Chapter 9
Lifestyle Intervention at School: A Review of Effectiveness, Barriers, Facilitators, and Strategies

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Introduction

In contemporary society, proliferation in the number of choices is making adolescent health and well-being increasingly vulnerable. While involvement in risk behaviours (i.e., smoking, drug abuse, violence, unsafe sexual behaviours etc.), sedentary leisure, fast food consumption is increasing, the intake of fruits and vegetables, involvement in physical activity, participation in sports and games is steadily decreasing amongst youngsters (Sidoti et al. 2010; Singh and Misra 2012). According to an updated data on global adolescent health risks by WHO (2014), fewer than one in every four adolescents meet the recommended guidelines for physical activity, i.e., 60 min of moderate to vigorous physical activity daily. An estimated 180 adolescents die each day due to interpersonal violence and one in 10 younger adolescents use tobacco. An estimated 1.3 million premature but preventable mortality is related with a cluster of lifestyle behaviours (i.e., smoking, alcohol, physical activity, inappropriate diet, interpersonal violence, etc.) initiated at a young age (WHO 2014). Prevalence of obesity among Indian adolescents has increased from 9.9 in 2001 to 19.9 in 2012; higher in both boys (3–15.1%) and girls (5.3–13.3%) indicating the early onset of obesity (Sunitha and Gururaj 2014). Increase in irregular sleep may have linkages with relational problems, difficulties in school learning, low academic performance, suicidal ideation, anxiety and mood disorders (Singh 2013). Earlier participation in sexual intercourse may place adolescents at higher risks for a variety of undesirable physiological outcomes, including unintended pregnancy, sexually transmitted diseases, and HIV/AIDS, obstetric fistulae and psychosocial effects, leading to problem behaviour and substance use, and poor school performance (Sunitha and Gururaj 2014). Substance

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abuse may lead to several health complications short term (i.e., respiratory tract infections, decline in physical fitness, low psychological well-being, depressive symptoms etc.) and long term (i.e., increased risk of Coronary Heart Diseases or CHD, cancers of lung, larynx, oesophagus, mouth, bladder and cervix, stroke) in adulthood (Dalal and Misra 2006).

However, despite several assertions, prioritization by governments and arguments for its need in younger age, and establishment of many unhealthy lifestyle habits, multiple chronic concerns and conditions in adulthood (Thirlaway and Upton 2009), LSI has been less attempted and used in schools to cater to the needs of adolescent health due to several difficulties and challenges (Singh and Misra 2012). In particular, health researchers and professionals often get intrigued with critical questions in any attempt for LSI in a school: they become anxious to know about the adolescent health and well-being-associated relevant outcomes of LSI in schools; the barriers and facilitators need to be known for intervention in adolescent lifestyle; how to overcome these barriers and facilitate positive change in adolescent lifestyle; and the theoretical frameworks that can be envisaged to achieve goals for lifestyle change.

Against this backdrop, this chapter aims at providing evidence-based knowledge to health professionals and researchers to enable, motivate, assist and help adolescents to adopt healthier lifestyle. This chapter is divided into three sections. First section elaborates on the effectiveness of LSI in school; second section explicates barriers and facilitators of change in lifestyle; and third section discusses the key theoretical models to address difficulties encountered by lifestyle researchers.

Effectiveness of LSI

Lifestyle is a broad construct which comprises enormous categories of living including fashion, customs, transportation, etc. Present review, in consonance with existing conceptual dynamics of lifestyle in mainstream health psychology and Indian notions contained in the wisdom of yoga and ayurveda, has considered lifestyle as a constellation of diet, sleep, physical activity, daily routine, risk behaviours and religiosity; therefore, LSI as that intervention which manipulated a cluster of living styles related to diet, sleep, activity and risk behaviours. Therefore, effectiveness of LSI in this chapter is limited only to those studies which have involved any two or more than two components of lifestyle.

