

Global Health: Annual Review

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Global Health: Annual Review

Letter from the Editorial Team

Dear Reader,

Welcome to the fourth issue of the Global Health Annual Review (GHAR), an open-access journal that aims to celebrate the original scholarly work and thinking of students, graduates and young professionals in the industry. The journal began as an initiative taken on by alumni of the Master of Science in Global Health program at McMaster University to provide an outlet for quality scholarly work. Since being first published in 2015, it has, and continues, to grow and receive submissions from an international group of academics.

Facing an ocean of challenges and opportunities, much like the paddler on the cover of this issue, tackling global health issues is a journey that spans multiple continents, disciplines and experiences. This journal is representative of that reality, as it hosts articles on a diversity of topics and issues from around the world. While new technologies and initiatives have led to significant advances, much work remains to be completed. As such, research and collaboration remain as critical hallmarks of the field.

This issue of the GHAR journal contributes to the growing body of global health scholarship by showcasing novel research and viewpoints on relevant issues. After receiving a wide range of research articles and opinion editorials, the editorial team has arranged the journal in four overarching themes: mental health, social services, health systems and communicable diseases. Each article will give you a glimpse into a new world of theory and practice, spanning multiple disciplines and intellectual frameworks. We hope that you will leave with a better understanding of the diversity of global health research, its obstacles, and the efforts being taken to promote human flourishing across the globe.

On behalf of the authors and the entire editorial team, thank you for your continued interest and support.

Sincerely,

The Issue 4 Global Health: Annual Review Editorial Team



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Global Health: Annual Review

Theme Legend

Mental Health



A state of well-being that represents the interactions one has with one's self, others, and the surrounding environment. This also includes understanding what makes one happy, being able to cope with the challenges of life and building meaningful relationships.¹

Social Services



Public services provided for the benefit of individuals, such as education, medical care, and housing, or activities aiming to promote the welfare of others.²

Health Systems



People, institutions, and resources that promote, restore or maintain health. Well-functioning health systems depend on the provision of health care services, generation of funds, financing of the system, and stewardship including the governance, regulation and coordination of the system.³

Communicable Diseases



Diseases caused by microorganisms, viruses, parasites or fungi that can be transmitted directly or indirectly from one source to another by an infectious agent or its toxins.⁴

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A Utilitarian Argument for Increasing Funding for the Neglected Tropical Diseases

Opinion Editorial

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Utilitarianism is an ethical philosophy which suggests that medical and public health interventions should be prioritized in order to maximize utility – including health, happiness, and well-being – among the greatest possible number of people.¹ It is a consequentialist philosophy which argues that the most ethical action is that which increases pleasure and/or reduces suffering to the greatest degree.¹ This philosophy can be applied to fields such as Public Health and Global Health in order to use finite resources wisely.

As of 2016, communicable diseases collectively account for 20.2% of all deaths globally.² However, this burden is disproportionately felt by low- and middle-income countries. While only 5.4% of deaths in the European Union are caused by communicable diseases, that figure rises to 27.0% in South Asia and 56.4% in sub-Saharan Africa.²

For the past three decades, the vast majority of communicable diseases funding has gone to three diseases, collectively known as the ‘Big Three’: HIV/AIDS, tuberculosis, and malaria.³ In response, the World Health Organization (WHO) released a list of eighteen Neglected Tropical Diseases (NTDs) in 2007 in an effort to encourage further awareness, research, and funding for other communicable diseases.⁴ However, the enormous funding disparity remains. Figure 1 illustrates the amount of funding – including vaccinations, research, medication, and prevention – allocated to each disease between 2007 and 2015, as calculated by the WHO.⁵ The data was collected from more than 200 institutions, including non-governmental organizations and private corporations.⁵ The total funding is shown for the ‘Big Three’ and twelve of the eighteen NTDs for which data was available. The funding for the ‘Big Three’ over this period totaled \$20.5 billion USD, while the funding for the NTDs totaled only \$2.5 billion USD.⁵

To some extent, this funding disparity can be justified by calculations of disability-adjusted life years (DALYs) per disease. DALYs are a tool to compare disease burden.⁶ DALYs are calculated by summing years of life lost (YLL) and years lost due

to disability (YLD).⁶ YLLs represent the total number of years lost due to victims of the disease dying early, while YLDs represent the burden of living with the disease, taking into account the number of years and the severity.⁶ Globally, between 2000 and 2016, tuberculosis, HIV/AIDS, and malaria accounted for 1.9%, 2.2%, and 1.4% of total DALYs respectively, meaning that they collectively were responsible for 5.6% of global DALYs.⁷ On the other hand, the eighteen NTDs collectively account for only 0.9% of DALYs between 2000 and 2016.⁷ On the surface, this difference seems to justify the enormous disparity in funding. However, the funding disparity remains unjustified for three main reasons.

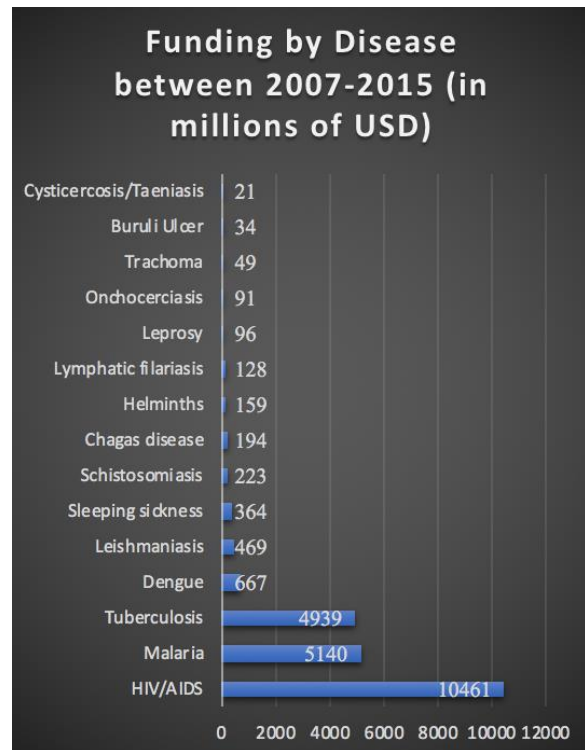


Figure 1: Funding for the ‘Big Three’ and NTDs (2007-2015)⁵

First, the DALYs caused by the ‘Big Three’ are 5.9 times greater than the DALYs caused by the NTDs. However, the total funding for the ‘Big Three’ is 8.2 times as large as the funding for the NTDs.⁵ From a utilitarian standpoint, it is logical for the



'Big Three' to receive more funding than the NTDs. However, the extent of this disparity is unjustified and does not accurately mirror the global effect of each disease in terms of DALYs. Funding should mirror the impact that diseases have on DALYs.

Second, many NTDs are localized to specific geographical areas, unlike the 'Big Three' which are all global epidemics.⁸ As such, some NTDs are candidates for global eradication.⁸ The WHO has acknowledged that the eradication of both malaria⁹ and tuberculosis¹⁰ is very unlikely in the foreseeable future. On the other hand, remarkable success has been seen in the eradication of guinea-worm disease, one of the NTDs. In the 1980s, approximately 3.5 million cases of the disease were reported.¹¹ In 2017, only 30 cases were reported, and it is expected to be fully eradicated within a few years.¹¹ Similar progress is currently underway with yaws, another NTD, which has experienced a 95% reduction since the 1950s.¹² From a utilitarian perspective, eradication is a very important goal because it represents the permanent elimination of a source of DALYs. By increasing funding, it is possible that additional NTDs may also be targeted for elimination in the near future.

Third, while NTDs are a significant cause of DALYs, research and prevention on NTDs may also indirectly help to decrease the DALYs caused by other diseases, including the 'Big Three.' For example, schistosomiasis and other parasitic NTDs may increase patient susceptibility to tuberculosis by compromising the immune system.¹³ Similarly, NTDs such as leishmaniasis and soil-transmitted helminthiasis accelerate disease progression in patients co-infected with HIV.¹⁴ In other words, funding for NTDs also results in indirect benefits for individuals living with or at risk of acquiring the 'Big Three.'

It is abundantly clear that HIV/AIDS, tuberculosis, and malaria are all pressing issues. However, from a utilitarian perspective, it is equally clear that the *Neglected* Tropical Diseases are unfortunately deserving of their name. They remain chronically underfunded despite their prevalence and impact on DALYs. This does not mean that funding for the 'Big Three' should be ignored. Given that they still account for an enormous proportion of global DALYs, they require a correspondingly large sum of funding. Instead, whenever possible, private corporations, governments from the Global North, and philanthropists should increase funding for the NTDs alongside funding for the 'Big Three.'

In this way, people suffering from and at risk of contracting these lesser-known diseases may stand a greater chance of living healthy and safe lives.

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Canine Immunisation: The One Health Approach to Rabies Control

Opinion Editorial

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The relationship between animal and human diseases was clearly demonstrated by the famous vaccination work of Edward Jenner in 1796. His hypothesis used the zoonotic disease of cowpox to protect humans against the deadly disease smallpox.¹ In today's era of zoonotic threats such as Ebola,² it is worth considering if this hypothesis could be reversed, using the immunisation of animals to consequently decrease transmission of zoonotic diseases to humans. This strategy is emblematic of the One Health concept, where animal health and human health are linked when designing interventions. This opinion editorial will focus on the use of rabies vaccines for dogs as a One Health intervention,³ as well as the challenges facing this strategy.

According to the World Health Organisation (WHO),⁴ rabies is prevalent in more than 150 countries today. It is a deadly disease, with approximately one person dying every nine minutes.⁵ Forty percent of the world's rabies

deaths are children from Asian and African countries, but for many of these people, post-exposure prophylaxis is too expensive.⁵ In 2015, the World Bank recorded that 84.5% of people in Sub-Saharan Africa and 81.4% of people in South Asia live below the poverty line on less than \$5.50 USD per person per day.⁶ In contrast, the WHO states that the average cost of rabies post-exposure prophylaxis (PEP) is about eight times that amount in Africa, at \$40 USD, and almost in ten times as much in Asia, with an approximate cost of \$49 USD for PEP.⁴ Therefore, other strategies should be considered.

Dogs are the main source of human rabies deaths and this has generated interest in a canine rabies vaccination as an alternative or additional intervention to prevent the transmission of the rabies virus to humans.⁴ The cost-effectiveness of canine rabies vaccination as a public health intervention was previously investigated as early as 2014.⁷ Canine vaccinations in rural Tanzania



produced a reduction in human rabies fatalities. The result was found to be cost-effective, even when compared to the use of PEP in some settings. This research pointed to a potentially life-saving intervention that would prove to be financially accessible where rabies PEP is not. Consequently, it was suggested that an annual canine vaccination program should be implemented in rural Tanzania and extended to other areas of rural Africa.⁷

Another study in 2016 looked at the prevalence and transmission of rabies virus infection in urban dog populations in Bangui, in the Central African Republic. It would be expected that interventional measures like vaccination would control rabies transmission within the urban dog populations. However, the study demonstrated that it would actually be better if rabies control measures were targeted at the transmission of the virus from neighbouring populations and at the introduction of new strains of the rabies virus into the selected dog population.⁸

The WHO recommended in 2004 that the minimum target for canine immunisation should be 70% in areas where rabies is endemic.⁹ Two mass vaccination campaigns were conducted in 2012 and 2013 in N'Djamena, Chad with the aim of immunising 70% of the canine population. This was difficult to achieve due to the low confinement level of dogs among Christian populations with low socio-economic status, which has a higher density dog population. The Muslim populations had fewer dogs due to cultural beliefs that they are unclean animals. These dogs were described by the researchers as “potentially less accessible,” thereby also restricting their immunisation efforts. Therefore, it is important to incorporate cultural factors into intervention programmes, such as the attitudes of these two religious groups.¹⁰

Another study was conducted in N'Djamena in 2018. That study found that 70% vaccination coverage reduced the likelihood of major rabies outbreaks, although there would still be the possibility of minor outbreaks. However, the study did not record any contact with untagged owned dogs or with ownerless dogs.¹¹ This study limitation could potentially have biased the results. It is possible that these dogs may not have been immunised and thereby act as a potential infectious reservoir. That in turn would influence the success of the immunisation programme.

Therefore, it is important to compare this research against findings from other sources.

