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Title: Adolescent Mental Health Policy and Services in Hong Kong: Seven Unresolved Problems Waiting for Solutions

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With the economic growth of Hong Kong over the past few decades, medical services for adolescents have improved and adolescent mortality rates are relatively lower when compared to other places, including USA, UK, Canada, Australia, France and Japan [1]. Unfortunately, despite general medical advances in Hong Kong, adolescent mental health policies, services, and research face several unresolved problems, which are reflected in the articles in this Supplement. From the perspective that "there is no health without mental health," these problems are particularly noteworthy [2].

Problem 1: Lack of Coordinated Surveillance Studies

In many countries, systematic surveillance studies on adolescent mental health issues (such as addiction, mental disorders and learning difficulties) are conducted or commissioned by the government. Surveillance studies are important because they help the government and professionals to understand the prevalence of adolescent problems, chart the service needs, and formulate relevant prevention and intervention policies. One good example is the Monitoring the Future (MTF) study conducted by the Institute for Social Research at the University of Michigan. Since 1975, many cross-sectional and follow-up studies have been conducted to understand the behaviors, attitudes, and values of high school students, post-high school students, and young adults. With a specific focus on high school students, roughly 50,000 are surveyed annually. In 2017, 360 schools (N = 43,700 students) joined the Monitoring the Future Survey. The findings showed that abuse of many types of drugs held steady in 2017 but the declining trend of alcohol use stopped [3]. In contrast, systematic and regular surveys showing trends on health behavior are very rare in Hong Kong.

In Hong Kong, surveillance studies are conducted by different parties. First, various government departments conduct or commission surveillance studies on different adolescent

mental health and behavioral problems. For example, the Action Committee Against Narcotics regularly conducts school surveys on substance abuse among students in Hong Kong [4]; the Food and Health Bureau has recently commissioned a study to look into the mental health of Hong Kong people [5]; and the Home Affairs Bureau has conducted prevalence studies on gambling in Hong Kong [6].

Second, the Department of Health collects information on the health behavior of students, although the routine voluntary health check program is not intended to generate specific prevalence estimates. Third, non-governmental organizations conduct prevalence studies on adolescent behavioral problem issues. For example, The Family Planning Association of Hong Kong regularly conducts adolescent sexuality studies. Fourth, academics and researchers conduct prevalence studies according to their research interests, using research funds from the government (such as the Health and Medical Research Fund) and non-governmental organizations, such as the study on adolescent developmental issues supported by The Hong Kong Jockey Club Charities Trust [7-9]. Finally, different government departments, such as the Social Welfare Department, Department of Health, Education Bureau, and Hospital Authority, produce official statistics about adolescent mental health issues, such as the number of new psychiatric cases and utilization of mental health services among young people.

Several observations can be highlighted from the surveillance studies conducted in Hong Kong. First, no government body is coordinating surveillance studies on adolescent mental health. Without this coordination, some adolescent mental health issues, such as Internet addiction, will remain understudied and not fully understood. Second, surveillance studies are seldom conducted on an annual basis, which precludes any examination of trends in adolescent mental health. Although official statistics can give some idea about the severity of the problems (such as the

number of new young drug abusers), a time lag is inevitably involved. Third, the existing surveillance studies commonly focus on a small number of mental health issues in a single study. Obviously, we need surveillance studies that can generate a comprehensive picture of different adolescent mental health issues. Fourth, there is a lack of validated measures that can be objectively used in these surveillance studies. Existing surveillance studies are merely descriptive, showing the at-risk proportion figures and related demographic risk factors without much focus on the related theoretical mechanisms.

Without systematic surveillance studies, the extent of adolescent developmental issues such as Internet addiction and emotional disorders is not clear. And without a proper understanding of the extent of the problems, there is no way we can have responsive planning on the mental health policies and services.

Problem 2: Absence of Rigorous Evaluation Culture

To tackle the adolescent developmental issues, primary prevention, early identification, and treatment programs are indispensable. Obviously, we must evaluate such programs to see whether the intended objectives are achieved and the programs are effective.

