THEORIES AND MODELS OF BEHAVIOURAL CHANGE

This chapter is broken into 4 sections that cover the most frequently used theories and models of behavioural change from varied perspectives (see Table 1). It begins with theories that focus on the individual's psychological process, such as attitudes and beliefs, then goes into theories emphasizing social relationships, and ends with structural factors in explaining human behaviour. This separation is artificial as there is inevitable overlap in categories. It might therefore be useful, as well, to see the theories as a continuum of models moving from the strictly individually-centered to the macro-level of structural and environmentally focused.

(A) FOCUS ON INDIVIDUALS

As HIV transmission is propelled by behavioural factors, theories about how individuals change their behaviour have provided the foundation for most HIV prevention efforts worldwide. These theories have been generally created using cognitive-attitudinal and affective-motivational constructs (Kalichman, 1998). Nearly all the psychosocial theories originated in the West but have been used for AIDS internationally with mixed results. Only one of the psychosocial models discussed below, the AIDS risk reduction model, was developed specifically for AIDS.

Psychosocial models of behavioural risk can be categorized into 3 major groups:

those predicting risk behaviour,
those predicting behavioural change and
those predicting maintenance of safe behaviour.

Models of individual behavioural change generally focus on stages that individuals pass through while trying to change behaviour. These theories and models generally do not consider the interaction of social, cultural and environmental issues as independent of individual factors (Auerbach, 1994). Although each theory is built on different assumptions they all state that behavioural changes occur by altering potential risk-producing situations and social relationships, risk perceptions, attitudes, self- efficacy beliefs, intentions and outcome expectations (Kalichman, 1997).

Central to HIV prevention interventions based on psychological- behavioural theory is the practice of targeted risk-reduction skills. These skills are generally passed on to individuals in a process consisting of instruction, modeling, practice and feedback (Kalichman, 1997). The psychological theories and models that have been most instrumental in the design and development of HIV prevention interventions are briefly described below.

Health belief model

The Health belief model, developed in the 1950s, holds that health behaviour is a function of individual's socio-demographic characteristics, knowledge and attitudes. According to this model, a person must hold the following beliefs in order to be able to change behaviour:

- perceived susceptibility to a particular health problem (" am I at risk for HIV?")
- perceived seriousness of the condition (" how serious is AIDS; how hard would my life be if I got it?")
- belief in effectiveness of the new behaviour (" condoms are effective against HIV transmission")
- cues to action (" witnessing the death or illness of a close friend or relative due to AIDS")
- perceived benefits of preventive action (" if I start using condoms, I can avoid HIV infection")
- barriers to taking action (" I don't like using condoms").

In this model, promoting action to change behaviour includes changing individual personal beliefs. Individuals weigh the benefits against the perceived costs and barriers to change. For change to occur, benefits must outweigh costs. With respect to HIV, interventions often target perception of risk, beliefs in severity of AIDS (" there is no cure"), beliefs in effectiveness of condom use and benefits of condom use or delaying onset of sexual relations.

Social cognitive (or learning) theory

The premise of the social cognitive or social learning theory (SCT) states that new behaviours are learned either by modeling the behaviour of others or by direct experience. Social learning theory focuses on the important roles played by vicarious, symbolic, and self-regulatory processes in psychological functioning and looks at human behaviour as a continuous interaction between cognitive, behavioural and environmental determinants (Bandura, 1977). Central tenets of the social cognitive theory are:

- self-efficacy - the belief in the ability to implement the necessary behaviour (" I know I can insist on condom use with my partner")

- outcome expectancies - beliefs about outcomes such as the belief that using condoms correctly will prevent HIV infection.

Programmes built on SCT integrate information and attitudinal change to enhance motivation and reinforcement of risk reduction skills and self-efficacy. Specifically, activities focus on the experience people have in talking to their partners about sex and condom use, the positive and negative beliefs about adopting condom use, and the types of environmental barriers to risk reduction. A meta-analysis of HIV risk-reduction interventions that used SCT in controlled experimental trials found that 12

published interventions with mostly uninfected individuals all obtained positive changes in risk behaviour, with a medium effect size meeting or exceeding effects of other theory-based behavioural change interventions (Greenberg, 1996).

Theory of reasoned action

The theory of reasoned action, advanced in the mid-1960s by Fishbein and Ajzen, is based on the assumptions that human beings are usually quite rational and make systematic use of the information available to them. People consider the implications of their actions in a given context at a given time before they decide to engage or not engage in a given behaviour, and that most actions of social relevance are under volitional control (Ajzen, 1980). The theory of reasoned action is conceptually similar to the health belief model but adds the construct of behavioural intention as a determinant of health behaviour. Both theories focus on perceived susceptibility, perceived benefits and constraints to changing behaviour. The theory of reasoned action specifically focuses on the role of personal intention in determining whether a behaviour will occur. A person's intention is a function of 2 basic determinants:

- attitude (toward the behaviour), and
- 'subjective norms', i.e. social influence.

