



Evidence Review

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Addressing the Dimensions of Sexual Health: A Review of Evaluated Sexual Health Promotion Interventions

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Introduction

Sexual health represents an important focus for national and regional governments, public health agencies, and community-based organizations. Consequently, it has been defined in a variety of ways. Generally speaking, an individual definition will reflect the health priorities and prevalent social norms of the country or organization from which it arose (1, 2). Therefore, while many definitions share common elements, they often differ in how they frame responsibility for sexual health (on the individual or society as a whole) and on how they incorporate biomedical factors, reproductive health and individual well-being (1, 2).

In 1974, the World Health Organization (WHO) initiated a series of consultations on sexual health (1) with the most recent sessions taking place between 2007 and 2008 (3, 4). The definition of sexual health that emerged from this process encourages consideration of numerous interacting biomedical, social, and personal dimensions of sexual health. Beyond the biomedical status of an individual or population (e.g. presence of infection) or individual behaviours (e.g. condom use or

number of sexual partners), the WHO definition incorporates issues pertaining to pleasure and personal safety and encourages attention to the social determinants that shape sexual health, including income, social stigma, and the availability and accessibility of education and health services (3-6). In this way, WHO encourages sexual health promotion to strike a balance between focusing on the biomedical and social dimensions of sexual health, as well as between the responsibility and behaviours of individuals (e.g. using condoms) and that of societies in a broad sense (e.g. ensuring that condoms are available), while at the same time considering the social and economic condi-

Sexual Health (WHO Definition):

“Sexual health is a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled.” (3, p5)



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tions that shape these factors (i.e. ideology pertaining to the use of condoms) (3, 4).

The inclusion of these topics is particularly relevant to the sexual health of populations considered to be at the greatest risk for exposure to HIV/AIDS (HIV), sexually transmitted infections (STIs), physical violence, and/or sexual coercion (5). These populations are often identified as women, sex workers, lesbian, gay, bisexual, transgender and queer (LGBTQ) populations, men who have sex with men (MSM), and/or youth. In some instances, barriers presented by intersecting social determinants impede the ability of these “vulnerable” populations to secure positive sexual health outcomes (6, 7). As these forces are often beyond individual control (7), community mobilization and public health intervention are often necessary to circumvent the barriers they represent.

While the combined responses of Canadian communities, public health agencies and health professionals have contributed to a decline in the diagnosis of new HIV infections (9), challenges and gaps persist. For example, the prevalence of syphilis and chlamydia has increased over the past ten years (10). Aboriginal populations are proportionally over-represented among new cases of HIV (9, p2, 11). During 2012, 42% of new HIV cases among men were attributed to heterosexual contact, while MSM contact accounted for 31% (9, p8). Despite evidence that heterosexual contact is becoming an increasingly common mode of HIV exposure for men (11, 12), this population is rarely targeted by prevention interventions, and their needs are often not reflected by healthcare and support services (12). It also remains unclear whether sexual health promotion interventions (SHPIs) regularly address the social determinants of sexual health (SDSH) (7), or incorporate personal safety and pleasurable sexuality as dimensions of sexual health (13).

Dimensions of sexual health

Sexual well-being: Issues pertaining to pleasure, the ability to make informed choices regarding sex and sexuality, one’s satisfaction with their expressed sexual orientation and gender identity (4), and the ability to access stigma-free, culturally appropriate services (5). Further, as healthy sexuality differs between individuals, populations and social contexts (4), this concept also encompasses the ‘tailoring’ of an intervention to suit the needs of a population, or a specific setting of delivery.

Biomedical sexual health (BMSH): The presence, absence, and/or transmission of disease, and issues pertaining to pregnancy and sexual/reproductive organs (1, 2).

Social determinants of sexual health (SDSH): The social, political and economic factors that influence the social contexts and lived experiences of individuals and populations (6), pertaining to sex and sexuality in particular (7, 8).