One such example would be a current research project in India. The team is working to vaccinate 70% of the dog population.^{12,13} However, they have had a number of factors opposing this achievement, which differ from the challenges that affected the 2012 and 2013 Chadian immunisation programmes. These limitations include sparse information about dog populations (both domestic and free-ranging) in India and the added challenge of first capturing stray dogs before vaccinating them.^{12,13}

In light of these challenges, a more comprehensive approach is needed to address the transmission and eradication of the rabies virus. This was addressed by the WHO in 2015, by incorporating canine vaccinations into a framework alongside other proposed actions. The proposed framework consists of five pillars: socio-cultural, technical, organisation, political and resources. Vaccination of dogs and humans was listed as an activity under the “technical” pillar of this framework. Also, the “organisation” pillar included promotion of the One Health approach for combatting rabies.¹⁴ Other activities of this framework are particularly relevant to global health professionals. For example, one can raise awareness of rabies by organising a local event for World Rabies Day.^{14,15} Another example would be being politically active to ensure that national governments support countries with endemic rabies virus, enabling them to further control measures such as dog vaccinations.^{14,15}

The most recent WHO plan to eliminate rabies is called “Zero by 30.” As the name implies, the aim is to end human deaths from dog-mediated rabies by 2030. The plan was conceived as a One Health project between the WHO and a number of other global bodies, such as the World Organisation for Animal Health. It consists of three objectives: reduce human rabies risk with vaccines and medicines; provide data to determine effective policies and governance; and engage stakeholders through the United Against Rabies collaboration. This plan is an insightful look into the complex global health problems facing the world today, such as zoonotic disease transmission, and how they can be effectively targeted by multi-faceted interventions.⁵



As the world becomes more interconnected, zoonotic outbreaks transform from a national to an international concern.² The research work regarding rabies canine vaccinations demonstrates an exciting avenue for the eradication of rabies, as well as an invaluable model for future global health infectious threats. Global health professionals should therefore be active and engaged in the One Health mission to educate people about zoonotic diseases and strive to protect both human and animal populations against infectious disease transmission. We as individuals can achieve change using strategies from the “Zero by 30” plan, like raising awareness on World Rabies Day or encouraging greater investment in animal and thereby human health. I encourage you all to step out into the future as One Health campaigners for global health

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Obstetrical Risk Factors for Neonatal Malaria in The Democratic Republic of Congo

Research Article

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Abstract

Neonates in the Democratic Republic of Congo are challenged by a low resource health care system and endemic malaria. Current practices to reduce malaria rates involve widespread blood smear testing and administration of antimalarials to febrile infants. However, the ongoing threat of resistance and associated cost indicate the need for targeted guidelines on malaria treatment amongst neonates. The present study investigates obstetrical risk factors for neonatal malaria in order to guide current practices. Factors investigated included febrile illness, hypertension, premature rupture of membranes (PROM), urinary tract infections, placental complications and diabetes during pregnancy and their association with neonatal malaria. Chi-squared analysis and odds ratios with a 95% CI revealed that PROM had a significant association with neonatal malaria.

Introduction

Each year, malaria kills more than one million children in sub-Saharan Africa.¹ Studies conducted across the continent have revealed that malarial parasites can be found in 7-10% of newborns.¹ Several studies conducted over the last two decades have revealed an increase in this percentage, with a more recent review reporting that malaria is responsible for up to 25% of infant mortality in countries such as Nigeria.^{2,3}

The risk of malaria increases threefold during the second and third trimesters of pregnancy, as a result of alterations in the balance of Th1 and Th2 immune factors.^{4,5} Along with increased frequency

of malaria in pregnancy, there is an increase in severity of individual infections, most notably in primigravids.⁶ The increased risk of severe malaria has significant adverse consequences on the developing child.⁷ It is estimated that 6% of all infant deaths in malaria-endemic areas are a result of malaria infection that occurred in the child's prenatal life.¹ In addition to maternal malaria during pregnancy, primigravidity and fever during pregnancy are obstetrical factors known to have an association with neonatal malaria. Previous studies have also demonstrated that use of insecticide treated bed nets are protective against neonatal malaria.^{8,9}



Within the Democratic Republic of Congo (DRC), a country where only 30% of the population has access to health services, malaria is a principal cause of morbidity and mortality.¹⁰ Malaria accounts for more than 40% of all outpatient visits and 19% of deaths among children under five years of age.¹⁰ Current practices involve taking a blood smear of every febrile child who presents to the hospital. Alternatively, parents can purchase antimalarials without prescription. The associated costs and ongoing threat of antimalarial resistance indicate the need for targeted guidelines on malaria diagnosis and treatment. Furthermore, there is paucity of data on neonatal malaria in the eastern part of the DRC, particularly in Goma.

The present study aims to investigate obstetrical risk factors for neonatal malaria, to guide current practices in DRC. Results from this work will allow policy makers to establish guidelines to diagnose and treat neonatal malaria.

Methods

Data was collected at the HEAL Africa Hospital's neonatal intensive care unit (NICU). This hospital is a 197-bed tertiary referral site located in Goma, North Kivu Province in eastern DRC. It is a training hospital, and one of three referral hospitals in the DRC. It provides general surgery, orthopedics, obstetrics and gynecology, pediatrics, internal medicine, radiology, and pathology services.

The study population includes 388 infants that were admitted between April 2016 and April 2018. The sole exclusion criteria was an incomplete neonatal record, which excluded 897 neonates. Records of included participants were reviewed and analyzed for maternal health and obstetrical history. Factors associated with risk of neonatal malaria were analyzed using chi-square tests and odds ratios with 95% confidence intervals.

Results

The prevalence of neonatal malaria was 20.1% amongst neonates with complete neonatal records admitted to HEAL Africa's NICU during the 2 year study period. Amongst obstetrical complications, premature rupture of membranes (PROM) during the index pregnancy was found to increase the risk of neonatal malaria. Obstetrical factors not associated with increased neonatal malaria risk include febrile illness during pregnancy,

hypertension, placenta previa, gestational diabetes, maternal HIV or presence of urinary tract infections during index pregnancy.

Obstetrical Complication	χ^2	DF	p-value	Odds Ratio (95% CI)
Febrile Illness	0.112	1	0.737	1.163 (0.482 to 2.806)
Hypertension	0.793	1	0.373	1.505 (0.609 to 3.718)
Placental Problems	1.172	1	0.279	0.449 (0.102 to 1.985)
Gestational Diabetes	0.046	1	0.830	0.790 (0.091 to 6.857)
HIV	0.004	1	0.949	0.959 (0.264 to 3.487)
UTI	0.606	1	0.436	1.220 (0.739 to 2.013)
PROM*	4.661	1	0.031	1.895 (1.054 to 3.406)

Table 1. Statistical Analyses of Obstetrical Risk Factors for Neonatal Malaria

DF, degrees of freedom; CI, confidence interval; HIV, human immunodeficiency virus; UTI, urinary tract infection; PROM, premature rupture of membranes
*Statistically significant

Discussion

PROM during pregnancy was found to be associated with an increase in the risk of neonatal malaria. Very little is known about this relationship, indicating the need for further research in this area. A recent study showed that maternal malarial infections can predispose infants to neonatal infections and that maternal malaria can affect the placenta through cellular adhesion, cytokine production and mononuclear cell infiltrates causing increased infant morbidity.¹³ PROM has infection related risk factors (ex. sexually transmitted infections) and complications (ex. chorioamnionitis) that may predispose the infants to infection. These factors were not evaluated in this study, and this causation has not been studied with regards to malaria. Thus, it is unknown if this interaction can account for the observed association.

This study did not reveal any significant association between fever during pregnancy,



hypertension, placenta previa, gestational diabetes, maternal HIV infection or urinary tract infection and neonatal malaria infection. Previous studies have demonstrated that HIV increases the risk of severe malaria, while malaria increases HIV replication in vitro and in vivo.¹¹ Prevalence of placental parasitemia decreases significantly as gravidity increases and infants born to primigravid mothers are significantly more likely to be infected with *P. falciparum* than infants born to multigravid mothers.¹² Furthermore, a study in Nigeria found an association between neonatal malaria with parity, primigravidity, fever during pregnancy or maternal malaria parasitemia.⁸ Differences in the patient population, selection criteria, and study design may account for the differing results between this study and previous results.

This study is not without limitations. One major limitation is that the study only included neonates admitted to the NICU, and thus may not be representative of the general population. 69.8% of charts from the inclusion period were incomplete or missing, and therefore results from those charts were not included, introducing another element of selection bias. In addition, full obstetrical records were not kept and therefore obstetrical data was obtained from the neonatal charts. As a result, accurate data on malaria and antimalarial use during pregnancy was not available.

Conclusion

In conclusion, this study reveals new information about risk factors associated with neonatal malaria. PROM was found to be associated with neonatal malaria amongst neonates admitted to HEAL Africa's NICU. The mechanism or causality of this association is unknown and requires further research. However, this finding may indicate the need for more diligent preventative measures including maternal education, use of insecticide treated mosquito nets, increased temperature monitoring of neonates and/or increased diagnostic screening for infants born following PROM. In addition, this study further emphasizes the importance of malaria prevention during pregnancy in order to improve outcomes for newborns.

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Assessment of the prevention of mother-to-child transmission of HIV services effectiveness in the Rorya District, Tanzania

Research Article

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Abstract

In Tanzania, a country with a national mother-to-child HIV transmission (MTCT) rate of 9%, the provision of services to prevent the spread of the virus during pregnancy and breastfeeding constitutes a crucial activity. The primary objective of this study was to assess the effectiveness of the prevention of mother to child HIV transmission (PMTCT) services in the Rorya District (rural northwestern Tanzania), after the implementation of the 2013 Tanzania National Guidelines for PMTCT. The study revealed that additional efforts are needed to completely eliminate the MTCT in the area. There is a need to promote early HIV testing and antiretroviral therapy adherence in pregnant women, as well as the retention of infants at risk of HIV infection along the PMTCT continuum of care.

Introduction

In 2016, 1.8 million individuals became newly infected with HIV, including 160,000 children. Most of these children are living in Sub-Saharan Africa and become infected by their HIV-positive mothers during pregnancy, childbirth or breastfeeding.¹ In the absence of any intervention, HIV is transmitted from mother infected with the virus to their infants in 15 to 45% of cases.² However, with effective interventions this rate can be reduced to below 5%.²

The latest WHO guidelines on prevention of mother-to-child HIV transmission (PMTCT), published in 2012, places pregnant HIV+ women on lifelong antiretroviral therapy (ART) regardless of clinical or immunological stage.³ In September

2013, the latest WHO recommendations on PMTCT were introduced in all the reproductive and child health facilities in Tanzania through the 2013 Tanzania National Guidelines for PMTCT, leading to a decline in the mother-to-child HIV transmission (MTCT) rate at the national level.^{4,5} Nevertheless, MTCT still accounted for 1 of every 5 new cases of HIV infection in 2014. These numbers are mainly due to the lack of adherence and retention to the PMTCT services cascade by HIV+ mothers and their newborns.⁴

The current study was intended to gain insight into the current PMTCT service provision in the Rorya District. For this purpose, we explored the PMTCT services provided by the Shirati Rorya District's Hospital facilities, community health



workers (CHWs) and peer counsellors. Finally, we analyzed the MTCT incidence at Shirati Hospital during the last four years and at the district level during 2017 to gain insight into the effectiveness of the current PMTCT system.

Methods

This cross-sectional study was conducted in the Rorya District, inhabited by 265,000 people⁶ and with an HIV prevalence in the population aged 15 to 49 years of 4.5%.⁷

In order to define the PMTCT service cascade within the Rorya District, we performed a series of surveys to the main providers and organizers of the services at Shirati Hospital.

In addition, we collected data from hospital records in order to gain insight into the MTCT incidence in the Shirati Hospital and the Rorya District. The data were analyzed using IBM SPSS version 24.

Results

We reported that PMTCT services in Shirati are provided by the Reproductive and Child Health (RCH) clinic and PMTCT office at Shirati Hospital, CHWs and peer counsellors. The providers are adhered to the national PMTCT guideline,⁵ which follows the WHO recommendations regarding PMTCT.²

The RCH clinic provides pre-HIV testing counselling to all pregnant women visiting the clinic for the first time. Pre-HIV testing counselling and support is also provided by CHWs. If the women decide to be tested for HIV, screening and confirmatory tests are performed at the RCH clinic, where in case of positive results, women are provided with first-line ART. Peer counsellors are in charge of ensuring the visits for follow-up.

The RCH clinic also provides antiretroviral drugs to neonates at HIV risk until they are six weeks of age and performs two HIV tests: one at four-six weeks of age and one at 18 months of age or at the end of breastfeeding. Follow-up is provided until the infants are 5 years old. All HIV+ infants are referred to the Care and Treatment Clinic (CTC) after diagnosis.

After collecting data from the Shirati Hospital records, we found that HIV status at 4-6 weeks of age was unknown for more than the 20% of the registered infants at HIV infection risk in 2016 and 2017. In the case of the HIV testing at 18 months

of age or at end of breastfeeding, the lack of information in the registers was more accentuated, with more than 50% of the infants without a registered HIV status at this stage in 2015 (Figure 1; 8: p.17).

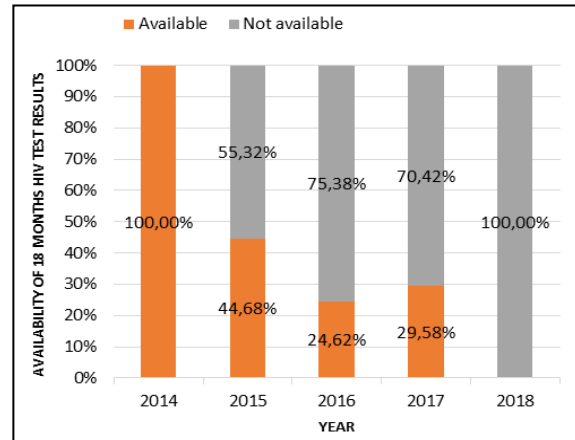


Figure 1. % of availability of HIV test results for infants at HIV infection risk at 18 months of age/after end of breastfeeding in RCH/PMTCT records (8: p.17).

We reported a gradual decrease in the MTCT rate in the period September 2014-February 2018, from 6.7% in 2014 to 0% in the two first months of 2018 (Figure 2; 8: p18). A total of 14 new MTCT cases were detected in this period. Two infants died before being referred to the CTC.