'Normative' beliefs play a central role in the theory, and generally focus on what an individual believes other people, especially influential people, would expect him/her to do.

For example, for a person to start using condoms, his/her attitude might be "having sex with condoms is just as good as having sex without condoms'" and subjective norms (or the normative belief) could be "most of my peers are using condoms, they would expect me to do so as well". Interventions using this theory to guide activities focus on attitudes about risk-reduction, response to social norms, and intentions to change risky behaviours.

Stages of change model

This model, developed early in the 1990s specifically for smoking cessation by Prochaska, DiClemente and colleagues, posits 6 stages that individuals or groups pass through when changing behaviour: pre-contemplation, contemplation, preparation, action, maintenance and relapse. With respect to condom use, the stages could be described as:

- has not considered using condoms (pre-contemplation)
- recognizes the need to use condoms (contemplation)
- thinking about using condoms in the next months (preparation)
- using condoms consistently for less than 6 months (action)
- using condoms consistently for 6 months or more (maintenance)

- slipping-up with respect to condom use (relapse)

In order for an intervention to be successful it must target the appropriate stage of the individual or group. For example, awareness raising between stage one and two. Groups and individuals pass through all stages, but do not necessarily move in a linear fashion (Prochaska, 1992). As with previous theories, the stages of change model emphasizes the importance of cognitive processes and uses Bandura's concept of self-efficacy. Movement between stages depends on cognitive-behavioural processes.

Among others, the CDC has used the Stages of Change model in its AIDS Community Demonstration Projects for marginal populations in the US and in a research project aiming to change women's sexual behaviour with their main partners (Galavotti 1998).

AIDS risk reduction model

The AIDS risk reduction model, developed in 1990 (Catania et al), uses constructs from the health belief model, the social cognitive theory and the diffusion of innovation theory (a social model described below), to describe the process individuals (or groups) pass through while changing behaviour regarding HIV risk. The model identifies 3 stages involved in reducing risk for HIV transmission, including:

- behaviour labelling
- commitment to change
- taking action.

In the first stage, knowledge about HIV transmission, perceived HIV susceptibility, as well as aversive emotions influence how people perceive AIDS. The commitment stage is shaped by four factors: perceptions of enjoyment, self-efficacy, social norms and aversive emotions. Again, in the last stage, aversive emotions, sexual communication, help-seeking behaviour and social factors affect people's decision-making process (Catania, 1990).

Programmes that use the AIDS risk reduction model focus on:

- clients' risk assessment
- influencing the decision to reduce risk through perceptions of enjoyment or self-efficacy
- clients' support to enact the change (access to condoms, social support).

Conclusion

These psychosocial theories and constructs were very useful early in the epidemic to identify individual behaviours associated with higher rates of

HIV transmission. They continue to provide important guidance to interventions in formulating design and evaluation with diverse populations in a wide variety of settings. Theories also help in understanding study results. It is important, however, to pay particular attention to these theories across cultures and genders as nearly all the individually based theories were developed in the West with little focus on the role of gender. Although numerous studies have proven the usefulness of these theories, it has become increasingly evident that alone they do not entirely explain why some populations have higher HIV prevalence than others, nor the complex interactions between contextual factors and individual behaviour.

(B) SOCIAL THEORIES AND MODELS

Overemphasis on individual behavioural change with a focus on the cognitive level has undermined the overall research capacity to understand the complexity of HIV transmission and control. Focus only on the individual psychological process ignores the interactive relationship of behaviour in its social, cultural, and economic dimension thereby missing the possibility to fully understand crucial determinants of behaviour. Aggleton (1996) points out that, in many cases, motivations for sex are complicated, unclear and may not be thought through in advance.

Societal norms, religious criteria, and gender-power relations infuse meaning into behaviour, enabling positive or negative changes. A main difference between individual and social models is that the latter aim at changes at the community level.

Sociological theories assert that society is broken up into smaller subcultures and it is the members of one's immediate surroundings, the peer group that some-one most identifies with, that has the most significant influence on an individual's behaviour. According to this perspective, effective prevention efforts, especially in vulnerable communities that do not have the larger societal support, will depend on the development of strategies that can enlist community mobilization to modify the norms of this peer net-work to support positive changes in behaviour (Kelly, 1995). A greater interest in the context surrounding individual behaviour led to increased numbers of interventions guided by the following theories and models.