Target populations are most likely to interact with interventions tailored to meet their unique sexual health promotion needs (5, 12, 14). Therefore, it is important that interventions align with these needs, and focusing on sexual well-being and SDSH may represent a means of doing so. For example, studies report that (some) individuals living with HIV, and (some) persons in “negotiated non-monogamous” relationships diligently engage in “safer sex” practices such as the use of condoms (15, 16). Therefore, interventions that address the criminalization of HIV non-disclosure, the

Sexual health promotion interventions (SHPI) seek to effect change in the behaviour, attitudes, knowledge and experiences of individuals and communities, and/or influence social, political and economic processes that shape the environments within which individuals live their lives and experience sexuality and sexual health (17, 18).

social stigma associated with HIV status, or the attitudes of health professionals toward negotiated non-monogamous relationships may reflect the sexual health needs of these populations more accurately than one intended to encourage the use of condoms.

Evaluating intervention processes and outcomes has been identified as a critical component of successful SHPIs (19, 20). Ensuring efficacious SHPIs necessitates an understanding of not only “what parts work,” but also “why these parts work” (21). Therefore, it is necessary to ensure that evaluative measures reflect the issue targeted by the intervention and permit the identification of specific components that contribute to changes in these measures, or incongruences between intervention structure and the needs of target populations. For example, a workshop-based intervention that unintentionally incorporates binary definitions of gender or heteronormative assumptions may drive attrition among LGBTQ participants. If the proper evaluative procedures are not

in place, detrimental components may go unidentified, thereby limiting the effectiveness of this program insofar as LGBTQ participants are concerned.

This scoping review is intended to support the effective planning, implementation and evaluation of SHPIs by:

- Identifying the dimensions of sexual health that have been targeted by SHPIs since 2010
- Examining the ways in which sexual health promoters have incorporated these dimensions throughout development, implementation and evaluation of SHPIs
- Identifying the evaluative measures that are employed to monitor outcomes

Emphasis is placed on exploring how SHPIs address the dimensions of sexual health in relation to the sexual and gender diversity of their target population. This information will

Sexual and gender diversity

Self-identification is a critical component of sexual orientation and gender identity (22, 23). When sufficient information is provided in the reviewed articles (RA) distinction is drawn between gender and sexual orientation as defined by self-identification of individuals, social labeling, behaviour, and intervention protocols.

Sex: “Sex refers to a set of biological attributes in humans and animals. It is primarily associated with physical and physiological features including chromosomes, gene expression, hormone levels and function, and reproductive/sexual anatomy. Sex is usually categorized as female or male but there is variation in the biological attributes that comprise sex and how those attributes are expressed.” (24)

Gender: “Gender refers to the socially constructed roles, behaviours, expressions and

identities of girls, women, boys, men, and gender diverse people. It influences how people perceive themselves and each other, how they act and interact, and the distribution of power and resources in society. Gender is usually conceptualized as a binary (girl/woman and boy/man) yet there is considerable diversity in how individuals and groups understand, experience, and express it.” (24)

Intersex: Intersex individuals are “born with a reproductive or sexual anatomy that doesn’t seem to fit the typical definitions of female or male” (25).

Cisgender: Individuals who experience congruence between their personal gender identity and that assigned to them at birth (26).

Transgender or Trans: Individuals who experience some degree of incongruence between their personal gender identity and that assigned to them at birth (26).

Sexual and gender diversity (cont'd)

Transvestite: “This is a medical term, partially reclaimed for some people who wear clothing not normally worn by people of their birth-assigned sex, whether for reasons of sexuality, comfort, or for some other reason.” (22) Considered an offensive term in some settings, and/or when applied to transgender individuals (23); included due to its use in reviewed articles.

Non-binary: Individuals who do not identify as strictly either male or female, or whose gender identity shifts across time and between contexts. This may include ‘gender fluid’ and ‘gender non-conforming’ (22).

Heterosexual: Individuals who experience sexual attraction to, and/or engage in sexual activity with individuals of “the other” gender (22).

Homosexual: Individuals who experience sexual attraction to, and/or engage in sexual activity with individuals of “the same” gender

(22). Homosexual men and women are commonly referred to as gay and lesbian, respectively.

Bisexual: Individuals who experience sexual attraction to, and/or engage in sexual activity with individuals of more than one gender, often defined as “both men and women” (22).

Pansexual: Individuals who experience attraction to, and engage in sexual activity with individuals regardless of sex, gender or gender identity (22). Note that there is sometimes overlap between some individual expressions of bisexual and pansexual identity.

Men who have sex with men (MSM): Men who engage in sexual activity with other men regardless of how they publicly identify their sexual orientation (22).