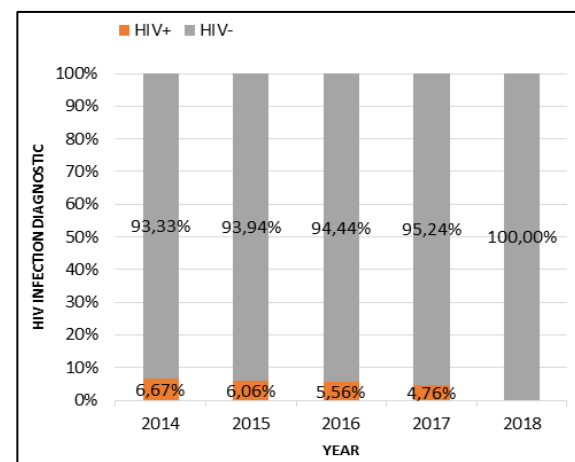


Figure 2. % of HIV+ infants, tested at 4 weeks and/or 18 months/after end of breastfeeding at RCH/PMTCT (8: p:18).

At the District level, of the 30 health facilities analyzed, those with the highest MTCT incidence in 2017 were: Nyanjabakenye Dispensary, Baraki Health Center, Rwang'enyi Dispensary and Kowak Hospital, all with an MTCT rate of 16.7%. In



contrast, 60% of the health facilities presented an MTCT rate of 0%. The average MTCT rate (\pm SD) in the Rorya District in 2017 was 4.1% (\pm 6%), slightly inferior to the 4.8% MTCT rate in the Shirati Hospital.

Discussion

The results of this study demonstrate that the Shirati Hospital integrates the 2013 Tanzania National Guideline for PMTCT by means of the One Stop Clinic model, integrating HIV and maternal, newborn and child health services in the same clinic. We reported a tight interaction between the RCH, CHWs, and peer counsellors.

The adoption of the latest national PMTCT guideline has likely contributed to a sustained decrease in the MTCT rate at Shirati Hospital, lower than the most recent national MTCT rate of 9%.⁹

According to the results obtained in this study, it is recommended that the Shirati Hospital professionals improve the retention in health care of children at HIV infection risk. Peer counsellors should ensure the attendance of HIV+ women and their infants to the RCH monthly appointments until the end of breastfeeding or 18 months of age.

In addition, CHWs should enhance the promotion of early HIV testing among pregnant women to start ART as soon as possible, in order to achieve and sustain the complete elimination of MTCT.

Conclusion

In summary, the 2013 Tanzania National Guideline for PMTCT has been successfully implemented in the Shirati Hospital through an integrated service delivery model. An indicator of the success of this program is the MTCT rate decrease over the last four years in the facilities. Both, the Shirati Hospital and the Rorya District MTCT rates, are around half of the national figure. Nevertheless, more efforts must be done to guarantee the retention in the PMTCT continuum of care of HIV+ pregnant women and infants at HIV risk during pregnancy and after delivery.

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Falsified Antimicrobial Medicine: A Neglected Global Health Crisis Contributing to Drug Resistance

Opinion Editorial

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Introduction

Falsified antimicrobial medicine is a neglected and growing threat to global health. Such medicines may misrepresent the identity, composition or source of the medication, and may contain too little, too much, or entirely the wrong active ingredients. It is a lucrative, multi-billion dollar criminal industry on par with human and illicit drug trafficking that robs the poorest populations of lifesaving medication. It disproportionately affects low and middle-income countries (LMICs) in Africa and Southeast Asia struggling to control the influx of false medicine from India or China amid limited drug regulation capacity and high consumer demand.¹ This poses significant risks to health, and flies in the face of health targets set by the Sustainable Development Goals (SDGs), especially the HIV, TB, and malaria epidemics.² Together these three diseases are a massive global burden and victim to the type of medications most often falsified. This article will first describe the global burden of falsified medicines before exploring the connection to antimicrobial resistance (AMR), health consequences, and will conclude by recommending a greater presence of falsified medicines among AMR policies and practice.

Global Burden

In a globalized world, the supply chain to purchase, manufacture, regulate, distribute, and sell falsified antimicrobial medicine is convoluted. It becomes much easier to insert and hide false medicine amidst the chaos, costing the global economy US\$75 billion each year, a 90% increase since 2005.³ Falsified drugs are often detected in illegitimate street pharmacies or bought online, but even legitimate sources are not safe. Because of the complicated supply chain, hospitals, clinics and registered pharmacies have falsified medicine infiltration often unbeknownst to the service providers and patients.^{1,4} The types of medicines most often falsified are antimicrobial drugs, especially those used to treat HIV, TB and malaria.⁵ These medicines are in high demand, can be relatively expensive or inaccessible, used

chronically, and may be associated with stigma – all factors good for business.

The global burden of falsified medicine has been estimated by the World Health Organization (WHO) to be 10% of medicine on the global market, and 30% across LMICs (Figure 1).⁶ However, the reality is often much higher than the WHO average as falsified medicines are notoriously under-reported. For example, increased surveillance in Nigeria has detected a high prevalence of false anti-malarials where over 60% of medicine failed quality testing.^{8,9} Another report estimates that one in six TB medications are falsified in LMIC hotspots,¹⁰ and one in five for falsified HIV medications in Tanzania.⁵ Alarming, both older monotherapies and newer combination therapies have been compromised.



Figure 1. Global burden of falsified medicines⁷

The Link

It is well known that taking antimicrobial medicine inconsistently or prematurely ending a prescribed treatment regimen contributes to the development of antimicrobial resistance (AMR).^{3,11} Falsified medicine has essentially the same effect, where the majority of these medicines contains sub-therapeutic doses and/or incorrect mixtures of the active pharmaceutical ingredient.⁵ The mechanism leading to drug resistant pathogens involves a 'mutant selection window' – a range where the active ingredient is high enough to kill susceptible pathogens, but not high enough to eliminate mutant pathogens.¹² If the mutation



confers resistance, the remaining microbes have a reproductive advantage against susceptible microbes, and so they will multiply more rapidly and accumulate. This scenario would be considered an acquired infection, but resistant pathogens can also be transmitted from person-to-person by air or bodily fluids.

The risk of developing resistance is heightened for drugs that are long-lasting and slow to eliminate from the host because mutant microbes are under selection pressure longer and without competition; such is the case for TB medication. Regarding combination therapies, falsified first-line drugs leave the co-ingredient unprotected so both medications may develop resistance. Thus, lower and inconsistent doses of medicine drive selection favoring mutant, drug-resistant microbes.

Consequences

The consequences of falsified antimicrobial medicine are profound. It goes without saying that patients face significant disability, morbidity, and mortality when their disease is left untreated. For example, conservative mathematical modelling estimates that falsified anti-malarials contribute to 72,000-267,000 deaths annually, or about 2-5% of total malaria deaths.⁶ Because false drugs escape quality control, poisoning and drug toxicity can cause adverse reactions and dangerous side-effects.⁵ They can also lead to misdiagnosis.^{5,6} For example, a patient who is not responding to treatment may cause a health professional to shift away from the correct diagnosis and treatment regimen. This leads to further inadequate treatment, progression of disease, and an opportunity for infection transmission.

Beyond these consequences, the link between falsified antimicrobial medicine and AMR is clear.^{3,5,6} Antimicrobial resistance is quite possibly the greatest health threat of our time – the loss of effective medicine would erase decades of improvements to public health causing the death of millions. Going under the surgical knife would become a dicey game of chance, chronic infections would increase, treatment regimens would be more costly and toxic, and many patients would go without treatment waiting to slowly die. Globally, it is estimated that by 2050 AMR will amount to US\$100 trillion loss from global GDP and an additional 10 million deaths per year (Figure 2).¹³

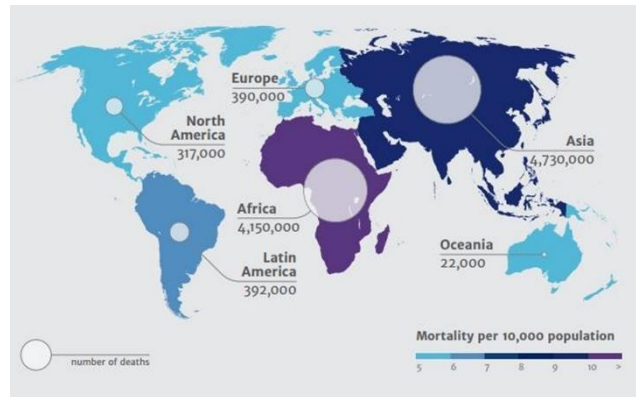


Figure 2. Estimated deaths per year due to antimicrobial resistance by 2050¹³

Call for Integration

In order to reach the health-related SDGs by 2030 and stem the tide of AMR, it is important that falsified medicine is acknowledged as part of the problem and integrated as part of the solution to combat AMR. Currently, the literature on falsified drugs has ample discussion about AMR, but even the most prestigious and comprehensive AMR reports neglect to mention the impacts of drug quality, let alone falsified medicine.^{11,13} This double-standard in policy and practice should be re-examined and brought to light; doing so may elicit a fuller understanding of the drivers behind AMR and provide an important piece of the puzzle towards an effective solution. The WHO and World Bank could lead development of an inclusive strategy for other nations to model. In particular, regular drug quality testing needs to occur alongside routine drug susceptibility testing so that misdiagnosis is limited while simultaneously improving surveillance and awareness.

Conclusion

Falsified antimicrobial medicine is a global crisis – a neglected link between successful treatment, therapeutic failure, and growing AMR among malaria, TB and HIV patients in LMICs. So far, the dire consequences to health, solid connection to drug resistance, and gross economical costs associated with falsified medicine has not been enough to make it a priority on the global agenda. If unaddressed, this is a lost opportunity by the AMR community to add to their arsenal in the fight against resistance.

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Privatization to Preserve Canadian Public Healthcare

Opinion Editorial

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Introduction

The debate over the benefits of public vs. private healthcare services in Canada is stifled by passion, ignorance, and an obscure concept of national identity. While most Canadians agree there should be some form of taxpayer-funded health insurance, disagreements arise over what extent the government should be involved in providing this. The prospect of further privatizing healthcare is something few politicians have had the courage to address. Ontario Premier Doug Ford was recently forced to comment on leaked documents which, according to the opposition New

Democratic Party, suggested that his administration was scheming to implement some degree of increased privatization in Ontario.¹ The public backlash to the alleged plan was swift and harsh. Directly contrary to popular opinion, this article will make the case for Canadians to embrace a new dynamic which allows for a private healthcare industry while preserving the public system that many in our country currently rely on. It will address the merits of this rationale from a values-based and economic perspective in an attempt to convince readers on both sides of the political spectrum.



History

The development of taxpayer-funded healthcare began in the post-World War II period. This was particularly motivated by widows of fallen soldiers and women who were temporarily employed (while most of the country's men were overseas) but could no longer pay to provide care for themselves once the war had ended. In 1947, the Saskatchewan government was the first to introduce publicly-funded health insurance. Other provinces soon followed suit. Since women were heavily outnumbered by men in the workforce, women in particular benefitted from public healthcare by having more control over their treatment and preventative care options as husbands and/or fathers were no longer necessary brokers in the process.² Public health insurance expanded healthcare accessibility to all Canadians at a time when the average household income was considerably lower than it is today.² Since then, representation of women in the workforce has grown. They are earning more money and are more independent than at any time in modern Western history. The structure of contemporary Canadian healthcare was developed for a much different country than it is today. By modernizing the system, Canada could build on the progress which began over 50 years ago. The most morally and fiscally responsible way to do this is to allow Canadians a choice between public or private health facilities.

Improving Care

Allowing for private healthcare facilities to build alongside public ones would lessen the burden currently on the shoulders of the public system.³ While in many ways still similar to the UK and Australian public-private mix framework, the structure proposed in this paper would have both systems operate independently. This is unprecedented in developed countries. By no longer forcing Canadians to receive taxpayer-funded services, this would provide those who can afford it with more treatment options, while allowing the public system to decrease wait times in emergency rooms and for elective surgeries, and improve the level of care and accessibility for patients. In Australia, private healthcare has been credited with enhancing, "Access to timely elective care... and individuals' choice of provider and care options."⁴ Going up against a public system, the private sector has to compete by providing better facilities and services, faster treatment, and

competitive prices. In the UK, "Private care users fare better than public users in obtaining medical care at short notice, having more agreeable opening hours for treatment and getting appointments for treatment with less difficulty".⁵

In contrast, a CBC news article reports that Canadian public health insurance has resulted in a number of clinics limiting patients' appointments to "one issue per visit," in a bid to maximize profitability and increase the number of people seen.⁶ This dynamic highlights an inherent barrier to receiving proper medical treatment in Canada. A fully independent private facility however, provides greater incentives to spend adequate time with patients, and rewards better doctors who are able to earn more based on the demand for their services.

To provide context, provincial Workers' Compensation Boards (WCB) effectively operate alongside public funding in many ways, similar to how a public/private split would. Since WCB covers the costs of missing work and for treatment of injured workers in place of the public system, it has a vested interest in getting workers treated as quickly and effectively as possible to minimize time off work and complications from delays. For example, the British Columbia WCB provides lucrative incentives to doctors/surgeons for expedited and high-quality treatment.⁷ One argument often made against this is that worker's compensation recipients are accused of "jumping the line" in front of more medically-necessary patients. This is one major point in favour of having completely separate private facilities altogether. To be clear, it means that public medical centres would be used only by those billing public insurance providers; and private facilities used only by persons with private funds/insurance. An added benefit of separating the two is that it eliminates the possibility that taxpayers will incur the extra costs of private care providers who might bill for tests/treatments that are not actually needed.