Diffusion of innovation theory

The diffusion of innovation theory (Rogers, 1983) describes the process of how an idea is disseminated throughout a community. According to the theory, there are four essential elements: the innovation, its communication, the social system and time. People's exposure to a new idea, which takes place within a social network or through the media, will determine the rate at which various people adopt a new behaviour. The theory posits that people are most likely to adopt new behaviours based on

favorable evaluations of the idea communicated to them by other members whom they respect (Kegeles, 1996). Kelly explains that when the diffusion theory is applied to HIV risk reduction, normative and risk behavioural changes can be initiated when enough key opinion leaders adopt and endorse behavioural changes, influence others to do the same and eventually diffuse the new norm widely within peer networks. When beneficial prevention beliefs are instilled and widely held within one's immediate social network, individuals' behaviour is more likely to be consistent with the perceived social norms (Kelly, 1995).

Interventions using this theory generally investigate the best method to disperse messages within a community and who are the leaders able to act as role models to change community norms.

Social influence or social inoculation model

This educational model is based on the concept that young people engage in behaviours including early sexual activity partly because of general societal influences, but more specifically from their peers (Howard 1990). The model suggests exposing young people to social pressures while teaching them to examine and develop skills to deal with these pressures. The model often relies on role models such as teenagers slightly older than programme participants to present factual information, identify pressures, role-play responses to pressures, teach assertiveness skills and discuss problem situations (Howard, 1990). Social influence model has been used to reduce smoking among young people as well.

Social network theory

The Social Network Theory looks at social behaviour not as an individual phenomenon but through relationships, and appreciates that HIV risk behaviour, unlike many other health behaviours, directly involves 2 people (Morris, 1997). With respect to sexual relationships, social networks focus on both the impact of selective mixing (i.e. how different people choose who they mix with), and the variations in partnership patterns (length of partnership and overlap). Although the intricacies of relations and communication within the couple, the smallest unit of the social network, is critical to the understanding of HIV transmission in this model, the scope and character of one's broader social network, those who serve as reference people, and who sanction behaviour, are key to comprehending individual risk behaviour (Auerbach, 1994). In other words, social norms are best understood at the level of social networks.

One application of the Sexual Network Theory for HIV prevention is the concept of 'bridge populations' that form a link between high and low prevalence groups (Morris, 1997). In Thailand, men who have both commercial and non-commercial sex partners form an important bridge

population, which was an integral aspect of the spread of HIV in Thailand. Programmes using this theory to guide them would investigate:

- the composition of important social networks in a community;
- the attitudes of the social networks towards safer sex;
- whether the social network provides the necessary support to change behaviour;
- whether particular people within the social network are at particularly high risk and may put many others at risk.

Although few network-based interventions have been tried, the concept has proven complementary to individual-based theories for the design of prevention programmes by focusing on the partnership as well as the larger social group. Analysis of network mixing provides the means to see efficiency of transmission and effective points of intervention.

Theory of gender and power

Unlike the psychosocial theories which are essentially gender-blind, the theory of gender and power is a social structural theory addressing the wider social and environmental issues surrounding women, such as distribution of power and authority, affective influences, and gender-specific norms within heterosexual relationships (Connell, 1987). Using this theory to guide intervention development with women in heterosexual relationships can help investigate how a woman's commitment to a relationship and lack of power can influence her risk reduction choices (DiClemente, 1995).

Programmes using the theory of gender and power would assess the impact of structurally determined gender differences on interpersonal sexual relationships (perceptions of socially prescribed gender relations).

Conclusion

Social theories and models see individual behaviours embedded in their social and cultural context. Instead of focusing on psycho-logical processes as the basis for sexual behaviour, it tends to be social norms, relationships and gender imbalances that create the meaning and determinants of behaviour and behavioural change. These theories dictate that efforts to effect change at the community level will have the most significant impact on individuals who are contemplating changes and on those who have made changes but need support to sustain those changes. Social theories have been increasingly used with populations especially vulnerable to effects of partners and peers. These theories and models have been developed in the West and few examples have tested their relevance in developing countries.

(C) STRUCTURAL AND ENVIRONMENTAL

Determinants of sexual behaviour can be seen as a function not only of individual and social but of structural and environmental factors as well (Caraël, 1997, Sweat, 1995, Tawil, 1995). These factors include civil and organizational elements as well as policy and economic issues.