Several observations can be highlighted from the evaluation literature on the youth development programs in Hong Kong. First, subjective outcome evaluation is dominant probably because of its low cost and ease of administration. Second, while subjective outcome evaluation is commonly conducted, there is a general lack of validated measures in this area. The use of validated measures is important because it helps to establish the credibility of the evaluation findings.

Third, although randomized controlled trials are commonly regarded as the gold standard in evaluation, this experimental paradigm has seldom been used to assess the effectiveness of

psychosocial intervention. This may be due to a lack of training in some professions, such as education and social work. Fourth, there are few longitudinal evaluation studies conducted for youth intervention programs, and most of the existing evaluations are relatively short-term. Hence, it is difficult to understand the long-term effects of adolescent prevention and intervention programs. Fifth, Shek and Ma [10] pointed out that there is a dearth of psychosocial outcome measures in different Chinese societies. Without the validated developmental outcome indicators, it is difficult to carry out rigorous long-term evaluation.

Sixth, while there are studies focusing on either subjective outcomes or objective outcomes, there are very few process evaluation studies examining issues of program implementation quality, program adherence, or program fidelity. In fact, the psychosocial intervention programs utilizing standardized intervention protocols are not widespread in the Hong Kong context. Finally, qualitative evaluation is a preferred evaluation paradigm in human services, especially in social work. Unfortunately, the quality of the qualitative evaluation studies conducted in Hong Kong does not appear to be rigorous. Shek, Tang and Han [11] have proposed criteria for these qualitative evaluations, such as the exposition of the philosophical base of the study, acknowledgments and handling of biases, as well as examination of alternative explanations. Shek [12] highlighted 12 principles in evaluation, including focus on objective outcomes, use of multiple outcome measures, use of client satisfaction survey, understanding the views of prorgam implementers, stakeholder engagement, understanding the context of program effect, collection of different types of data, examination of process and outcomes, triangulation of data, use of validated measures, adherence to evaluation guidelines in the field, and ongoing evaluation. Unfortunately, evaluators do not pay serious attention to these principles in reality.

One notable exception is Project P.A.T.H.S. financially supported by The Hong Kong Jockey Club Charities Trust [13]. The evaluation design of Project P.A.T.H.S. has several features: longitudinal outcome evaluation over five years, employment of a randomized group trial involving an experimental group and a control group, subjective outcome evaluation based on participants and implementers, qualitative evaluation using focus groups and individual interviews, process evaluation, students' products including weekly diaries and drawings, and evaluation based on personal construct psychology [14-15].

Problem 3: Cross-sectional Studies Outnumbering Longitudinal Studies

Regarding adolescent developmental research in Hong Kong, it is interesting to observe that most is cross-sectional studies, with very few well-designed longitudinal studies in the field. While cross-sectional studies are easy to conduct and economical, they have two basic limitations. The first limitation is the possibility of reverse causation between the variables. For example, given a correlation between the parent-child relationship and adolescent mental health, there are at least two possibilities: a) the parent-child relationship influences adolescent mental health; and b) adolescent mental health influences the parent-child relationship. The second limitation is a practical one. Because it is difficult to ascertain the direction of influences among the variables in the cross-sectional studies, it is difficult to utilize the related findings.

There are several strengths of longitudinal research designs. First, longitudinal data can enable researchers to understand the growth patterns and the related changes in adolescence. Such understanding is important to identify the risk periods in adolescent development. Second, because data are collected over time, it is theoretically and methodologically possible to identify predictors of developmental outcomes, which gives insights into the cause-and-effect relationships among the variables. Essentially, longitudinal research designs can enable researchers to understand

antecedents, concomitants, and consequences of adolescent development. Finally, longitudinal data are important to assess the effectiveness of different intervention programs. In randomized controlled trials or randomized group trials, pretest and posttest data are commonly collected for both the experimental group and control group. By examining the developmental trajectories in both groups via growth curve modeling, researchers are able to examine whether the development of respondents in the experimental group is better than that of the control group [16].

