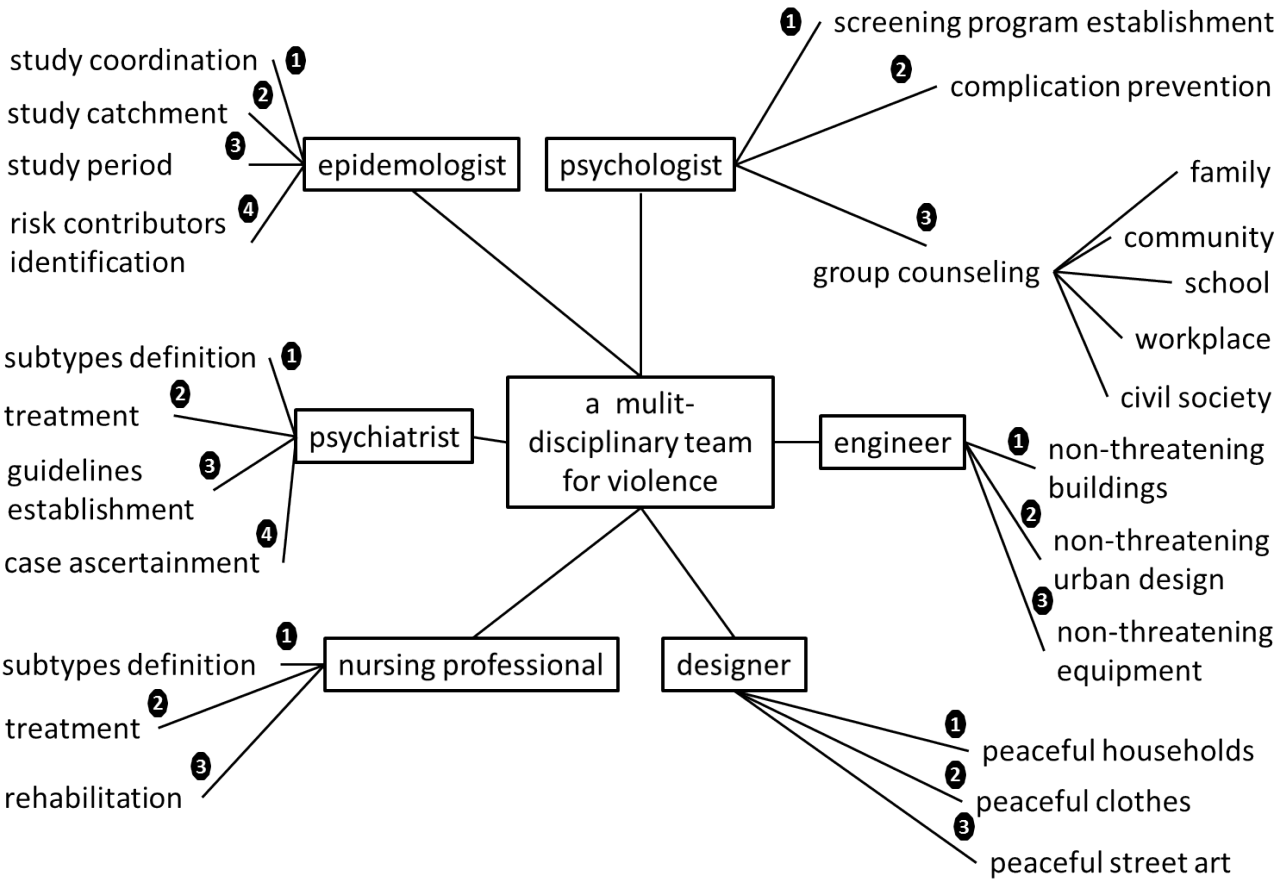

Figure 3: A multi-disciplinary team for violence science

Surprisingly, these have not been formally discussed in scientific literature. Following this concept, a great potential in human violence research in the next decades should therefore be largely encouraged and funded since this "illness" should be manageable and preventable, and the ultimate goal is to build peaceful societies in each country across the Earthy system.

In Figure 2, it explores the opportunity of violence surveillance establishment and indicates the research direction with a multi-disciplinary approach. To be specific, one could start from definitions for case ascertainment. In addition to physical and behavioural violence, there should also be other subtypes including verbal and emotional to be included into the surveillance. Although currently there are laws prohibiting bullying, harassment and etc, the recurrence is under-studied, and existing and new victims could still suffer from the same attack. Understanding the incidence and prevalence of violence by subtypes in each society is important, and so are risk contributors. It would help reallocate medical and social resources to treat and cure such "illness" in the population and to remove risks early in life in order to delay such "disease" and optimise quality of life. People with violence would need specialised medical and nursing professionals to treat and manage symptoms since they could be both acute and chronic with varying degrees of different complications. Regular monitoring and follow-up of these would be necessary. Like any other documented human disease, there could be screening programs to be set up, guidelines on both pre-clinical prevention and clinical management to be established and public awareness and education to be understood and implemented once we as researchers could full rectify such "infection".

5. Link research with day-to-day practice

Violence can bring great adverse and even detrimental effects on developmental, health, and social aspects for both men and women across age groups. From clinical observations, men seemed to feel more hurt than female; therefore they tend to strengthen the adverse influence on others (Vassos et al, 2003 and Gracia, 2004). Different treatment management and prevention strategies due to gender difference might need to be considered, if hard evidence could be provided. Violence can be both infectious for its exacerbation and chronic in progression. Diagnosing, treating and preventing violence will require a multi-disciplinary team with a life course approach to support since it could occur at any time in life due to different social and/or environmental triggers. Symptoms could last for a long period impacting on equality and sustainability in all corners of societies, if risks were not appropriately removed. For example, it was previously observed that children at three could have begun to consider merit when sharing with others indicating the role of less altruism in the later development of the adult life (Kanngiesser,

et al, 2002). This character could lead to dark personality to further provoke violence initiation in adulthood owing to fierce competitions in the family, school, workplace and/or marriages throughout the life stages. Therefore, less altruism could be flagged as a sign and people who are categorized into this group could be potentially perceived as being "at-risk". In solving this problem, some proper intervention programs, such as external instructions concerning ownership to disarm defensive behaviors (Eisenberg-Berg et al, 1979), targeting this new type of "at-risk" groups have proved to be helpful in psychology science and therefore should be widely encouraged. In Figure 3, it shows how professionals from health, medical, nursing, psychological and design sciences and engineering could form a multi-disciplinary team to collaboratively fight with human violence. At the initiate stage, research led by epidemiologists and psychiatrists could give an indication on how big local, national, regional and global crisis of human violence could be. At the mid-term stage, rehabilitation led by psychologists and nursing professionals could help manage neighborhood safety and security by minimising violence risks and recurrence. At the later stage, design led by engineers, architects and designers shall help ensure any potential harmful environments could be altered into positive surroundings.

6. Conclusion

In sum, violence rates are underreported and guidelines for its management are not complete. At present, we humans only have established penalties for crimes, and crimes have continuously increased which has left most citizens in distrust and fear. Moreover, with the expansion and poor quality of prisons in some regions (particularly in developing countries), the welfare of prisoners could have been worsened and the life after prison could have also pushed them further to the margins resulting in even more difficulties to re-integrate into the society. Taken together, a lack of proper awareness of identifying and treating violence in populations could lead to continuous misunderstandings in human interactions and relationships that could have been early prevented and managed. Therefore, a proposal on the rectification of violence science from pathology, epidemiology and risks to management and rehabilitation would hopefully raise more attention for those who would have made efforts to maintain the peace, resilience and happiness in societies.

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