Cost of Public Healthcare

This proactive approach is critical to prevent the inevitable eclipse of a public healthcare funding crisis. Provinces in Canada already spend an average of over 40% of annual budgets on health services and this share is growing rapidly with the increasing proportion of aging Canadians.⁸ In the last fifteen years alone, health care spending has increased 116%.⁸ Privatizing is an opportunity to "reduce costs and demand



pressures on public hospitals”.⁴ Efficiencies in government spending are increasingly hard to come by and Ministry portfolios such as education, environment, infrastructure, and correctional services have little room for spending cuts. The only other option is to add to debt which, in a province like Ontario, with a nearly \$350 billion deficit, is lunacy.⁹ This province owes more than 75% of countries in the world do; the status quo cannot continue.⁹ Since 2011, merely eight years of unchecked Liberal spending ago, Ontario has added another roughly \$115 billion to the public credit card.⁹ That’s a 33% increase in less than a decade.

If Canadians truly care about maximizing quality and ensuring the sustainability of public healthcare for future generations, increasing privatization is the only path forward.

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Rethinking the Canadian Assistive Technology system: A call for a Human Rights Based Approach to Assistive Technology

Opinion Editorial

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Abstract: Assistive technology (e.g. walkers, hearing aids) has been proposed as a strategy to support people with disabilities and growing ageing population. However, the current AT system is underfunded; restricted; unresponsive to the needs of the people it is intended to benefit; and lacks central engagement of its users. This paper aims to identify the root causes behind the inadequate AT system to inform development of sustainable solutions by drawing on the Human Rights Based Approach, a conceptual framework that seeks to understand and address the root causes of systemic problems.

The World Health Organization (WHO) estimates that more than one billion people worldwide require assistive technology.¹ Assistive technology is any product (including devices, equipment, instruments, and software), that is specially designed, produced, or generally available in order to maintain or improve an individual's functioning and independence. Common examples of assistive products are glasses, hearing aids, wheelchairs, communication boards, prosthetics and therapeutic footwear. Assistive technology contributes to the wellbeing of individuals living with disabilities by supporting healthy, productive, and independent lives through assisting their engagement in meaningful activities of choice and/or necessity.

Assistive technology (AT) has been identified by the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) as a basic human rights instrument with an explicit social development dimension.² and a necessary facilitator in the achievement of all 17 of the Sustainable Development Goals.^{3,4} In order to provide a direct action towards the realization of UNCRPD principles, the World Health Organization (WHO) launched the Global Cooperation on Assistive Technology (GATE) initiative.⁵ GATE calls on countries who have ratified UNCRPD to develop national AT systems and policies that best serve AT users.²

Although Canada has signed and ratified the UNCRPD in 2010, the Canadian AT system has not kept up with the rapid development and uptake of

assistive technology. The inadequacy of Canada's AT system is evident through inequities in access to AT and the lack of legislation, policies, and programs pertaining to AT.⁶ More importantly, the present Canadian AT system is not reflective of society's advances in understanding disability, as outdated notions of disability continue to dominate the current system. Historically, disability has been perceived as an 'abnormality' and those with disabilities have been regarded as 'defective' individuals, incapable of living fulfilling lives, who require medical intervention, charity, and custodial care.⁷⁻⁹ Despite social advancement in the notion of disability over the past few decades, the aforementioned conceptualization of disability still underlies many of today's policies and practices.⁹ This outdated narrative perpetuates the systemic discrimination of people with disabilities.^{7,10} The current AT system is no exception.

The prevailing notions of dominant disability discourse persist within the AT system and are evident through:

1. General perception of AT as an intervention tool that aims to reduce dis-function and limitation brought about by disability to attain 'normalcy';^{8,10,11}
2. Greater value placed on healthcare professionals' expertise and decision-making authority over AT users' meaningful choice;^{9,11}
3. Prioritization of AT value in terms of health outcome over quality of life and user satisfaction.^{9,11}

The momentum created by the GATE's initiative's global call for user central redevelopment of AT systems⁵ raises the question of how to advance the Canadian AT system to best serve AT users. A possible answer lies in critically examining and re-framing the existing AT system within the Human Rights Based Approach (HRBA)¹² to assistive technology.

The HRBA, a framework based on international human rights standards and operationally directed to promoting and protecting human rights,^{12,13} represents a paradigm shift in understanding and conceptualizing disability. The HRBA recognizes



disability as an 'aspect of variation in human characteristics that are inherent to the human condition and argues that all individuals are entitled to the same rights and freedoms without discrimination',^{7,8,13} The HRBA implies that some people will need supports in order to gain access to, participate in, and exercise self-determination as equals in society; therefore HRBA argues that society is obliged to provide these supports and aids⁹. According to HRBA, AT can be perceived as a tool that responds to human diversity and fosters an inclusive society. The aim of the AT system is to maximize social inclusion and promote the exercise of equal rights through user-driven AT provision.

The ideological framework shift in understanding disability proposed by HRBA provides a blueprint to addressing discrimination and injustices within the current AT system. HRBA re-defines the role of people with disabilities as rights holders and active members of society. As acknowledged stakeholders, HRBA recognizes that people with disabilities can make their own decisions and claim their right to AT, in conjunction with government bodies role as duty-bearers who are obligated to respond to people with disability claims and fulfill their right to AT.

HRBA empowers people with disabilities to challenge inequities within the current AT system. HRBA identifies systemic marginalization within the current AT system stemming from a discriminatory conceptualization of disability. Consequently, HRBA recognizes that people with disabilities are the key actors in their own decision-making processes. For example, as right-holders, people with disabilities have the power to decide on the AT of their choice and adopted lifestyle based on their lived experiences, therefore shifting the power dynamic between people with disabilities and healthcare professionals who have long been considered the primary decision-making authorities in terms of AT selection.¹¹

Furthermore, HRBA emphasizes the responsibility of government bodies to respect, protect, and fulfill the right of people with disabilities to appropriate AT. Government bodies have the responsibility to address people with disabilities right to AT by developing accessible, appropriate, and user-driven AT system. Establishing an efficient and equitable AT system will only occur through developing mechanisms for addressing violations within the system. The application of HRBA to current AT system

establishes accountability mechanisms by exploring duty-bearers' commitments to UNCRPD in tandem with the investigation into current duty-bearers' actions or inactions in regard to their obligation to support, protect, and promote the right of AT users. HRBA holds the government accountable in its duty to realize rights commitments into the development of AT policy and practice that best serves AT users.

Approaching the advancement of the AT system from HRBA framework shifts the formulation of disability within the AT system from placing responsibility on individual to be able to fit in the society to holding social systems accountable for supporting human diversity and inclusiveness. Therefore, AT users are no longer presented as passive recipients of AT services in the form of medical treatment or charitable act but as people who are active members of society with equal rights. HRBA emphasizes the responsibility of the government bodies to realize the rights of AT users by reformulating current political and social policies that led to structural discrimination within the AT system in the first place.

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Tackling Rising Dementia Burden in Low and Middle Income Countries

Opinion Editorial

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The world's population is in a phase of rapid ageing, and an unprecedented increase in the number of older adults is expected to occur globally in the coming decades. As of 2015, there were almost 900 million older adults (>60 years old)¹ around the world, and this number is projected to increase to 2.1 billion by 2050.² As this "silver tide" approaches, strategies to ensure the specific health needs of this age demographic are provided for, will become increasingly paramount. Of these health needs, dementia in particular is poised to become a uniquely challenging, but critical global health priority.

Dementia is a syndrome characterized by chronic and progressive deterioration of cognitive domains such as memory and thinking, behavior, and the ability to perform ordinary, everyday activities.¹ Dementia is a major source of dependence and disability amongst older adults, with its disease burden contributing to about 6.3% of DALYs in adults over 70 years of age.³ According to the World's Alzheimer's Report, in 2015 there were over 46 million people around the world living with dementia; and following trends in population ageing, this number is also projected to sharply increase to 131.5 million by 2050.¹ The societal costs will also be significant, with current annual costs circa \$818B USD today, but likely to increase to \$2 trillion USD by 2030.¹

Importantly, rapidly ageing populations and rising dementia burden is a phenomenon that is

and will continue to disproportionately burden low-middle income countries (LMICs). Rates of increase in dementia burden in LMICs will easily outpace that of HICs in the years to come. This is due in part to projected patterns in population ageing expected in LMICs. Between 2015 and 2050, the number of older adults will increase by 56% in high-income countries, versus an increase of 138% in upper middle-income countries, 185% in lower middle-income countries, and 239% in low income countries.¹ Consistent with these disproportionate rates of ageing, 68% of persons living with dementia in 2050 will reside in LMICs.¹

Notably, cited projections for dementia burden increase are based on rising growth projections of the elderly population, but stable rates of dementia incidence.¹ However, research suggests that rising incidence rates are likely, due to increasing prevalence of critical risk factors of dementia, such as smoking and poor cardiovascular health, prevalence of both which are increasing more rapidly in LMICs than in other parts of the world^{1,4} Another reason these forecasts are likely underestimates is due to a lower rate of awareness of dementia as a disease in LMICS, where cognitive and behavioral changes that are hallmarks of dementia, are instead commonly perceived as a normal part of ageing.^{5,6}

High dementia burden in LMICS is particularly problematic since the health systems of these countries have had less time to develop strategies



that are responsive to rapid demographic ageing than their high-income counterparts.⁴ Already today, these systems are generally less well-equipped to manage current and projected increases in disease burden than HICs.⁴ This is because LMICs are more likely to have underfunded public health systems^{5,7}, weak or non-existent social supports for older adults⁴, and a preponderance of out-of-pocket healthcare financing.⁷ Strategies need to be set in place today, so that these LMICs can build the capacity necessary to surmount the double burden of both high infectious disease prevalence, and rising rates of non-communicable diseases such as dementia.¹

In Western countries, an ageing population structure has been a slower process to manifest⁴ and has been accompanied by parallel shifts towards institutionalized care for older adults and use of pharmaceuticals for dementia treatment.⁵ The high costs associated with institutionalized care, and pharmaceuticals make them unlikely candidates for dementia management strategies in LMICs, especially due to more commonly embraced cultures of collectivism and family care. The other implication of this, is that any successful LMIC-specific strategy, must also proactively address the social consequences of a dementia care being managed at the level of the household.

According to the Dementia India 2010 report, for example, caregiving can result in economically disadvantaged households, with 25% of all caregivers suffering financially due to missing work, and over two-thirds of older adults reporting financial vulnerability in the country.⁹ Feminization of caregiving also perpetuates income inequity between the genders and limits the educational or career objectives of female caregivers.¹⁰ There is also evidence that poor health outcomes of caregivers, predict poorer health outcomes of PwDs, resulting in exacerbation of behavioral or psychological symptoms of dementia, with a snowball effect upon caregiver strain.¹¹ Being a caregiver for an individual with dementia places one at risk for developing mental health morbidities: the rates of psychiatric morbidities for caregivers of PwDs in developing countries, range from 40-75%.¹¹

As a result, new paradigms of care are needed. A social health approach is one viable path forward. A social health approach “acknowledges that a person can experience well-being despite a medical condition, by maintaining a dynamic balance between opportunities and limitations in

the context of social and environmental challenges”.¹⁴ With regards to dementia, social health approaches are largely rehabilitative, and include anything ranging from strategies for restorative care, cognitive therapy, and reablement through environmental or lifestyle modifications that can be implemented by family members and lay health workers at the community level.^{15,16}

Collectively, the objective of this approach is to help PwDs develop strategies that optimize and prolong their capabilities, and ability to perform daily activities of living, engage in social activities, improve relationships with their caregivers, and ultimately promotes the idea of “living well with dementia”.¹⁵⁻¹⁹ Early research efforts on social health approaches have been promising. Despite lower research prioritization and less funding, existing research on non-drug interventions and/or therapies in dementia care that focus on promoting social health and lifestyle modifications have had equal or greater success in mitigating cognitive decline, and at lower cost.^{15,16}

Thus, a social health approach may be a viable way forward in addressing rising burden of dementia in LMICs. Policy-makers should prioritize increased investment into clinical and implementation research on social health approaches for dementia management, and the philosophy of a social health approach should be integrated into the creation of dementia strategies at national levels. Therefore, while a social health approach would ultimately constitute just one tenet of what must be a multisectoral strategy to meet the challenges of an ageing world, its potential to meaningfully improve the lives of older adults in a way that is cost-effective, is an opportunity not to be disregarded.

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Shelter From the Norm: Refining Our Understanding of Alcohol Use Disorder, Homelessness, and Harm Reduction

Opinion Editorial

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Alcohol is a major contributor to numerous health conditions, resulting in 3 million deaths worldwide each year.¹ Current estimates indicate that 283 million people suffer from alcohol use disorder (AUD), the DSM-V term for alcohol addiction.¹ Despite its indiscriminate global reach, AUD receives surprisingly little attention from health professionals and policymakers.

The process of addiction, though convoluted and idiosyncratic, does retain a degree of predictability. Factors, such as trauma and mental health disorders, consistently underpin AUD.²⁻⁵ For many who experience addiction, the social fabric that defines our humanity unravels around them.⁶ Over time, AUD gets buried beneath layers of marginalization and discrimination, which reinforces the drinking behaviour and traps individuals in a vicious cycle.^{7,8} Not surprisingly, AUD is deeply intertwined with homelessness. Alcohol use is deeply ingrained in street culture, offering an escape from the hardships of life on the streets, though it often comes at the expense of basic necessities.⁹ In high-income countries, people with severe AUD are twice as likely to be unsheltered and account for approximately 33% of the population that experiences homelessness.^{10,11}

In Canada, like most countries, funding flounders in a quagmire of politics and bureaucracy, with best practice displaced by misunderstanding. Society often ostracizes people with AUD and reduces their humanity to mere labels, such as ‘drunks’ and ‘alcoholics’, that rob them of their self-worth and agency.¹² Flawed assumptions and beliefs surrounding addiction result in an uncoordinated, fractured care system that fails to provide people suffering from AUD—especially those who are homeless—with the supports they need. Greater public awareness, coupled with educated debate, is essential for achieving practical and systemic change.