In the West, there are many longitudinal studies. One example is the National Longitudinal Study of Adolescent to Adult Health (Add Health) in which a representative sample of Grade 7 to Grade 12 students were collected in 1994-95 academic year. The participants were then followed through to young adulthood; in-home interviews were conducted in 1995, 1996, 2001-02, and 2008 [17]. Another example is the 4-H Study of Positive Youth Development, which was launched in 2002 with annual follow-ups for eight years on roughly 7,000 youths from 42 states in the United States [18].

In Hong Kong, there are very few longitudinal studies on adolescent development due to several factors. First, the research and evaluation culture and the spirit of evidence-based practice are still at their infancy in adolescent research in Hong Kong [19]. As a result, the search for the "best available evidence" in the Hong Kong context is not strongly emphasized. Second, pragmatism and the dynamic "fast-food" culture are strong in Hong Kong, fueling the desire to obtain research findings as fast as possible. As collection of longitudinal data requires patience, it is not a preferred choice for academics in Hong Kong. Third, as huge resources are needed for longitudinal research, limited funding is an issue to be addressed. Actually, very few foundations in Hong Kong fund research projects.

Project P.A.T.H.S. is, again, a notable exception. In the extension phase of Project P.A.T.H.S., a six-year longitudinal study was proposed and implemented for the 2009-10 school year to 2014-15 school year. The study examined adolescent development in several different areas, particularly in the domain of positive youth development, as well as adolescent risk behavior and academic performance. Adolescent development was also examined within the familial context, which includes parent-child relational system quality and family functioning.

Problem 4: Knowledge Based Primarily on Western Theories and Research

The existing knowledge of adolescent development is based primarily on theories and research findings generated in the Western contexts. We must ask whether Western theories and research findings are generalizable to the non-Western cultures, such as different Chinese communities, for two reasons. Western theories and research findings may not be generalizable to Chinese people because they are mostly based on ethnically White samples. The world population is roughly 7.5 billion, and Chinese people constitute roughly one-fifth of that total [20]. Generalizability of adolescent theories and research findings must be addressed among Chinese people. Western individualistic theories and research findings may not be applicable to Chinese societies, which are more collectivistic and family-oriented. For example, while respecting children's rights is strongly emphasized in the West, respecting the authority of parents is strongly emphasized in the traditional Chinese culture. Hence, it is important to examine the applicability of Western theories and research findings to adolescents in Hong Kong [21].

Furthermore, China has a history of over 5,000 years, and its culture offers numerous important philosophical traditions (such as Confucianism, Buddhism, and Taoism). It is theoretically and practically important to consider the additional perspective of Chinese cultural accounts of adolescent development. For example, in Chinese culture, adolescent development is

understood in terms of five cardinal relationships and filial piety. In Confucianism, filial piety and morality are regarded as important developmental pointers for adolescent development. Besides providing a perspective, such cultural accounts can also be regarded as cultural resources that can be used by adolescents to cope with their stressors. Hence, it is important for us to integrate the Western and Chinese views on adolescent development.

Another issue that should be examined is how family processes shape the development of adolescents in Hong Kong. First, looking at the family antecedents of adolescent developmental issues provides a broader perspective of adolescent development beyond searching for the micro developmental factors within individuals. Second, there is increasing evidence supporting the family ecological models, which posit that dyadic and systemic family processes influence adolescent development [22]. Unfortunately, the use of family-based approaches in prevention and intervention programs for adolescent developmental problems is not widespread in Hong Kong.