LGBTQ: “Lesbian, gay, bisexual, transgender, queer, and/or questioning.” An umbrella term commonly used to describe individuals or populations who do not possess cisgender identity and/or heterosexual orientation.

serve to inform future SHPIs not only of strategies used to reflect the sexual health promotion needs of diverse populations, but also how sexual health promotion can aid these populations in achieving positive sexual health outcomes across multiple dimensions of sexual health.

Methods

Journal database searches were conducted through PubMed and CINAHL using MeSH terms and CINAHL headings. Search terms included “program evaluation,” “quality of health care,” “sexual health,” “reproductive health,” and “intervention studies.”¹ Only English-language articles published between 2010 and 2014 were included for review. Country of origin / intervention location were

not exclusion criteria. 191 journal articles were returned after the initial database search. This was reduced to 87 following the review of titles and abstracts, and exclusion of duplicates. Following full-text review, a further 46 articles that did not meet the inclusion criteria were removed, while the remaining 41 were retained for review.

Throughout this document, references to reviewed articles are indicated by the abbreviation ‘RA’ to differentiate their use from that of general reference material. An index of reviewed articles is included in an appendix.

¹ When the reviewed articles (RA) are referenced, they are indicated as (RA...) to differentiate their use from that of the ‘general’ reference material used to frame this review. An index of the reviewed articles can be found in the appendix to this review.

Results

The integration of biomedical sexual health and sexual well-being

Overall, the articles included in this review describe SHPIs that blended focus on BMSH, and the social, interpersonal and emotional dimensions of sexual well-being. The majority of interventions ($n=33$) (RA 1-33) were initiated with the primary goal of reducing the transmission of STIs/HIV among the target population. Of these 33 articles, four (RA 34-37) stated goals related to sexual well-being; most interventions ($n=28$) (RA 1-11, 13-20, 23-29, 31-33) either targeted issues pertaining to sexual well-being in addition to BMSH, or sought to address biomedical outcomes by acting upon specific issues related to sexual well-being. Two examples may serve to illustrate the integrated approaches:

- A number of interventions consisted of community or classroom-based workshops, which were led by either health professionals or trained peer facilitators. The central goal of many of these interventions was to reduce the transmission of STIs/HIV among the target populations (often youth, sex workers or MSM) by helping participants develop the skills and/or self-efficacy necessary to negotiate the use of contraception, or to avoid sexual activity all together (RA 16). Many of these interventions helped participants develop the communication skills required to promote effective discussion of sex, sexuality and STI/HIV prevention with partners, families, and peer groups.
- A combination of social events and workshop activities aimed at developing social networks and fostering community mobilization among sex workers (primarily in India) for the purpose of increasing their ability to negotiate payment, sexual services, and contraception use with clients, as well as increasing their

awareness of transmission risk factors, the availability of sexual health services, and their ability to access these services.

The examples illustrate that it is possible to meet BMSH-oriented goals through fostering sexual well-being. While these interventions did not universally incorporate or promote sexual pleasure (for example Graves et al. promoted abstinence over the use of contraception), they did approach sexual behaviour as a social practice that occurs within a specific social context (27). Instead of promoting the use of condoms or the uptake of testing services, these interventions sought to integrate condom use within the sexual networks and/or practices of participants, or connect participants with sexual health services within their communities.

Social determinants of sexual health

Twenty-two articles described objectives related to influencing at least one SDSH (RA 1, 3, 6, 8, 9, 13, 16-18, 22, 24, 25, 27, 28, 32-34, 36, 38-41). The SDSH targeted most often by interventions included gender roles, social stigma / exclusion, and the quality of sexual health service delivery. While these factors were not always identified as SDSH, they were targeted based on their empirically observed relationship with sexual health outcomes. Linkages were frequently made between the SDSH and sexual well-being (particularly regarding the ability to negotiate condom usage and avoid exposure to sexual violence) and BMSH, insofar as these factors were seen as influencing conditions which support the transmission of STIs/HIV and limit the efficacy of interventions focused on individual behaviour change.