Highlighted below are 4 ideas pertaining to addiction, in general, and AUD, in particular, that

must be reconceptualized. A brief discussion of harm reduction follows to embody this ideological transition.

I. Remodeling Addiction

The prevailing theory for AUD in the medical community is the brain disease model of addiction (BDMA), which emphasizes its neurobiological elements.¹³ Notwithstanding the meaningful contributions of biomedicine, the BDMA tends to isolate addiction from its environment.¹⁴ For example, a 2016 publication in the *New England Journal of Medicine*¹⁵ cites the central role of major neurophysiological pathways in addiction (e.g. emotional and reward circuits) as support for the BDMA; however, critical analysis reveals an inattention to socioeconomic factors, which are minimally discussed and only considered insofar as they impact the structure and function of the brain. Short-sightedness leads to misdirected funding and investment in unnecessary medical research; many addiction-related issues can be sufficiently addressed by social workers and therapists.

Furthermore, proponents of the BDMA often suggest that medicalizing addiction reduces stigma.¹⁵ In actuality, the ‘lazy and weak-minded addict’ stereotype stems more from political affiliation, news sources, and humanitarian values than beliefs about addiction.¹⁶ Pathologizing addiction may well render the individual powerless because it discards central concepts like *choice* and *responsibility*, while justifying medical paternalism.^{14,17} Holistic models that view addiction as a self-regulatory deficiency or a self-sustaining developmental process offer more coherence of disparate factors, thereby enabling interdisciplinary research and interventions that target the roots of AUD.¹⁷

II. Challenging Abstinence-based Approaches

For decades, abstinence has been the leading treatment approach for AUD. Abstinence may be ideal from a medical perspective but is not always



attainable or desirable for patients, especially considering the prominent role of alcohol in society and culture. The “pass or fail” nature of abstinence-based treatment can even create psychosocial barriers, where patients feel negatively judged, despondent, and helpless, distancing them from care systems.^{18,19}

Research fails to demonstrate the superiority of abstinence-based methods compared to non-abstinence methods.^{20,21} Non-abstinence goals, such as reduced drinking, shift the focus from the *act of drinking* to the *relationship* the individual has with alcohol. Recognizing this integral relationship will expand avenues for long-lasting psychosocial intervention.

III. Redefining Recovery

Viewing recovery as a *state* of abstinence is unhelpful because patient motivations, patient objectives, and definitions of ‘recovery’ change over time. In fact, recovery is perceived as a process: learning more about oneself, identifying best practices, and adjusting to a new lifestyle.²² Therefore, treatment plans must be both flexible and all-encompassing in order to adapt to unfolding needs. Unfortunately, the existing care system in Canada is structurally rigid and functionally restrictive.

IV. Contextualizing Addiction

Context plays an important role in AUD, beyond psychological conditioning. Discriminatory policies, social norms, public discourse, and economic conditions place some individuals at a higher risk for using drugs.²³ In homeless shelters, zero-tolerance policies toward alcohol use are rooted in abstinence-based ideology. These outdated policies create barriers that deprive people with AUD of shelter—leaving them vulnerable to exploitation and injury on the streets—defeating the very purpose of homeless shelters. In this light, society plays a role in creating and perpetuating harmful conditions.

Welcoming Harm Reduction

Alcohol-based harm reduction (HR) is a public health initiative that aims to: (i) change patterns of alcohol use; (ii) improve types of alcohol consumed; (iii) minimize harms in the environment of consumption; and (iv) reduce social harms (e.g. car accidents) and service costs.²² Accordingly, the philosophy of HR situates the individual within their environment. Low-barrier shelters called managed

alcohol programs (MAPs) or ‘wet shelters’ are appearing in most major Canadian cities. Based upon the principles and practices of HR, MAPs offer daily doses of beverage alcohol—in place of rubbing alcohol, mouthwash, hand sanitizer, and aerosols—provided in a safe environment with support staff available.

HR is quite controversial because many believe this approach enables alcohol consumption and encourages continued use; however, there are key differences between *encouraging* and *accepting* alcohol use. By providing a facility for people who experience severe AUD and homelessness, MAPs offer somewhere to rest, re-establish social ties, and reconnect with the wider health system.^{24,25} Accepting individuals for who they are mitigates dehumanization and builds trust, paving the way for their recovery.

As always, there is a caveat. Even if organizations adopt HR principles, discordance between administrative policies and front-line practices creates barriers.²² For example, at shelters that purportedly tolerate alcohol use, staff may ignore or reprimand alcohol consumption, which perpetuates feelings of neglect among people with AUD.^{26,27} These barriers should be addressed through staff training and inclusive policy-making at all levels.

Conclusion

Appropriate systems-level changes will never materialize without effecting ideological change in the political, medical, and public arenas. In order to progress, we should challenge our understanding of addiction, consider alternatives to abstinence, and broaden our definition of recovery. By recognizing the role of the environment, we can look beyond the ‘morality of the alcoholic’ into the realm of evidence; HR represents an evidence-based change in philosophy from one of disdain to one of acceptance.

Instead of eroding our sense of justice and fragmenting our collective vision for a more equitable future, it is time we realign our expectations to give people with AUD the respect and dignity they deserve.

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What's so Special About Nisa Homes? A Case Study of Community-Based Shelters in Canada

Research Article

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Abstract

While domestic violence occurs in all communities, and across all race and class lines, this study examines the barriers Muslim women face when accessing the mainstream Canadian shelter system and the ways in which Nisa Homes, a community-based shelter for Muslim women, facilitates access and impacts Muslim women's lives and wellbeing. This study utilizes key informant interviews and focus group discussion with Nisa Homes staff and current and past Nisa Homes residents to produce its findings. As an outcome of this data, this study explores the gaps in the Canadian shelter system and how barriers can be overcome by exploring the innovative ways in which Nisa Homes provides services to Muslim women.



Introduction

Nisa Homes was founded in 2013 to refuge Muslim women facing domestic violence and poverty. It is a transitional home that houses women for three months to pick up the pieces of their lives and move on. The demand for Nisa Homes in the Muslim community is high. In a Toronto Star news article, Yasmine Youssef, National Manager of Nisa Homes, stated that for every woman they help, there are 400 they cannot because they are full on any given day.¹ Nisa Homes is the first and only transitional home for Muslim immigrant and refugee. The founders of Nisa Homes recognized the need to provide specialized care to Muslim women which was unmet by the Canadian shelter system. Muslim Women are situated within a highly politically charged environment that consistently distorts, alienates and marginalizes them.^{2,3} Muslim women are continually portrayed as abused, victimized and oppressed by Muslim men. This is harmful to the Muslim community, and to Muslim women.^{2,3} Consequently, the shelter was born out of the idea that in an environment where Muslim values are misunderstood or misinterpreted, Nisa Homes would be at the forefront of helping Muslim women, giving the Muslim community an opportunity to escape domestic violence.⁴

Methods

This study is result of Student Placement with Punjabi Community Health Services (pchs4u.com) in Summer 2018. This research project followed a case study design and utilized qualitative data from key informant interviews and a focus group discussion with Nisa Homes staff, experts in the field, as well as current and past Nisa Homes residents. Four separate, individual interviews were conducted with Nisa Homes staff to understand the systematic barriers the staff face, when providing services to Muslim women. A focus group discussion was conducted with all (six) current residents at Nisa Homes and three individual interviews were conducted with past residents. All interviews were one hour in length, and were recorded, transcribed and coded for common themes. All the participants signed consent forms and residents were linked to mental health professionals for debriefing.

Results

The findings from this research indicate that Muslim women experience various barriers to accessing shelters. The barriers Muslim women face include:

1. Lack of community awareness of resources

According to the participants and staff, the lack of resourcefulness in the community is mainly because “people within the community are new to the country, and they’re not fully aware of what’s out there for them”. As a result, Muslim/immigrant women do not know where to go if they wished to leave domestic violence.

2. Family intervention and family honour

Muslim women often have cultural values that entrust families with the responsibility of mediating situations of dispute, abuse or divorce. Consequently, it is often culturally inappropriate to seek help outside the family for such matters as it may jeopardize family honour. This deters many women from seeking external help.

3. Negative perceptions of shelters

All women in the focus group responded that they believe other shelters “have people who are on drugs... are drunk all the time...[and] there is a lack of safety, and men and women are together and it’s not a good place for children”

4. Stereotype threat

Nisa Homes staff expressed that western media portrays Muslim women as oppressed. This fact is reiterated in many research studies on Muslim women⁵. As a result, participants explained that, “a lot of Muslims feel that if I let them know that I am going through this, they are going to judge Islam more, they’re going to judge Muslims more, and they are going to perceive me in a certain way”.

5. A lack of basic religious accommodation

Accessible prayer space, as well as halal food or vegetarian food options were cited by participants as essential for Muslim women, as well as “comfortability of praying anywhere, access to Quran, or access to counsellors that understand their religious view”.

6. A lack of multi-lingual staff and cultural competency

Muslim women reported that they could not be “100% open to [caseworkers] because they are not from the same culture”. Women in the focus group reported, “we have to explain every little thing to them so they can understand” and “when we have to explain too much, it feels like they are looking down at our culture like it’s too restraining”.

7. Discrimination and islamophobia

Incidents of islamophobia come from both fellow residents, as well as staff members in mainstream shelters. For example, during the focus group it



was revealed that a resident had urinated on a woman's prayer mat in a mainstream shelter.

Muslim women who access community-based shelters like Nisa Homes benefit from:

1. Home environment

Nisa Homes is a regular house located in a quiet neighborhood. This helps Muslim women come to terms with living in a shelter, as staff and women in the focus group described it as "shared accommodation". This slight change of perspective helps the home become more socially acceptable.

2. Sense of community

Staff observed that Nisa Homes gives Muslim women an opportunity to build a network and community. This is important for women who feel isolated and are at times unable to speak to friends and family

3. Cultural credibility and receptiveness

Nisa Homes staff explained that by sharing the same value systems as the residents, they carry more legitimacy in the eyes of their residents and thus, the residents are more receptive. As a staff member explains, "it comes in handy to have someone of the faith, who understands these things, because it increases their credibility as well [and the client] will say, "Ok she knows what she is talking about". In this way, specialized counsellors are able to address trauma, and/or can provide family mediation in a culturally sensitive manner.

Discussion

Community-based shelters like Nisa Homes are an effective solution for tackling domestic violence within minority communities. Community-based shelters are able to spread the word about their services effectively within the community's social and cultural gatherings. Furthermore, such shelters are able to engage with the community and increase awareness about domestic violence through a culturally sensitive approach. They also offer a guarantee that the women will be able to access services in their language, and that their culture and religion will not be judged or misunderstood. As a consequence, the community's perception of shelters is improved and they much more accepting and positive about this solution.

Moreover, Community-based shelters are able to accurately and effectively assess the needs of their community and tailor their services accordingly. Finally, community-based shelters, such as Nisa Homes are often the only option for women who fear going to mainstream shelters. This necessarily means that community-based

shelters are an essential service for women who cannot access mainstream services for whatever reason. In the absence of community-based shelters, such as Nisa Homes, many women find shelters inaccessible or unacceptable. Nisa Homes however, faces several challenges, most notably, a lack of funding. Despite this, Nisa Homes is able to thrive and serve the women in the Muslim community. Thus, community-based shelters are needed and able to effectively fill the gap in the mainstream shelter system and save the lives of women who cannot access the mainstream shelter system.

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The Child Casualties of War – A Scoping Review of Reporting and Monitoring Grave Violations of Children’s Rights in Armed Conflict

Research Article

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Abstract

In accordance with the United Nations there are six primary grave children’s rights violations during conflict; (1) killing or maiming of children, (2) recruitment or use of children by armed forces or armed groups, (3) attacks on schools or hospitals, (4) rape or other sexual violence against children, (5) abduction of children, (6) denial of humanitarian access to children.¹ This study employed a comprehensive scoping review methodology that examined the existing body of research and grey literature related to methods implemented to monitor and report grave violations of children’s rights in armed conflict. Out of 6154 identified articles, 18 met the final inclusion criteria. The results of this study suggest that significant disparities exist in reporting and monitoring grave violations of children’s rights in conflict within both grey and academic literature. This demonstrates a weak foundation of evidence for the basic assumptions underpinning humanitarian and international policy.

Introduction

During armed conflict, children are at an increased risk of being subject to grave human rights violations.²⁻⁷ Early efforts to establish an international mechanism to report and monitor grave violations against children in conflict have faced a multitude of barriers including challenges to the validity and accuracy of reports due to limited capacity, subjectivity in reporting, and political intimidation.^{8,9} While evidence-based policies are widely recognized as the foundation of the current geopolitical climate, there is minimal description in published work of reporting instruments and monitoring mechanisms specifically for violations against children in armed conflict.^{10,11} The following study aims to highlight current gaps in the literature and the need to develop innovative approaches for rigorous reporting and monitoring of children’s rights in order to understand trends of violations and to protect vulnerable populations of children in conflicts.