LSI is effective for promoting functionality, reducing mental health problems and addressing many adolescent health concerns. Walsh (2011) has argued for utilizing lifestyle modifications in therapeutic settings for treating several psychological disorders and promoting health and well-being. A vast research is available for managing lifestyle-related ailments (i.e., diabetes, CVDs, etc.) and reducing ageing-related complications through LSI, but we get minimal research on the effectiveness of LSI for promoting adolescent health and well-being (Singh 2013). However, available review indicated a majority of research work for obesity-related

outcomes among school adolescents. Evidences for positive effects of LSI for obesity in school adolescents have been substantially accumulating in the past few years. In addition, a recent review has reported mixed evidences for improvement in anxiety, depression, self-esteem, quality of life and well-being among those overweight adolescents who were exposed to positive change in dietary habits, physical activity and use of leisure time (Hoare et al. 2015). LSI may have potential for increasing mental health within one week (Melnyk et al. 2013).

With the spirit to fill this lacuna, the present researcher has made a small endeavour. He has conducted a one-month field experiment among normal adolescents (n = 100) at a residential school to evaluate the effect of LSI on multiple measures of adolescent health and well-being. Findings revealed that participants reported benefit, who undertook positive change in their dietary habits (avoiding tea, coffee, fast food and maintaining temporal distance between any two meal) sleep (sleeping before 10 O'clock and getting up before sunrise), daily routine (practising yoga and relaxation), and religious behaviours, reported improvement not only in physical health (illness, insomnia and physical fitness) but also in psychological health (body image, self-esteem, depression and anxiety), social functioning (adjustment, empathy, alienation), academic competence and positive health (hope, optimism and quality of life). In school adolescents from disadvantaged sections, LSI may increase physical self-worth, perceived physical condition and self-efficacy in adolescents from disadvantaged schools (Singh 2013).

Barriers and Facilitators for Lifestyle Change

Any LSI cannot be an isolated activity. It requires concerted efforts on the part of all stakeholders. The failure of several LSI programmes reflects critical need for cognizing multiple aspects in its design and conduct (Verhaeghe et al. 2012). For instance, the researchers of a school-based obesity prevention study in New Zealand realized that due to insufficient consideration of several key factors like role of school staff, lack of intensity, their efforts failed to yield any improvement in obesity-related lifestyle behaviours. Henceforth, holistic understanding of barriers and facilitators of LSI is essential to maximize intended effects and improve its design. A variety of barriers on the path of lifestyle change stem from psycho-contextual characteristics of school adolescence. Cultural beliefs, values, socio-economic status, personality, age, and many other ecological factors contribute in initiating and maintaining positive change in adolescent lifestyle (Singh and Misra 2012; Thirlaway and Upton 2009). A summarized caricature of influences and issues related with adherence to lifestyle change is presented herewith.

3.1 First of all, let us discuss those obstructive factors and facilitators which lie in the developmental features of adolescence. Due to 'experimentation' as a feature of this stage of life, adolescents have greater propensity for risk behaviours but less motivation for pursuance of healthy lifestyle. Fragility of self-efficacy often may render them to avoid healthy lifestyle communications. The role of low self-esteem

in continuance of many risk behaviours (sexual behaviours, pornography, substance abuse, violence and suicide) and discontinuance of positive living choices has been well-substantiated. Also, sometimes multiple demands of several life tasks may create dysfunctional coping styles and helplessness which in turn result into unhealthy lifestyle choices. For example, adolescents, while coping with developmental stresses created by formation of identity, peer pressure, choice of career goals confirming parental aspirations, may be vulnerable to unhealthy leisure choices and eating habits. In particular, adolescents suffering from mental disorders may not be capable of adhering to positive lifestyle changes (Verhaeghe et al. 2012).