Gender

Twenty-two interventions sought to address issues pertaining to gender roles (RA 5, 6, 8, 9, 13, 14, 16-18, 20, 21, 23-25, 27-29, 31, 34, 37, 40, 41). Inter-

ventions targeted either male or female populations exclusively, divided participants into homogeneous groups, or assigned participants to heterogeneous groups at random. Homogeneous groups were thought to encourage greater openness among participants, and facilitate meaningful interactions, while no explanation was provided regarding the use of heterogeneous groups. The most common activity among these interventions was facilitated workshops or discussion groups (RA 6, 9, 13, 14, 16-18, 20, 21, 23-25, 27-29, 31, 37), eight of which were led (at least in part) by peer facilitators (RA 17, 21, 23-25, 27-29). These workshops focused on exploring the relationship between gender roles and sexual health outcomes. For example, some discussed how social pressures for men (both heterosexual and MSM) to engage in sexual activity with numerous partners could increase risk of exposure to STIs/HIV.

Three of these studies were the only instances where heterosexual men were the exclusive target population (RA 14, 25, 28). All three were conducted in the United States, and each was tailored to suit a specific racial population: one involved African-American men (RA 14), the other two Latino men (RA 25, 28). Each of these interventions employed workshop formats and two included peer-led education and recruitment strategies (RA 25, 28). These interventions were primarily concerned with increasing the uptake of STI/HIV testing among participants, and sought to change this behaviour by outlining empirically established relationships between culturally prevalent male gender roles, BMSH, and sexual well-being. In all cases, intervention sessions were tailored to reflect the participants' social contexts, and efforts were made to address specific concerns voiced by the participants. When compared to interventions that targeted both men and women, these three interventions reflected a higher expenditure of effort regarding the development of methods, materials and mea-

asures that specifically addressed the BMSH and sexual well-being needs of heterosexual men.

It should be noted that many of these interventions did not explicitly distinguish sex (biological differences) from gender. Further, it was often unclear how the gender identity of participants was identified, or whether transgender individuals were included as participants. Only four reports mentioned transgender individuals: one intervention explicitly addressed the healthcare needs of transgender individuals (RA 39) while another included representatives of this population during formative work (RA 20). One paper identified the number of transgender participants when reporting demographic data (RA 18), while another identified a number of participants as transvestites (RA 22). Other non-binary individuals, intersex individuals, and lesbian, bisexual and/or queer women were not explicitly targeted in any of the interventions. This is discussed again during the summary of major findings.

Social stigma, exclusion and support networks

Interventions that expressed goals pertaining to the reduction of social stigma targeted female sex workers in India (RA 8, 24, 27, 34, 41) and Brazil (RA 22), and 'newcomers' to the province of Ontario as well as HIV positive MSM (RA 1). These interventions utilized facilitated workshop sessions to dispel myths pertaining to sex work and/or HIV, and/or social events intended to foster the development of personal and professional ties between intervention participants and other community members. The Avahan Initiative interventions (RA 8, 24, 27, 34, 41) also sought to increase female sex workers' ability to initiate community-level mobilization as a means of shaping their working environments, increasing legal literacy, initiating education and support services, and increasing the accessibility of existing health care services. Further, sex work was not constructed as being inher-

ently detrimental to positive outcomes, rather, as a specific context within which BMSH and sexual well-being take shape. Instead of encouraging participants to leave sex work, these interventions sought to reduce the social stigma and potential hazards (i.e. physical violence, STI/HIV exposure) associated with sex work.

Thirteen interventions sought to develop social support networks among participants (RA 8, 13, 17, 22, 24, 25, 28, 34, 41), help participants integrate into new social circles (RA 1), or increase their ability to obtain support through existing social networks through the development of communication skills (RA 6, 16, 25, 28). Of these interventions, the ones which made the strongest connections between sexual well-being and the SDSH were those which brought participants together through social events (RA 8, 22, 34, 13, 17). Interventions intended to stimulate community mobilization among sex workers also sought to strengthen social support networks among participants; these two goals were presented as being closely interrelated (RA 8, 22, 24, 34, 41).