Methods

A scoping review of the existing body of research and grey literature related to data collection methods implemented to monitor and report grave violations of children’s rights in armed conflict was conducted using the Arksey and O’Malley’s (2005) methodology.¹² A combination of keywords with appropriate synonyms and subject headings were selected. Terms were searched as both keywords in the title and/or abstract and subject headings as appropriate. A child was defined as "a human being below the age of 18 years unless, under the law applicable to the child,

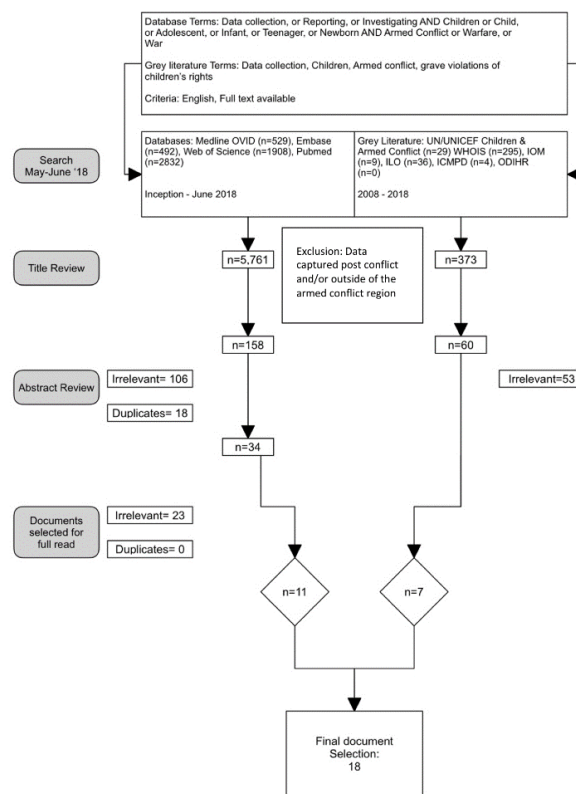


Figure 1. Search Strategy

majority is attained earlier”.¹³ An English language limit was applied. The literature search was conducted between May 2018 and June 2018 using four online academic databases: Medline OVID, Embase, Web of Science, and PubMed. Simultaneously, between May 2018 and June



2018, five online grey literature databases were searched: UN/ United Nations International Children's Emergency Fund (UNICEF), World Health Organization (WHO), International Organization of Migration (IOM), International Labour Organization (ILO), International Centre for Migration Policy Development (ICMPD), Office for Democratic Institutions and Human Rights (ODIHR).

The academic literature underwent three levels of screening: (1) title, (2) abstract review and (3) full-text review. The grey literature screening included two levels of screening: (1) title and abstract, if applicable and (2) full-text review. A review of reference lists of key articles was conducted, and additional studies of relevance were included.

Results

The search yielded over 5,761 articles (Medline OVID: 529; Embase 492; Web of science 1908; Pubmed 2832; UNICEF children in armed conflict: 29; IOM: 9; ICMPD: 4, ODIHR: 0), which resulted in 158 articles that met initial inclusion criteria following title review screening. Following abstract screening, 34 articles were reviewed for full-text, yielding 11 studies in the final review (10 studies, 1 systematic review). Similarly, within the grey literature, 373 documents and online tools were included in the initial title review, yielding 60 to be evaluated. Of these, 7 documents and online instruments were included in the review. Study and report characteristics were extracted from each study, and given the high level of variation among included evidence, results were summarized in Table 1 and Table 2 using a narrative synthesis approach consistent with the framework of Arskey and O'Malley (2005).¹² The results from the search depicts the distribution of grey and academic tools and articles as they relate to each of the six grave violations against children's rights in armed conflict (Figure 2). Results indicate that grave violations against children's rights in conflict are

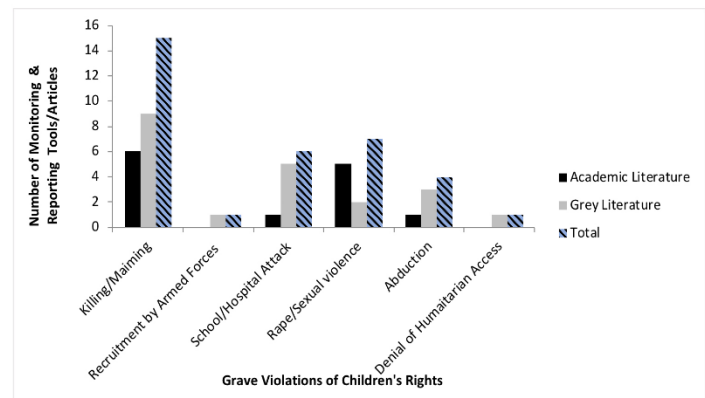


Figure 2. Distribution of grey and academic literature.

being monitored by several international regulatory agencies including: military healthcare forces, academic institutions, media groups, humanitarian aid societies, and nongovernmental organizations. Six of the grey literature articles described monitoring mechanisms, four of which were monitoring systems available online and open sourced for public use.

Discussion

Gaps in the Literature. There is a lack (n=18) of academic research and grey literature investigating the reporting and monitoring mechanisms used to capture grave violations against children's rights in conflict. Specifically, the results of this study indicate that there is little written regarding the recruitment of children by armed forces, the denial of humanitarian access to children, and the abduction of children in conflict. The silence surrounding the monitoring and reporting of grave violations of children's rights in armed conflict is deeply unsettling. It is arguable that the lack of literature reporting aggregate trends in violations of children's rights in armed conflict are limiting actors in the development of policy, legal and humanitarian responses.

Summary of Grey Literature on Monitoring and Reporting Grave Violations of Children's Rights				
Instrument	Organization	Method	Purpose	Grave violation captured
Monitoring and Reporting Mechanism (MRM) ¹⁵	United Nations	Secondary data, observations & affected population interviews	Systematic gathering of information on grave violations against children in situations of armed conflict	(1) Killing or maiming of children, (2) recruitment or use of children by armed forces or armed groups, (3) attacks on schools or hospitals, (4) rape or other sexual violence against children, (5) abduction of children, (6) denial of humanitarian access
Surveillance System for Attacks on Health Care ¹⁶	World Health Organization (WHO)	Secondary Data Analysis	Online Dashboard Tool	(1) Killing or maiming of children, (3) attacks on hospitals
Aid Worker Security Database ¹⁷	Humanitarian Outcomes	Secondary Database	Online Database	(1) Killing or maiming of children, (3) attacks on hospitals
Armed Conflict Location & Event Data Project ¹⁸	Armed Conflict Location & Event Data (ACLED)	Secondary Database	Online analysis and crisis mapping project	(1) Killing or maiming of children
Physicians for Human Rights ¹⁹	Physicians for Human Rights	Mixed Methods	Advocacy	(1) Killing or maiming of children, (3) attacks on schools or hospitals, (4) rape or other sexual violence against children, (5) abduction of children
Armed violence monitoring group ²⁰	The Inter-Agency and Expert Group (IAEG) on MDG	Secondary Database	Reports and Publications	(1) Killing or maiming of children
Uppsala University Conflict Data Program ²¹	Department of Peace and Conflict Research	Secondary Database	Online analysis and conflict mapping project	(1) Killing or maiming of children

Table 1. Summary of Grey Literature on Monitoring and Reporting Grave Violations of Children's Rights



Overview of Academic Literature on Monitoring and Reporting Grave Violations of Children's Rights				
Study	Instrument	Method	Purpose	Grave violation captured
Charak et al. (2017) ²²	Childhood Trauma Questionnaire	Survey	Measure rates of abuse and neglect in conflict	(4) Rape or other sexual violence against children
Elamein et al. (2017) ¹⁰	Monitoring Violence against Health Care alert network (WHO)	Online assessment, secondary data, interviews	Detect and verify attacks on health-care services deliver (24hr) information to partners: WHO/UN	(1) Killing or maiming of children, (3) attacks on hospitals
Arul et al. (2011) ²³	Paediatric admissions to the (military) hospital	Secondary Data	Surveillance of violations of humanitarian law	(1) Killing or maiming of children
Helweg-Larsen et al. (2004) ²⁴	International Classification of External Causes of Injury	Secondary Data	Surveillance of violations of humanitarian law	(1) Killing or maiming of children
Stark et al. (2017) ¹⁴	Mod. ISPCAN Child Abuse Screening Tool Children's Version (ICAST-C) & Modified VACS questionnaire	Online Questionnaire, Computer-Assisted Personal Interview	Identify the prevalence of violence Against adolescent girls in conflict-affected contexts	(4) Rape or other sexual violence against children
Potts et al. (2011) ²⁶	One-on-one household-based interviews, respondents'	Nationwide household Survey & Neighborhood Method	Estimate prevalence of grave violations against children by reporting on all children in their homes and in neighboring homes	(1) Killing or maiming of children, (2) recruitment or use of children by armed forces or armed groups, (4) rape or other sexual violence against children, (5) abduction of children
Mullany et al. (2007) ²⁷	Mobile healthcare workers	Household Survey	Quantification of associations between rights indicators and health outcomes	(1) Killing or maiming of children
Spinella et al. (2008) ²⁸	Paediatric admissions to the (military) hospital	Secondary Data Retrieved from Hospital, documentation	Surveillance of violations of humanitarian law via patients admitted with traumatic injuries to U.S. combat hospitals	(1) Killing or maiming of children
Rodriguez-Llanes et al. (2018) ²⁹	Violations Documentation Center in Syria	Secondary Data, victim and relative interviews, media	Epidemiological analysis of the impact of weapons on the Syrian civilian population	(1) Killing or maiming of children
Nelson et al. (2011) ³⁰	Semi structured questionnaire	Semi-structured questionnaire	Patterns and impact of sexual violence on children	(4) Rape or other sexual violence against children
Malemo Kalisya et al. (2011) ³¹	Paediatric admissions and medical documentation	Secondary Data - Hospital, documentation	Patterns and impact of militarized compared to civilian rape against children	(4) Rape or other sexual violence against children

Table 2. Summary of Academic Literature on Monitoring and Reporting Grave Violations of Children's Rights

Need for Improved Dissemination and Sharing of Data. It is crucial for timely data collection and subsequent dissemination of this information to allow for early identification of possible trends in grave violations against children in conflicts and to lead to faster mobilization of responses to these atrocities. Transparency can only serve to benefit coordination across agencies, organizations, and countries. However, the results of this study indicate that current monitoring mechanisms are not disseminating data in a timely fashion, given that only one-third of monitoring mechanisms are published in a modernized and widely accessible online platform.

Lack of Innovation in Data Collection. Innovations in technology have fundamentally changed the way in which data is collected, leveraging new tools such as: online surveys, mobile phone surveys, web tracking, and social media monitoring. The majority of the academic and grey literature used traditional data collection tools and information dissemination methods such as annual reports or publications. Based on the results of this study, merely 34% of monitoring mechanisms were accessible through online databases, dashboards, and interactive maps. Additionally, only 18% of reporting tools leverage the use of any technology to aid in the collection of data. The two exceptions to this finding were: (1) the Monitoring Violence Against Health Care alert network who leveraged the use of communication technology (WhatsApp) to produce rapid reports of violations within hours to inform partners such as the WHO and UN and (2) an online questionnaire conducted in South

Kivu, Democratic Republic of the Congo.^{10,14} Leveraging advances in technology to support the monitoring and reporting of violations is a transformational concept which could increase transparency, accountability and the international response to atrocities occurring during armed conflict.

Conclusion

A concerted effort is required to improve the monitoring and reporting of grave violations of children's rights in armed conflict. Timely monitoring and accurate reporting have many implications for global health including; informing the general public, directing policy makers, providing health services to meet the needs of affected populations, protecting children's rights, and documenting violations of international humanitarian law while holding perpetrators accountable. This review's finding suggest that there is a lack technology used in the collection of data pertaining to the violations of children's rights in conflict. Disparities in both grey and academic literature exist on the topic of data collection in reporting and monitoring grave violations of children's rights, highlighting the need for further research to protect vulnerable populations of children in conflict.

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Involuntary Admission Legislation and Human Rights in Low- and Middle-Income Countries

Research Article

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Abstract

This study determined the extent to which involuntary admission legislation in low- and middle- Income Countries (LMICs) meet international human rights standards by using the WHO Checklist on Mental Health Legislation. The findings suggest that, in many cases, the laws do not fully protect the rights of individuals with mental disorders in the context of involuntary admission, according to WHO standards. 43% of all standards analyzed for the LMICs in this study were rated as “Adequately covered”, thus, 57% of the standards for involuntary admission were deemed “Covered to some extent” or “Not covered at all”.

Introduction

“The fundamental aim of mental health legislation is to protect, promote, and improve the lives and mental well-being of citizens.”¹ Globally, cases of mental health are often misunderstood and/ or undiagnosed.² As of 2005, 78% of countries had mental health legislation.³ Many countries have revised or enacted mental health legislation in order to protect the rights of those with mental illness as people with mental disorders are particularly vulnerable to violation of rights and abuse.^{4,5} Progressive legislation has the potential

to serve as an effective tool to protect and promote the rights of persons with mental disorders.⁶

In 2005, the World Health Organization (WHO) published the WHO Resource Book on Mental Health, Human Rights and Legislation (WHO Resource Book). The WHO Resource Book aims to assist countries in drafting, adopting, and implementing mental health legislation.⁷ The WHO Resource Book is WHO’s most detailed statement of human rights issues to be addressed in national legislation and regulations.