3.2 Family is an important setting for development during adolescence. It plays crucial role in behavioural, cognitive and social development of adolescents. Multiple aspects of family including living arrangements, closeness in relationships, communication patterns, monitoring, support and supervision determine positive or negative orientation of lifestyle choices (Youngblade et al. 2007). Whether parents practice healthy behaviour or demonstrate aggression, their effects accordingly may influence their son/daughter (Youngblade et al. 2007). Non-response or dropping out of LSI is considerably predicted by maternal depression and avoidant attachment attitude (Pott et al. 2009). In low socioeconomic sections, adolescents may get deprived of family support and encouragement in adopting healthy living choices due to principal focus of family on livelihood. Some patriarchal norms and values exhibited and encouraged by family members may induce aberrations in their attempts to inculcate positive lifestyle behaviours. For example, certain aspects of 'sex' as taboo may prevent affirmative, open and dynamic explorations. Ensuring adequate and appropriate acknowledgment, supervision and support by family members can reinforce positive behaviours but also contribute critically in avoiding unhealthy lifestyle behaviours. Therefore, in any attempt of LSI, ensuring family support can augment positive change in lifestyle.

3.3 After the family, any adolescent has to spend most of his time in school. School not only provides academic instruction but also plays a critical role in acquisition and maintenance of health behaviours. Adolescents tend to heed advice of their teachers. Therefore, if teachers are involved in any LSI, then possibility of its success goes up. Second important facilitative/obstructive agency can be company of students. A review has revealed that certain behavioural choices can be easily maintained during adolescence if they get positive peer support and are empowered enough through inculcation of skills and abilities to avoid unhealthy influences of peer pressure (Thirlaway and Upton 2009). Third important pathway is curriculum which is delivered in classroom. By inculcating/delivering information about the relevance of positive lifestyle in textbooks/classroom lectures, school adolescents' mental makeup can be easily prepared for orienting towards participation in LSI.

3.4 Media is a mainstay of sociocultural context of adolescent lives. In current times, when social networking sites are increasingly gaining attention of the younger generation, exposure to particular type of information through tweets and sharing of posts influences adolescent mood and builds up his/her preference or

negligence for particular behavioural choices (Singh and Misra 2012). Television and Twitter like social networking sites can be used as mainstay for social marketing to facilitate positive change in school adolescent lives.

Key Theoretical Frameworks and Strategies

Adolescent lifestyle is a complex phenomenon. Several individual, ecological and contextual factors contribute in opting particular lifestyle choices, its patterning with other lifestyle practices and determining related modalities (Dalal and Misra 2006; Singh 2013). Therefore, any one specific theoretical framework cannot explain or resolve all the hassles related with lifestyle changes. Only eclectic strategies derived from several perspectives can offer adequate insights for dealing with challenges related to different domains (i.e., person, ecology and context). Henceforth, this section presents a detailed view of particular psychological techniques related with different psychological perspectives. Table 9.1 presents a summarized view of the key theoretical frameworks and their corresponding strategies.

4.1 Behavioural assertion for manipulating antecedents and consequences has emerged as prominent approach in LSI studies (Singh 2013). In particular, stimulus control, self-management and reinforcement are being used widely. Several attributes of reinforcement including schedule, mode, duration, background scenario have been attended in attempts for changing lifestyle. In a recent analysis of secondary data derived from 14 published randomized treatment-control intervention trials for 2–18 years aged overweight younger generation, significant benefits associated with teaching youth stimulus-control and teaching parents reinforcement has been demonstrated to shape lifestyle practices (Dalton and Kitzmann 2012).

4.2 Cognitive factors including perceptions, beliefs and attitudes are relevant for initiating and sustaining change in lifestyle choices (Singh 2013; Marquez et al. 2009). Many interventions fail because of their failure in addressing attitudes and perceptions (Singh 2013). In paragraphs given below, several cognitive processes and corresponding strategies for changing lifestyle behaviours are elaborated.

According to social cognitive theory, lifestyle habits get ingrained through observation of corresponding behaviours and associated positive outcomes in family members and different sources of mass media (Natale et al. 2014). Self-efficacy is focal determinant in changing any lifestyle practice (Bandura 2004; Dalton and Kitzmann 2012); in particular when adolescents are ready for changing lifestyle (Singh 2013). Individual adolescents high in self-efficacy are less likely to give up when confronted with barriers in attempts for change in lifestyle. It can be enhanced through self-control and management of records of realistic and achievable goals in pursuance of lifestyle change (Bandura 2004). Since the last decade, use of personalized computer-tailored interventions is emerging as promising health-education strategy to accomplish effective self-management and control of behavioural choices in school adolescents (Haeren et al. 2007).