Incorporation of dimensions of sexual health during evaluation

Development: formative evaluation, pilot studies and needs assessments

Thirteen articles described pilot studies or needs-assessments that were conducted prior to the implementation of an intervention (RA 4, 13, 14, 19, 20, 22, 23, 25, 26, 29, 30, 32, 40). Formative work was initiated to assess the viability of the intervention format and/or the receptivity of the target population. Three sought to adapt methods from previous interventions to suit the sexual well-being needs of a new target population (RA 13, 23, 25). Six of these interventions included members of the target population as partners throughout development: four

included community advisory committees (RA 4, 13, 20, 23), one was described as being community based (RA 29) and another indicated that connections between the intervention team and community members were developed during the course of the intervention (RA 22). For evaluative purposes, participants took part in abbreviated intervention sessions run as trials, or reviewed intervention protocols and/or materials. Feedback was provided through focus group interviews or quantitative surveys. In both cases, questions pertained to participants' perceptions of the program, enjoyment, and perceived usefulness and relevance of the material covered.

Process evaluation

Seven articles explicitly identified an evaluative procedure that was embedded as a component of the intervention itself (RA 4, 7, 13, 20, 23, 24, 28). These embedded evaluations utilized survey (RA 7, 24, 28), and/or focus group or one-on-one interviews (RA 4, 13, 20, 23) to assess participants' perceptions of the intervention (e.g., did they enjoy participating, did they find the material relevant, did they feel that they learned things that would help them protect sexual health), to identify where programmatic changes were necessary, and to determine how to implement these changes. Two of these reports also described the specific changes made on the basis of this feedback, although they did not provide data to identify whether these changes resulted in increased program efficacy (RA 13, 23).

Assessment of outcomes and evaluation

Twenty-two articles did not specify their evaluative approach, although in practice they resembled a summative evaluation with data being collected at discrete points during the intervention, or at the conclusion of the intervention for the purpose of monitoring outcomes and retrospectively assessing program

components (28) (RA 2, 6, 11, 15-19, 21,22, 25, 27, 29, 31, 33,34, 36-39, 40, 41). Another four articles explicitly identified summative or outcome evaluations (RA 1, 3-5, 9, 12). These interventions employed long-term follow-up measures to assess immediate effects on the knowledge, behaviour, attitudes and/or experience of participants, and the stability of these changes over time. While many interventions targeted issues pertaining to both BMSH and sexual well-being, the diversity of measures employed to assess outcomes tended to shift towards monitoring of BMSH-based outcomes through epidemiological statistics such as the incidence of STIs/HIV within a given area or population. Interventions aiming to achieve this effect through increased use of condoms often employed measures of self-reported condom use and perceived competency regarding the use of condoms.

It is questionable whether self-reported measures of attitudes or behaviour pertaining to contraception are capable of accurately assessing the long-term improvement in sexual well-being. For example, knowing that a participant uses condoms on a regular basis and feels competent in doing so does not provide insight into whether they are engaging in consensual, transactional or survival sex (29). Assessing long-term changes in sexual well-being necessitates the utilization of a broad range of measures that elucidate the contexts within which behaviours occur or attitudes are displayed. Further, including measures of participants' perceptions regarding their sexual activities is also important, as is ensuring that these measures reflect the preferences and needs of the population in question. Sexual well-being is both personally and contextually situated, and what works for one individual may be detrimental to another (4).

For example, Adams et al. (RA 1) and Graves et al. (RA 16) both sought to bolster the social support networks of participants as a means of

promoting sexual well-being. When measuring outcomes, Adams et al. employed psychometric measures of loneliness in addition to assessing frequency of condom use during sexual activity. Graves et al. (RA 16) measured neither the frequency of sexual activity or condom use post-intervention, instead focusing on changes in the self-reported quality of communication between participants and their parents, and perceptions regarding social pressures to have sex. Both interventions included outcome measures capable of illustrating changes in the availability and quality of social support, which reflects the underlying goals of these two interventions. In the case of Graves et al, this was done without assessing changes in sexual behaviour, while in the case of Adams et al, this was done in addition to assessing behaviour change. In the former, increasing condom use was a stated goal, while in the latter it was not.