Theory for individual and social change or empowerment model

This theory asserts that social change happens through dialogue to build up a critical perception of the social, cultural, political and economic forces that structure reality and by taking action against forces that are oppressive (Parker, 1996). In other words, empowerment should increase problem solving in a participatory fashion, and should enable participants to understand the personal, social, economic and political forces in their lives in order to take action to improve their situations (Israel, 1994). Werner (1997) states that, " empowerment is the process by which disadvantaged people work together to take control of the factors that determine their health and their lives". For this to happen he explains that feelings of powerlessness, which can come from lack of skills and confidence, have to be cast off. Although empowerment can only come from the group itself, enabling empowerment is possible by facilitating its determinants. The common struggle against gender or ethnic oppression, economic exploitation, political repression or foreign intervention is what builds necessary confidence (Werner, 1997).

A distinction is made between personal, organizational and community empowerment. Personal empowerment has to do with the psychological processes and is similar to self-efficacy and self esteem. Organizational empowerment encompasses both the processes that enable individuals to increase their control within the organization and the organization to influence policies and decisions in the community. An empowered community uses the skills and resources of individuals and organizations to meet respective needs (Israel, 1994).
Interventions using empowerment approaches must consider key concepts such as beliefs and practices that are linked to interpersonal, organizational and community change. Intervention activities can address issues at the community and organizational level such as central needs the community identifies, and any history community organizing among community members. The theory would prescribe including participants in the planning and implementation of activities.

Social ecological model for health promotion

According to this model, patterned behaviour is the outcome of interest and behaviour is viewed as being determined by the following:

- intrapersonal factors - characteristics of the individual such as knowledge, attitudes, behaviour, self-concept, skills;

- interpersonal processes and primary groups formal and informal social network and social support systems, including the family, work group and friendships;
- institutional factors - social institutions with organizational characteristics and formal and informal rules and regulations for operation;
- *community factors - relationships among organizations, institutions and informal networks within defined boundaries;*
- public policy - local, state and national laws and policies (McLeroy, 1988).

Intervention strategies range from skills development at the intra-personal level to mass media and regulatory changes at other levels (Laver, 1998). The theory acknowledges the importance of the interplay between the individual and the environment, and considers multi-level influences on unhealthy behaviour (Choi, 1998). In this manner, the importance of the individual is de-emphasized in the process of behavioural change.

Socioeconomic factors

Several studies have shown that economic factors have a strong influence on individual sexual behaviour, mostly through poverty and underemployment. Cross-nationally, countries with the lowest standards of living are also the ones with the highest HIV incidence (Sweat, 1995; Tawil, 1995). Within both rich and poor countries, poverty is associated with HIV, and HIV intensifies poverty (Sweat, 1995).
The proposed mechanisms for this relationship are: non-cohabitation between young married couples which can arise from critical economic situations forcing urban migration, seasonal work and truck driving, sex work, civil disturbances and war. Civil disturbance and war lead to displaced and refugee populations who not only lose their social and familial support systems but become highly vulnerable to HIV owing to intense social and economic strain in a alien culture (Caraël, 1997). In such situations, HIV concerns take a very low priority in a risk hierarchy, and any previous or planned efforts for the control of HIV transmission are disrupted, if not destroyed.

Conclusion

Community level theories, models or factors see human behaviour as a function not only of the individual or his or her immediate social relationships, but as depending on the community, organization and the political and economic environment as well. They are multidimensional with an emphasis on linking the individual to the surrounding larger environmental systems. Interventions using this approach, thus, target organizations, communities and policy.

(D) CONSTRUCTS ALONE AND TRANSTHEORETICAL MODELS

Perception of risk construct

As behavioural interventions are designed to reduce higher risk behaviours, perception of risk is a construct in most individual psychosocial behavioural models and some interventions use the construct without applying any of the models in their entirety. Increasing perception of risk has been shown numerous times to increase HIV protective behaviour (Stevens, 1998). Yet most behavioural models measure risk as individually determined which might not be relevant in many contexts. Not surprisingly, many women often perceive themselves at risk not because of their own behaviour, but because of the past or current, perceived or real behaviour of their sexual partner. In addition, perception of risk as a predictor of future behavioural change has further complexities in circumstances where individuals report high perception of risk and high self-reported behavioural change. This situation may demonstrate limited realistic further behavioural change options, or feelings of fatalism.

Sexual communication

Sexual communication has been noted in various situations to be predictive of condom use. Among incarcerated Latino adolescents with high numbers of sexual partners in the USA, it was reported that youth who communicated with their sex partners about each others' sexual history were significantly more likely to use condoms (Rickman, 1994). In central Africa condom use was more likely if women reported discussion with their sexual partner about STDs or condoms (van der Straten, 1995). Sexual communication has also been reported as a means to self-efficacy among heterosexuals in Holland (Buunk, 1998).