There are published systematic assessments and comparative analyses of mental health legislation in the current body of literature. However, most studies focus on higher income and Commonwealth countries.^{9,10,11} Only one published study focused on *emergency* involuntary treatment and admission mental health legislation in low- and middle-income countries (LMICs).¹² Whether or not LMICs meet involuntary admission international human rights standards remains unknown.

Given the gaps in the existing literature, this study seeks to determine the extent to which involuntary admission legislation in LMICs meet international human rights standards by using the WHO Resource Book and Checklist. Considering that over 80% of the global population reside in LMICs, it is important that we start to evaluate whether or not countries are meeting the international human rights standards for individuals living with mental disorders. The mere existence of legislation does not guarantee that human rights standards are met.¹⁴ However, ensuring that a country's mental health legislation follows international human rights standards is an essential starting point in guaranteeing these rights.

Methods

Selection of mental health legislation for analysis

Legislation was gathered from the WHO MiNDbank online database.¹⁵ Legislation eligibility criteria included the following:

- a) a "stand-alone" or "dedicated" mental health legislation according to the 2011 & 2014 WHO Mental Health Atlas' (MHA).^{16,17}
- b) legislation from a LMIC, using World Bank income classifications.¹⁸
- c) "fully implemented" or "partially implemented" legislation as reported by the 2011 WHO MHA.¹⁹
- d) available in English
- e) available on the WHO MiNDbank online database.²⁰

These inclusion criteria were based on Wickremsinhe's (2018) study.²¹

Analytical Framework

This study is a comparative analysis of the legislation in 24 LMICs, using the requirements for national mental health legislation outlined in the WHO Resource Book in a yes/somewhat/no fashion.²² The study focuses on the content of the legislation rather than the effects and/or implementation of the legislation since there is a paucity of data available to determine the effects of the legislation in many of the countries included in this analysis.

The WHO Resource Book includes a Checklist on Mental Health Legislation which aims to: "a) assist countries in reviewing the comprehensiveness and adequacy of existing mental health legislation; and b) help them in the process of drafting new law."²³ There are 175 standards included in the WHO Checklist, which are grouped into 27 categories.

The legislative issue of focus in the present paper is involuntary admission legislation, or category "I" in the Checklist that is entitled "Involuntary admission (when separate from treatment) and involuntary treatment (where admission and treatment are combined)". Category "I" consists of 10 standards. The 10 standards for involuntary admission legislation were analyzed by a single researcher to determine whether or not LMICs meet the requirements for national mental health legislation, outlined in the WHO Checklist.

Results

138 countries were eligible for inclusion based on World Bank income classifications. However, only 24 countries (17.4% of all LMICs countries) met the inclusion criteria. All 10 standards were rated based on three options, as suggested by the WHO Checklist: A - Adequately covered; B - Covered to some extent; C - Not covered at all. **Tables 1** and **2** shows a breakdown of WHO checklist scores for each standard.

Areas of high compliance to WHO standards

To calculate the areas of highest compliance with WHO standards, the number of As (Adequately covered ratings) were counted, and the countries were ranked (**Table 3**).



Across all jurisdictions, the legislation content of highest compliance with WHO standards were the following standards: 1c, 6, 8 and 10 (Table 1).

Standard	Number of A ratings	Number of B ratings	Number of C ratings
1) Does the law state that involuntary admission may only be allowed if:			
a) there is evidence of mental disorder of specified severity? and:	9	10	5
b) there is serious likelihood of harm to self or others and/or substantial likelihood of serious deterioration in the patient's condition if treatment is not given? and:	3	13	8
c) admission is for a therapeutic purpose?	22	0	2
2) Does the law state that two accredited mental health care practitioners must certify that the criteria for involuntary admission have been met?	7	10	7
3) Does the law insist on accreditation of a facility before it can admit involuntary patients?	9	2	13
4) Is the principle of the least restrictive environment applied to involuntary admissions?	8	2	14
5) Does the law make provision for an independent authority (e.g. review body or tribunal) to authorize all involuntary admissions?	11	5	8
6) Are speedy time frames laid down within which the independent authority must make a decision?	13	1	10
7) Does the law insist that patients, families and legal representatives be informed of the reasons for admission and of their rights of appeal?	4	3	17
8) Does the law provide for a right to appeal an involuntary admission?	13	0	11
9) Does the law include a provision for time-bound periodic reviews of involuntary (and long-term "voluntary") admission by an independent authority?	4	6	14
10) Does the law specify that patients must be discharged from involuntary admission as soon as they no longer fulfil the criteria for involuntary admission?	12	3	9

Table 1. Breakdown of WHO Checklist scores for each standard

Overall scores of all LMICs	Number (n)	Percentage
Total As - Adequately covered	62	43%
Total Bs - Covered to some extent	32	22%
Total Cs - Not covered at all	50	35%
Totals	144	100%

Table 2. Overall WHO Checklist scores for all 24 LMICs included in this study

Countries	n number of adequately covered standards per country (n/12)
1. Ghana	11
2. South Africa	9
3. India & Tonga	8
4. Jamaica, Maritius & Samoa	7

Table 3. Countries with the highest levels of compliance to WHO standards

Areas of low compliance to WHO standards
When calculating the areas of lowest compliance

with WHO standards, the highest number of Cs (Not covered at all ratings) were counted and ranked for each country. Summarized in Table 4 are the countries with the highest levels of non-compliance to WHO standards.

Across all jurisdictions, the legislation content of low compliance with WHO standards included the following standards: 7, 4, and 9 (Table 1)

Countries	n number of standards that were not covered at all per country (n/12)
1. Kenya & Kiribati	10
2. Afghanistan & Solomon Islands	9
3. Indonesia, Malawi & Sri Lanka	8

Table 4: Countries with the lowest levels of compliance to WHO standards

Conclusion

The findings of this analysis suggest that the mental health laws in LMICs take varied approaches in their legislation. In many cases, the laws do not fully protect the rights of individuals with mental disorders, in the context of involuntary admission according to WHO standards. 43% of all standards analyzed for all LMICs in this study were rated as "Adequately covered", leaving 57% of the standards for involuntary admission as either "Covered to some extent" or "Not covered at all". Ghana and South Africa have the highest number of "adequately covered" standards in their legislation. Kenya and Kiribati have the highest number of standards that are "not covered at all" in their legislation. From a human rights perspective there is much room for improvement in securing the protection of those with mental disorders via national legislation.

This analysis was not completed by a human rights and/or legal expert and would have been more thorough and/or accurate if a committee analyzed the legislation. It is hoped that this analysis stimulates the formation of committees and more thorough human rights analyses of mental health legislation in LMICs, as recommended by WHO.²⁴ This analysis provides a starting point for future analyses.

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Mental Health Interventions for Rural Adolescents: A Scoping Review

Research Article

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Abstract

It is estimated that less than half of adolescents in rural and remote communities receive the mental health support they need due to barriers including limited access to mental health services and care providers, poorer quality mental healthcare, higher transportation costs and stigma. The purpose of this scoping review is to identify mental health interventions that have been implemented and evaluated in the literature specifically for rural adolescents between ages 10-19. A search of Medline was conducted. Of the 62 included studies, a majority were located in high income countries, focused on problematic substance use and were delivered in schools and through tele-health. The results suggest that while there have been diverse efforts to develop mental health interventions in this population, there are limited efforts to bring more specialized mental health services directly to rural communities. Rather there appears to be a reliance on task shifting and tele-health for these needs. Finally, there is a need for more intervention research targeting high burden disorders among adolescents like anxiety and mood disorders, and more support for intervention activities in low- and middle-income countries.

Introduction

Adolescence is a critical period of emotional and behavioural development that impacts current and future psychological health.¹ Despite higher prevalence rates of mental health (MH) concerns among rural youth, approximately 20% fewer rural adolescents access MH treatment than their suburban and urban counterparts, and overall, less than half of rural adolescents with MH challenges receive support.^{2,3} Recently, the severity of these MH challenges has led to some rural regions declaring states of emergency due to staggering rates of suicide.⁴ MH barriers existing in rural populations include: limited access to MH services and care providers; poorer quality of MH care; higher transportation costs to services; and greater stigma.^{5,6,7} Moreover, rural populations experience more material deprivation and use a greater portion of their incomes for health care, as compared to urban populations.^{8,9} Innovative MH interventions are urgently needed for rural adolescents.

To date, literature has not offered a broad overview of adolescent MH intervention activities in rural populations. Therefore, this scoping review aims to identify MH interventions in this population that have been implemented and evaluated in the literature, and discuss their implications.

Methods

Medline was searched for keywords and medical subject headings (available upon request). The Joanna Briggs protocol was followed.¹⁰

Study Inclusion criteria:

Participants: Intervention *beneficiaries* were adolescents ages 10 to 19. Studies were still included where less than 50% of beneficiaries were within two years of this age range. Intervention *participants* (for example teachers or healthcare providers (HCPs)) could be outside this age range, as long as the ultimate beneficiaries were aged 10-19.

Concepts: The primary aim of studies was describing the implementation of a MH intervention, or evaluating or reporting outcomes. Interventions could cover any approach to MH promotion or treatment.

Context: Interventions were located in geographically rural or remote areas (as claimed by the study), in any country.

Types of studies and sources: Primary research studies of any design and year of publication, in English.

Exclusion criteria:

- (1) Interventions delivered in suburban, or both rural *and* urban settings;
- (2) Interventions not yet implemented (prospective studies); and
- (3) Interventions focused on congenital or neurodevelopmental disorders. These were excluded because the focus of this review is on MH issues that can be prevented or treated, potentially to the point of full recovery, through interventions.



Extraction of results

In this summary article, results from three study characteristics extracted are presented: study location; mental disorder addressed; and intervention delivery setting.

Results

Search Results

62 studies were included. Summaries and characteristics of each study are available upon request.

Location of studies

Eleven countries were represented in the included studies. 58% of studies were from the United States, 17.7% from Australia, 11.3% from Canada, and 1.6% (one study) each in the Congo, Iran, India, Kenya, Nepal, Scotland, Thailand and Uganda. Overall 11% of studies were from low- to middle-income countries (LMICs), and 89% from high-income countries (HICs).

Mental disorder of focus

33.8% of interventions addressed problematic substance use (PSU), 22.6% addressed an unspecified mental disorder (i.e. focused on treating participants for any MH concern), 17.7% were general MH promotion, 9.6% addressed attention, behavioural and conduct disorders (notably ADHD and anger management), 12.9% addressed depression, 6.4% anxiety, 3.2% psychosis and 3.2% PTSD. One study (1.6%) addressed suicide prevention and one eating disorders. Seven of the aforementioned studies addressed more than one of these MH issues simultaneously.

Intervention delivery setting

Almost half the studies (46.7%) used schools as the delivery setting. Tele-health, which is remote delivery through audio and video conferencing calls, was the next most common intervention delivery method (24.2% of studies). 14.5% of interventions were delivered in households, 12.9% in community centers, 12.9% in a clinical setting, two (3.2%) used churches and one study (1.6%) was delivered in the juvenile justice system. Ten of the aforementioned studies utilized more than one setting for delivery.

Discussion

Location

Results of this review highlight global inequities in rural adolescent MH intervention research; only 11% of studies were from LMICs. This is problematic given the disproportionate burden of psychological stressors known to inhibit healthy

cognitive and emotional development in LMICs, including inadequate nutrition, infectious disease, political conflict and poverty.¹¹ Cultural stigma surrounding mental disorders, limited mental HCPs and government investment in adolescent MH, pose barriers to intervention implementation and research.^{11,12} These findings highlight a need for more intervention research activities in LMICs.

Mental health area of focus

PSU was the most common target of interventions, followed by general MH promotion, and treatment for specific mental disorders, with many interventions addressing more than one MH challenge. General MH promotion is important because it addresses the low MH literacy and high stigma surrounding mental illness commonly found in rural areas.^{13,14}

Research suggests PSU is more common among rural adolescents than their urban counterparts, which may explain the numerous PSU studies.^{15,16,17} However, evidence shows anxiety disorders are the most common MH problems among adolescents, followed by behaviour disorders (such as ADHD) and mood disorders.² Few interventions directly addressed these disorders, although they may have been indirectly addressed by other interventions. The focus on PSU is a significant limitation for informing LMIC interventions, where adolescent PSU is less common, and other issues such as PTSD are more pertinent.¹⁸

Delivery Setting

Most interventions were delivered in community settings unrelated to health, including schools and households. Within all settings, three main intervention “types” emerged: individual psychological treatment; promoting MH awareness and healthy psycho-social behaviours; and altering social and physical environments to facilitate mental wellbeing.

Given the shortage of rural MH professionals, many interventions developed mental healthcare capacity among other stakeholders in adolescent wellbeing, like teachers, parents and family doctors. Such “task-shifting” is generally well-received by patients and providers, as local facilitators are trusted and understand the community context.¹⁹ When applied in primary health care, task-shifting generally maintains accurate diagnoses, referrals and prescription practices.²⁰ Some limitations to task-shifting exist, for example ensuring the intervention is delivered as intended with minimal professional oversight, and limitations in some lay people’s ability to fulfill



specialized mental healthcare roles.²¹ Moreover, increasing the already-heavy patient and workloads of rural HCPs can lead to excess stress on healthcare systems and providers, diminishing the quality of care.²²

Tele-health was the second most common delivery method, which highlights the increasing integration of technology into healthcare. Two main uses emerged: (1) virtual clinical appointments between patients and specialized mental HCPs; and (2) specialized mental HCPs providing training or consults to local HC and service providers. Tele-health often has high client and practitioner satisfaction, is easy to use, is low cost, improves access to specialists, and enables continued education among local HCPs, another challenge in rural areas.^{19,23,24,25} Tele-health has limitations, particularly in LMICs and very remote communities, including the high cost of purchasing and maintaining equipment, the reliance on consistent electricity and internet access, and the lack of familiarity and cultural appropriateness of the technology.²⁶

Limitations

A limitation of this review is that only one database, Medline, was searched. Although Medline is the most comprehensive database, it is typically recommended to search three. A search of grey literature would also have been beneficial. Finally, a uniform definition of rural was not used while determining inclusion criteria, due to diverse demographic and geographic interpretations of the term rural. However, the interventions included in the review appeared to be feasible in varied degrees of geographic remoteness. A single definition may neither be possible nor a substantial limitation.