Control groups and alternative sources of comparison data

Rather than use control groups, some interventions that targeted a wide geographical area (such as the Avahan Initiative interventions: RA 8, 22, 24, 34, 41) employed alternative methods of obtaining comparison data. In three reports, data was drawn from large-scale surveys and epidemiologic surveillance projects conducted by academic and government partners (RA 8, 34, 41). Employing externally collected data in addition to program-specific data permitted a means of assessing program impact without including a control group. Surveillance data was used to compare the prevalence of STIs/HIV between members of the target population living in regions covered by the intervention, and those living in regions not covered by the intervention. The other two Avahan reports describe the use of intervention-specific surveys that contained questions pertaining to frequency of exposure to the intervention in question (i.e. number of interactions) and

Summary of Main Findings

Many interventions target a combination of issues related to sexual well-being, BMSH and the SDSH

WHO's definition of sexual health was not directly referenced (3), nor were the prescribed indicators (4) of individual dimensions (BMSH, sexual well-being, SDSH). However, each of these dimensions was represented among the reviewed articles. Further, these dimensions were often addressed in combination. In many cases, the state of one dimension (BMSH) was influenced through activities targeting another dimension (sexual well-being and/or SDSH). For example, an intervention could seek to decrease the prevalence or transmission of STIs/HIV within a given region (BMSH) by conducting activities that increase participants' confidence in the use of condoms (sexual well-being), while also providing condoms free of charge in publicly accessible locations.

The high number of interventions targeting factors associated with BMSH is not surprising, as these issues constitute the traditional focus of SHPIs (30). However, the high level of attention to sexual well-being among these interventions indicates that many sexual health promoters are attending to the contextually situated nature of sexuality. Given that failure to consider the contextual and symbolic nature of sexuality has been identified as a limitation of SHPIs (27), this represents a development within the field. Further, many interventions also addressed the SDSH, which represents the amelioration of another acknowledged gap (7).

Many interventions do not explicitly outline their treatment of sex, gender and gender diversity

More than half of the interventions addressed risks to BMSH or sexual well-being associated with culturally prevalent gender roles, either directly by engaging participants in an examination of how gender roles influence their experience, or indirectly by positioning gender roles as being components of a specific 'risk factor' (e.g. female sex work, condom use/non-use). However, the majority of these reports did not indicate how participants were categorized as 'male' or 'female.' While participants are likely to have been categorized based on self-presentation, there is insufficient information to determine whether or not this was so.

Reviewed reports rarely indicated whether individuals with transgender or non-binary identities were excluded from participation, or if included, how they were assigned to groups. Nor was it possible to determine whether this was done intentionally or as the result of an oversight. For example, rather than failing to consider these populations, an intervention may have included but not identified them in order to preserve confidentiality. Alternatively, transgender individuals may have been assigned based on self-presentation of gender or the interpretation of a facilitator. Another possibility is that transgender and/or non-binary individuals did not seek to participate at all due to the wording of inclusion criteria on recruitment materials, and/or the perception that an intervention draws on binary definitions of gender.

Given that gender is a key social determinant of health (7, 8), sexual health promoters should take care to ensure that this concept is explicitly defined and that the inclusion/exclusion and categorization of participants is described. Pragmatically speaking, gender

identity represents an important methodological consideration. Targeting specific populations for inclusion can promote effective use of limited resources. Ethically, requiring transgender and non-binary individuals to disclose their identity may expose them to social stigma or violence (5). However, transgender individuals have unique sexual health needs across all three dimensions, as do other members of LGBTQ populations (31, 32). While some of these needs may be addressed by interventions that target populations based on self-presentation of male or female gender, many would not (26).

Interventions should be designed and implemented with integrated evaluation methods

Many articles did not specify the evaluative format (i.e. summative or process evaluation) employed to assess intervention outcomes. Instead, pre- and post-test designs were often used to assess immediate intervention impact, and longitudinal designs to assess the stability of these effects. These articles analyzed data only at discrete points, and did not indicate that changes were made based on findings. Many articles provided minimal description of how evaluative procedures were selected for a given intervention, or how they were integrated into intervention procedures. This aligns with findings from previous reviews that have examined the evaluative components of sexual and public health promotion interventions (30, 33).

The reports describing process evaluations provided the most detailed description of evaluative procedures employed during the intervention. These reports discussed not only the methods used to collect and analyze data, but also the ways in which the evaluation facilitated adaptation of intervention activities, materials and theoretical frameworks. Given that the purpose of a process evaluation is to

explore program components in action, identify potential barriers, and implement steps to address these barriers (21), it is not surprising that these reports provided extensive detail. Further, process data can be useful when interpreting results, as they serve to elucidate the context within which intervention activities occur (34, 21). As this information can be used to tailor interventions to the unique sexual health promotion needs of specific populations process evaluations may be particularly useful when targeting 'at-risk' populations such as LGBTQ youth, or populations that have been traditionally underserved by SHPIs, such as heterosexual men and transgender or non-binary individuals.