Problem 5: Inadequate Evidence-based Adolescent Prevention and Positive Youth Development Studies

Despite the rising salience of adolescent developmental issues, there is a severe shortage of validated adolescent prevention and positive development programs aiming to promote adolescent psychosocial competence. There are several areas of deficiencies in the related programs in Hong Kong. First, most of the existing programs are short-term, and there are very few intervention programs with a multi-year focus (e.g., junior secondary school focus). Second, most of the existing programs address a single developmental issue, such as substance abuse, bullying, or smoking. Few studies focus on how strengthening adolescent psychosocial competence may address a wide range of adolescent developmental problems. Third, few programs utilize multiple evaluation methods, including objective outcome evaluation, subjective

outcome evaluation, process evaluation, and qualitative evaluation to address the program effects. Finally, training programs and related documentation work for workers in adolescent prevention and positive youth development programs are rare.

Several factors contribute to the lack of systematic adolescent prevention and positive youth development programs in Hong Kong. First, as a pragmatic society, the focus of the government and the public is on tackling problems. In fact, most of the existing intervention programs are geared toward tertiary prevention (i.e., reducing the harmful effects of disorders). Comparatively speaking, there is less effort to identify the adolescents who are at-risk in an early stage (i.e., secondary prevention) and minimize the probability of occurrence of adolescent developmental issues (i.e., primary prevention). Second, financial prudence was a guiding public policy principle under the British colonial rule, and it has continued to be the case in the past two decades since the handover. Hence, prevention and early identification efforts are commonly seen as "a waste of money" because immediate change is not as apparent as it is in treatment programs.

Obviously, having the good intention to promote adolescent health alone is not enough. We need to ensure that adolescent prevention and positive youth development programs are based on good theories and sound evidence supporting their effectiveness. Evidence-based practice is "the integration of best research evidence with clinical experience and client values" [23, p.1], and has five steps: (1) formulating questions related to the practice decisions, (2) locating the best evidence to answer the questions, (3) critically appraising the evidence gathered, (4) applying the scrutinized evidence to micro and macro practice decisions, and (5) evaluating the effectiveness and efficiency of the intervention. Clearly, evidence-based practice demands that the practitioners have a good understanding of how to consume research findings in a critical manner.

While evidence-based practice is strongly embraced among health-related professionals such as pediatricians and psychiatrists, it is relatively weak in other professions, such as social work. In a review, Shek and colleagues [19] showed that evidence-based practice in social work in Hong Kong is weak because it is not adequately covered in social work training and because evaluation culture is not strong. Tangible and intangible support for evidence-based social work practice is also not strong.

Adolescent health practitioners in Hong Kong should realize that there are different types of programs: effective programs, promising programs, programs with both positive and negative impacts, ineffective programs, programs with harmful effects, and programs with unknown effects. Unfortunately, few effective and promising programs are supported by the research evidence, and most psychosocial intervention programs in Hong Kong can be categorized as having unknown effects.

Problem 6: Need to Step Up Positive Youth Development (PYD) Research

In keeping with the notion of adolescence as a period of "storm and stress," research on adolescence has focused primarily on adolescent problems and deficiencies. There are comparatively more studies on adolescent mental disorders (such as depression) and risk behaviors (such as substance abuse) than psychosocial competences (such as emotional management, spirituality, and resilience). Besides, the mainstream literature has commonly regarded adolescents as "the problem to be solved" instead of "the resource to be developed."

The emergence of positive youth development has turned this notion on its head. Instead of focusing on the youth deficiencies, attention is paid to the talents and potential of young people. Although there are different conceptions of positive youth development, it is commonly perceived

to include self-awareness, social awareness, self-management, responsible decision-making, and positive social relationships [24].

According to the Collaborative for Academic, Social and Emotional Learning, "Social and emotional learning (SEL) is the process of acquiring the skills to recognize and manage emotions, develop caring and concern for others, make responsible decisions, establish positive relationships, and handle challenging situations effectively. Research has shown that SEL is fundamental to children's social and emotional development — their health, ethical development, citizenship, academic learning, and motivation to achieve. Social and emotional education is a unifying concept for organizing and coordinating school-based programming that focuses on positive youth development, health promotion, prevention of problem behaviors, and student engagement in learning" [24]. In a review of the impact of the SEL programs, Durlak and associates [25] showed that they help young people attain better adjustment and psychosocial development. In the study by Sun and Shek [26], positive youth development attributes influenced adolescent problem behavior via life satisfaction.