Conclusion

This scoping review demonstrates that peer-reviewed rural adolescent MH interventions generally focus on PSU and are mostly delivered in schools, community facilities, primary healthcare and households. There are limited efforts to bring specialized MH services directly to rural communities, and rather a reliance on task-shifting and tele-health for these needs. This review indicates a need for more intervention research targeting high-burden disorders among adolescents like anxiety and mood disorders, and more support for intervention activities in LMICs. Finally, it is important to note that very few interventions were specifically designed for vulnerable populations within rural communities, including low income, Indigenous or minority

populations. This is important because these populations often have lower than average mental health and do not always have access to culturally and economically relevant services. Next steps include further analysis of quality and outcomes of these studies to determine best intervention practices.

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Access to Mental Healthcare in Indigenous Communities Across Canada

Research Article

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Abstract

This paper aims to answer the question: To what extent do Indigenous communities across Canada have access to mental health care? There are significant mental health care disparities between Indigenous and non-Indigenous peoples in Canada, largely due to a legacy of colonization and marginalization. Inuit, Status Indians, non-Status Indians, and Métis people all have differing levels of access to mental health services, with the latter two groups being largely neglected in federal and provincial Indigenous health programs. Though Indigenous health is legally a federal responsibility, mental health services vary dramatically between provinces and territories.

Introduction

This topic is important to study for four reasons. First, Indigenous peoples in Canada are an extremely diverse demographic group including hundreds of ethnic groups speaking approximately 60 languages.¹ Discussions about Indigenous issues often ignore these distinctions and conflate the experiences of individuals belonging to a wide range of groups.² There is a dearth of academic literature focusing on how health access differs *between* Indigenous groups.

Second, the proportional and total number of Indigenous people in Canada is rising. Between 1996 and 2016, Indigenous Canadians grew from 2.8% of the Canadian population to 4.9%.³ These growing numbers correspond with greater demand for public services, including mental health care.

Third, Indigenous peoples have a long history of marginalization and oppression. The British and French colonial powers forcibly relocated many Indigenous peoples from their ancestral homelands, banned religious and cultural practices, and often violently enforced European hegemony.^{4,5} This was later institutionalized in the residential school system, in which children were forcibly assimilated into Western culture and forbidden from speaking their languages and practicing their religious beliefs.⁶ The concept of 'historical trauma' explains how initial trauma can create difficulty in parent-child bonding and feelings of shared grief; these then result in trauma being inherited over generations.⁷

Fourth, compared to other ethnic groups, the burden of mental illness is high in Indigenous communities.⁸ Suicide in Indigenous youth (aged 15-24) is nearly six times more prevalent than in their non-Indigenous counterparts.⁹ Substance use disorders are also prevalent, with 83% of First

Nations respondents to a 2008-2010 nationwide survey reporting drug and alcohol misuse as the most prominent barrier to their communities' wellness.¹⁰

Methods

This paper uses academic literature and gray literature, including censuses and policy documents. The health care laws applying to Indigenous people in Canada differ in two ways: by legal classification and by province or territory. In the first section, four legal categories of Indigenous peoples are compared: Inuit, Métis, Status Indians, and non-Status Indians. Each of these groups has different laws and policies affecting health care. Most of the information was collected from academic literature, government documents (e.g. Health Canada) and organizations representing Indigenous communities. From these sources, it was possible to construct an image of how access to mental health care varies by Indigenous status. Similarly, in the second section, each provincial and territorial Indigenous health policy was examined in order to assess the level of coverage.

Results

The Constitution of Canada categorizes Indigenous peoples into 3 groups: Indians (First Nations), Inuit, and Métis.¹¹ First Nations are further divided into Status Indians, who are listed in the government's Indian Register, and non-Status Indians; non-Status Indians do not enjoy the same government insurance coverage and health benefits.¹¹ The Constitution labels health care as a provincial responsibility and Indian Affairs as a federal responsibility.⁵ This creates a complication in the overlapping area of Indigenous health.⁵ In 2016, the Supreme Court of Canada ruled that health care for all Indigenous peoples was under federal jurisdiction.¹² However, Métis and non-Status Indians remain ineligible for many health



programs.

The First Nations and Inuit Health Branch (FNIHB) is a branch of Health Canada that funds health care for Status Indians and Inuit.¹³ The Non-Insured Health Benefits (NIHB) system is a FNIHB program that covers the cost of prescription psychiatric medication.¹⁴ NIHB also includes a Mental Health Counselling (MHC) service for Inuit and Status Indian patients, which involves access to registered psychologists and social workers.¹⁴ The FNIHB also includes the National Native Alcohol and Drug Abuse Program (NNADAP).¹⁵ The NNADAP funds short-term in-patient and out-patient addiction services, running 56 rehabilitation centres around Canada.¹⁵ These centres also offer traditional healing services.¹⁵

As mentioned, the above services are only available for Status Indians and Inuit. There are no federal health programs covering non-Status Indians and Métis. Consequently, their mental health coverage and services vary drastically depending on location, which is explained below.

Nine provinces and territories do not have any mental health programs for Indigenous residents: Ontario,¹⁶ Quebec,¹⁷ Manitoba,¹⁸ Saskatchewan,¹⁹ Nova Scotia,²⁰ New Brunswick,²¹ Prince Edward Island,²² Newfoundland and Labrador,²³ and Yukon.²⁴ While Inuit and Status Indian residents of these jurisdictions have access to federal FNIHB programs, Métis and non-Status Indian residents do not have any more access or coverage than their non-Indigenous counterparts. The four remaining provinces and territories do have Indigenous health programs, as detailed below.

The British Columbia Ministry of Health (MOH) works with the First Nations Health Authority (FNHA), which includes representatives from First Nations' band councils.²⁵ The MOH and FNHA cover the cost of First Nations residents receiving long-term care from psychiatrists and psychologists.²⁵ There is no equivalent program for Métis or Inuit living in British Columbia.

Alberta Health Services (AHS) has an Indigenous Health Program charged with providing culturally appropriate care to First Nations (both Status and non-Status Indians), Métis, and Inuit patients.²⁶ The AHS is advised by a Wisdom Council consisting of representatives from Albertan Indigenous groups.²⁶ Mental health care providers receive mandatory education on providing culturally sensitive care.²⁶

The Northwest Territories' Department of Health and Social Services runs the Métis Health Benefits system.²⁷ This program gives Métis residents the same health benefits that First Nations and Inuit patients receive through the federal NIHB program.²⁷

Nunavut's Department of Health includes a Health Care Plan which subsidizes airfare to centres providing specialized psychiatric treatment.²⁸ This is available to all Indigenous residents of the territory.

Discussion

There are three main research findings and corresponding policy recommendations. First, non-Status Indians and Métis are significantly underrepresented in mental health coverage. Unlike Status Indians and Inuit, they do not receive federal Indigenous health benefits. Furthermore, only three jurisdictions (British Columbia, Alberta, and Nunavut) have mental health programs for non-Status Indians. Similarly, only three jurisdictions (Alberta, the Northwest Territories, and Nunavut) have mental health programs for Métis residents. This should be rectified by expanding FNIHB coverage.

Second, Indigenous individuals are eligible for different mental health benefits depending on their legal classification and province or territory, which furthers health disparities between Indigenous groups. This supports Lavoie's (2013) recommendation that there is a need for a federal First Nations, Métis, and Inuit health policy that ensures equitable health outcomes for all Indigenous peoples.²⁹

Third, almost all government-funded Indigenous mental health programs emphasize Western medicine, apart from some exceptions, such as the NNADAP. Indigenous knowledge and healing are not covered by most programs. This refusal to acknowledge Indigenous healing is a legacy of colonialism.⁵ In order to respect Indigenous communities' autonomy, traditional healing should be included in government health programs.

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Calling for a Gender-Sensitive Approach to Karoshi and Overwork Disorders in Japan

Opinion Editorial

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Karoshi, which translates to “death from overwork,” is a prevalent phenomenon in Japan and much of Asia (p.278).¹ In a culture that values dedication and hard work, karoshi is responsible for 10,000 deaths each year in Japan alone.^{2,3} While it was previously considered a social issue that predominantly plagued men, almost a third of compensated mental health karoshi claims in the last five years have been awarded to women.⁴ This article examines how gender intersects with various contributing factors of overwork in Japan, suggesting that the Ministry of Health, Labour and Welfare’s focus on long work hours as the sole determinant of karoshi compensation negates the gender-specific experiences of women. Fostering gender-sensitive karoshi research improves

awareness and understanding of the ways in which women suffer from this complex phenomenon. Women’s economic empowerment is vital to reaching gender equality targets in Japan, but only possible if we strive to understand the issues that contribute to workplace gender inequality.

In 2018, Japan ranked 110th out of 149 countries on the Global Gender Gap Index: while 68% of women in Japan participate in the workforce, women make up only 13% of senior officials and managers, 10% of parliament, and 16% of ministerial positions.⁵ Previous research has outlined ways in which traditional gender roles persist in the workplace, where double-track employment systems see female workers as a



temporary labour solution, often hiring men into the career-track while hiring equally-educated women into clerical-track positions.^{6,7} In addition, it is common for women in Japan to face workplace sexual harassment.⁸⁻¹¹ Huen explains that, “[b]ecause group harmony is so important in Japanese society, those women who openly complain about workplace sexual harassment are seen as disruptors.¹² Very often, they are forced to resign or are even fired” (p.813).¹² This organizational structure not only limits female career development but also reinforces existing structures in which men’s needs take priority. Highly competent women are not given adequate responsibility or opportunity for advancement and are expected to perform their work in a hostile workplace environment. Job dissatisfaction has been linked to suicidal ideation in Japanese female workers¹³ and sexual harassment has been found to contribute to stress-related illness, lower commitment to work, lower satisfaction with life, and lower self-esteem and psychological well-being.¹⁴ Although links between workplace sexual harassment and suicide are difficult to prove, studies have shown significant associations between poor physical work environment and increased risk of suicidal ideation in Japanese female workers.¹³ Similarly, newspaper articles have outlined a tragic series of events in which a woman committed suicide after feeling harassment claims were improperly managed.¹⁵ This suggests that extreme overtime may not be the sole karoshi hazard for women in Japan.

The few women who are given opportunities to progress in their field go to great lengths to maintain their positions as both wives/mothers and employees. Nemoto notes that a career-track woman is expected to “work like a man”: long hours, after-work drinking obligations, and the health concerns that go along with these practices (p.521).⁷ Because of loopholes in overwork legislation, it is not unusual for employees to work in excess of the 80-hour karoshi line: ^{2,16} the legal benchmark for showing a strong link between work and illness, which recommends that overtime be kept to an average of less than 80 hours per month.³ In addition to the grueling hours in the workplace, women continue to be the primary caregivers in the home. Women in Japan complete more than five hours of domestic work for every hour their male counterparts do,⁵ and only 2.63% of fathers have taken paternity leave.¹⁷ Such an

inequitable distribution of domestic labour puts undue stress on working women in Japan and exposes them to an increased risk of overwork. While legislation such as the Child Care and Family Care Leave Law aims to combat these stressors by allowing women absence from work to care for sick or injured family members, such legislation is rarely enforced.¹ Women are forced to prioritize home over work, thus reinforcing traditional gender roles and the masculine culture of the work environment. They are placed in a situation where their needs are not necessarily supported by societal structures –where they are forced to choose between their responsibilities to their family and their desire for gainful long-term employment. The inter-role conflict that ensues can subject women to extreme burnout and poor psychological health.¹⁸ Long working hours can indeed impact women’s experiences of overwork, but domestic responsibilities may also contribute.

While legislation tries to provide numerical overtime criteria for compensation, a review of the research shows that it is not as easy as establishing a karoshi line. The majority of mental health-related compensations in 2014 and 2015 were distributed to claimants who worked less than the 80-hour karoshi line or who were compensated because of ‘other factors’, such as sexual harassment/violence.¹⁹ Numerical guidelines have proven insufficient, necessitating exceptions: women in Japan are exposed to various stressors that put them at risk for karoshi in different ways. Institutional sexism inhibits upwards occupational mobility, normalizes sexual discrimination, and discourages family leave. As acute labour shortages continue to encourage female participation in the workplace,²⁰ stakeholders, including employers, policy-makers, and the general public, need to adopt a gender-sensitive approach to encourage workplace equity. Japan’s highest levels of government and civil service need to lead by example instead of making international #MeToo headlines);²¹ gender discrimination and sexual harassment legislation needs to be enforced. Encouraging men to take a more active role in domestic life might lower female karoshi rates, as might family-friendly initiatives such as childcare in the workplace. Finally, further research that seeks to understand women’s lived experiences of karoshi must be conducted and disseminated to all stakeholders. Structural inequities in society have placed an



undue burden on Japanese women in the workplace. Greater attention should be paid to their needs as they continue to play an important role in Japan's working society.

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