Table 9.1 Basic processes and strategies for lifestyle intervention at a school

Model/theory	Basic assumptions/ processes	Suggested strategies
Classical conditioning	Reflex, stimulus control	Comfortable physical environment
Instrumental conditioning	Reinforcement and punishment	Physical restraint, deprivation and satiation, appreciation, incentives
Social cognitive theory	Reciprocal determinism, vicarious reinforcement self-efficacy	Self-monitoring, computer-tailored LSI, presentations of role models (i.e., actors, sport persons) through the films and power point
Cognitive dissonance theory	Creating dissonance between cognitions	Zero-prize advocacy speech competition in favour of healthy lifestyle
Health belief model	Perception	Risk and benefits assessment
Theory of planned behaviour	Attitude, social influence	recognition by peers and school staff
Self-regulation	Autonomy	Presenting meaningful rational for persuading to change lifestyle goal setting by oneself
Motivational interviewing	Empathy	Empathetic listening, raising awareness, encouragement, confrontation, being receptive to adolescent's point of views and explanation
Ecological model	Interactive influence	Combination of strategies including supportive environment, attractive set up, mass media campaign
Trans-theoretical model	Awareness and motivation	Personalized scrutiny of healthy lifestyle, encourage to make specific concrete plan, setting gradual goals, feedback, reminders

Health Belief Model and theories of reasoning and planning models emphasize on delivery of risk information related to unhealthy lifestyle. Based on these theories, health education programmes have been providing information on potential harmful effects of specific habituations (e.g., cigarette smoking, alcohol abuse, etc.). These programmes are beneficial especially when participating adolescents are motivated by themselves to seek help and information (Singh 2013).

According to self-regulation, autonomy support is an important key to change lifestyle practices (Singh 2013). Therefore, a practitioner needs to acknowledge the perspective a person holds, present choices within the limits of context and meaningful rationale for not providing certain choices. Taking cues from self-regulation theory and humanistic perspective, Motivational interviewing engages adolescents in a non-confrontational and empathic interaction with efforts in highlighting discrepancies between their goals and effects of particular lifestyle

behaviours on their health and well-being. It emphasizes not to coerce adolescents but to help them to make their own decisions for altering behavioural choices. Motivational interviewing is useful when adolescents are not motivated to change their lifestyle. In particular, it envisages the following skills/strategies for change in lifestyle: empathy, encouragement, being receptive to adolescent's point of views and explanation. Motivational interviewing has been effective in addressing many risk behaviours and changing diet/exercise favourably (Singh 2013).

4.3 Ecological model is increasingly being utilized for promoting particular aspects of lifestyle. In a multi-level physical activity intervention programme, several ecological strategies (i.e., organizing debates, ensuring access to attractive activities during breaks and after-school hours, supportive environmental conditions) were utilized to promote daily life and recreational physical activity among school adolescents (Simon et al. 2006).

4.4 A recent theoretical innovation-trans-theoretical model proposes that persons are at different stages of readiness to adopt health behaviours. According to this model, LSI can be successful only if action-oriented efforts are undertaken only after acknowledgement of need to change on the part of participant. Many times, persons may relapse from later to earlier stages but stage-wise attempts are repeated until change in lifestyle is successful. Prochaska et al. (1992) enlist the following 10 underlying processes for behavioural change: consciousness-raising, self re-evaluation, self-liberation, counter-conditioning, stimulus-control, reinforcement management, helping relationships, dramatic relief, environmental re-evaluation and social liberation. It is effective in changing dietary habits, physical activity and risk behaviours.

Conclusion

This chapter has summarized comprehensive effects, barriers and facilitators of change and relevant theoretical frameworks and strategies for changing adolescent lifestyle. It has provided evidence-based knowledge for helping adolescents to realize their potentials and fulfil their aspirations to live a healthy, productive and meaningful life. Several potential barriers and facilitators related with LSI and theoretical frameworks are yet to be empirically evaluated. Now, we need to evolve evidence-based knowledge of counselling strategies to help people to accommodate and comply with positive changes in lifestyle.

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