Problem 7: Gross Disintegration of Policies, Services, Theories, and Research

To promote healthy adolescent development, good intention alone is not enough. We must apply good theories and research findings to form good policies and services. Unfortunately, this process features several areas of disintegration.

The first is in policymaking. There is no single youth policy maker in Hong Kong, with youth-related policies scattered under different bureaus, including the Education Bureau on education, Social Welfare Department on youth issues, Food and Health Bureau on health issues, Home Affairs Bureau on youth development, Security Bureau on youth crimes and drugs, and Constitutional and Mainland Affairs Bureau on children's rights. While it is not illegitimate to

have separate youth policies amongst different bureaus, the main problems are that the dialogues between different bureaus are rare, and inter-bureau collaboration is weak. For example, adolescent substance abuse may be regarded as juvenile delinquency, a mental disorder, social deprivation, or an injustice by different bureaus.

The second area is policy-to-service disintegration. For example, while we tell students that it is important "study but have fun," concern for study stress is not normally reflected in the school curriculum. Similarly, the social stigma associated with attending Band 3 schools (i.e., schools admitting students with low academic achievements) is a sign of disintegration. Finally, although there is the policy of integrating students with special educational needs (e.g., students with dyslexia or autistic features) into mainstream schools, the related services are truncated and teachers do not have adequate training in adolescent mental health.

The third area is the disintegration of services. Despite a wide range of medical and social services for adolescents in need, evidence shows poor service coordination. For example, an adolescent with mental health problems may be treated by psychiatrists and followed up with by psychiatric nurses. But if clients face family problems, they will be referred to family service centers outside of the medical care system because the medical social workers in the hospitals are just too busy to deal with basic welfare matters.

A fourth issue to be addressed is the disintegration of theory with practice. The basic argument is that without a comprehensive understanding and analysis of an adolescent issue, any intervention work may be futile. For example, while learning enhancement and individualized educational programming to help students with learning difficulties is desirable, it is simply not adequate. We have to adopt an ecological approach involving multi-level intervention, including elements such as family-based interventions to empower the parents to train their children.

Similarly, based on the prevention science perspective, there is a need to develop policies and services that can reduce the risk factors (e.g., morbid emphasis on academic excellence) and strengthen the protective factors (e.g., positive values) in adolescent development.

The final area is disintegration of research and practice. Effective approach to youth issues must use the best available evidence to devise related policies and services. Unfortunately, with the exception of the health field, evidence-based practice is not strongly advocated in the education, welfare, and youth development fields. For example, despite the doubts over the effectiveness of visiting prisons to prevent juvenile delinquency [27], prison visits are commonly organized by different parties as a prevention initiative against youth crime. Similarly, while there are many substance abuse prevention programs in Hong Kong, the Education Bureau makes little reference to the registry of the effective drug prevention programs compiled by the U.S. National Institute on Drug Abuse (NIDA).

Taking the first letter of each of these seven problem areas spells "LACKING." Clearly, in view of the huge reserves in Hong Kong, there is a gross lack of quality positive youth development studies as well as adolescent prevention and PYD programs. In the review papers in this Supplement, it is observed that there is a gross lack of effective preventive programs and studies on the role of positive youth development in adolescent holistic development. In a global review of adolescent prevention programs, Catalano and associates [28] pointed to effective prevention programs for children and adolescents, with Project P.A.T.H.S. identified as the only effective youth enhancement program among different Chinese communities. Shek [29] further shows that the Project P.A.T.H.S. protects adolescents from early onset of substance abuse and adolescents changed in the positive direction after joining the programs [30]. Obviously, when attempting to promote adolescent health, the professionals working with young people should utilize effective

intervention programs supported by research evidence, such as the Project P.A.T.H.S. in Hong Kong.

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