Interventions should incorporate outcome measures that permit observation of changes in sexual well-being and the SDSH

While many interventions demonstrated considerable attention to sexual well-being and the SDSH in addition to BMSH, a number of interventions relied primarily on behavioural and epidemiological data to measure program outcomes rather than incorporating measures capable of illustrating changes in the subjective components of sexual well-being (27). Interventions that targeted the SDSH did not always include measures capable of illuminating higher-order social or political change, or effects that extended beyond the immediate experience of the participants. When data was provided to assess these changes, they often consisted of epidemiological data (again), or the uptake rates for STI/HIV testing and sexual health care services.

For these reasons, it is difficult to compare the application of evaluative measures or effect sizes between interventions, or to examine outcomes associated with interventions targeting different dimensions of sexual health.

For example, it is difficult to assess which intervention procedures were most effective at promoting the development of social support networks. While Adam et al. (RA 1) employed measures of self-reported loneliness and Graves et al. (RA 16) measured participants' perceived quality of communication with parents, these two measures are not necessarily comparable. Further, comparing the effects of these interventions with those of the Avahan interventions is not possible, as the Avahan reports included in this review did not provide measures related to the size of social networks.

In the future, it may be useful to include evaluation and outcome measures that permit observation of changes in sexual well-being and the subjective experience of participants (for example, 'perceived exposure to stigma'). When assessing changes related to the SDSH, it may prove useful to draw on data from the social networks of participants. For example, collecting data from sexual partners of heterosexual-identified men could help to determine the efficacy of interventions aimed at addressing the health impact of masculine gender roles, as these women may have unique insight into their partners' sexual well-being, or be able to describe changes that impact their own sexual well-being.

Conclusions

Sexual health promotion initiatives have expanded in terms of complexity, diversity of methods, and scope of coverage (both geographically and in terms of populations). While progress has been made in some areas, and individual interventions report positive results, STI/HIV transmission remains a pressing concern both within Canada and elsewhere in the world.

Heterosexual men were represented in only three of the reviewed articles, although this is not surprising as this population has received little attention in research into HIV prevention or support services (12, 14) despite representing an increasing proportion of Canadians living with HIV (9). This knowledge gap has motivated national agencies to initiate targeted research funding calls (35), and sexual health promoters to call for increased attention to this population (12, 13). None of the interventions included in this review explicitly targeted individuals with transgender or non-binary identities, or lesbian, bisexual, queer, and/or questioning women. This is particularly concerning, as data suggest a lack of trans-inclusive sexual healthcare services in some parts of Canada (26), knowledge gaps pertaining to the needs of these populations, and a lack of targeted funding to promote research to address these gaps (36). Similarly, none of the reviews mentioned intersex individuals, although no data could be identified regarding the health status or service utilization of this population.

Despite the gaps identified, the methods and measures outlined in this scoping review represent a useful 'tool box' for sexual health promoters seeking to target these populations, while the challenges identified represent factors that should be taken into consideration. A lack of knowledge regarding the sexual health promotion needs of these populations underscores the value of needs assessments, pilot studies, and integrated formative and/or process evaluations of current interventions, as well as the direct, meaningful engagement of community members. Including these components could provide insights into the key needs of the population in question, identify contextual factors that could limit or facilitate the attainment of intervention objectives, and support selection of measures that reflect these objectives and permit observation of intervention impact over time.

Empowering communities (17, 18) and targeting risk environments (37) represent foundational goals within the field of health promotion. Many of the reviewed articles reflected these goals, although they were not always the central focus of the intervention. While it is beyond the scope of this review to comment on specific effect sizes associated with these trends, it remains that numerous procedural benefits were identified, including increased receptivity of participants, and effective utilization of limited resources. Quantifying this relationship could provide valuable information pertaining to specific benefits of SDSH and sexual well-being oriented approaches. However, this would be difficult given the issues identified regarding outcome measures; this further highlights the need to develop interventions with integrated evaluation procedures and appropriate measures.

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