Physical health needs, lifestyle choices, and quality of life among people with mental illness in the community

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KEY MESSAGES

1. People with severe mental illness (PSMI) demonstrated poor health profiles. Over two-thirds of the PSMI were overweight or obese. They scored significantly lower in all aspects of health-related quality of life, compared with the general population.
2. Few PSMI reported participation in preventive health behaviours such as testing blood cholesterol level, taking regular physical activity, receiving vaccinations, or undergoing cancer screening.
3. PSMI reported a moderate level of unmet needs across all domains. People with depression had a higher level of unmet needs than other diagnostic groups.
4. As predictors of life satisfaction for PSMI, depression and interpersonal problems were important factors for worse life satisfaction, whereas health-promoting behaviours, perceived social support, and self-esteem were important factors for better life satisfaction.
5. Applying the modified health belief model for PSMI, better physical and mental health-related quality of life and more-healthy lifestyle were associated with less barriers, higher responsiveness to cues to action, and higher health-specific self-efficacy.

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Introduction

According to the World Health Organization, health is a state of complete physical, psychological, and social well-being, rather than simply the absence of disease. Thus, to enhance the overall well-being of people with severe mental illness (PSMI), in addition to attending to their psychological and social needs, health needs assessment is essential.[1] Much attention has focused on the management of mental health but little on physical health needs. Such an imbalance neglects the interconnectedness between physical and mental health and the fact that PSMI may be at increased risk of physical health comorbidity.

The present study used the health belief model (HBM)[2] and health-specific self-efficacy[3] to examine the psychosocial determinants of health conditions and practices of PSMI. In some studies, health-specific self-efficacy is incorporated as a separate independent variable into the HBM. Findings of this study are important in the design of relevant community mental health services and health interventions that promote the quality of life (QoL) and the recovery of PSMI in Hong Kong.

Methods

This study was conducted from October 2009 to May 2011. A stratified sampling design was used to recruit PSMI from the Hong Kong community. Upon informed consent, PSMI were interviewed by a trained interviewer using structured questionnaires. On completion of the interview, participants were given a HK$70 supermarket coupon.

A total of 587 PSMI (55.0% female) with a mean age of 46.2 (standard deviation [SD], 10.8) years and a mean duration of mental illness of 17.7 (SD, 10.9) years were recruited. Most were diagnosed with schizophrenia spectrum disorders (70.2%), followed by major depression (14.3%), other mood disorders (8.0%), and others (7.5%). Of the participants, 68.8% had secondary education, 21.6% had primary education, 7.5% had post-secondary education, and 1.7% had no education. Characteristics of the sample and the community estimated by New Life Psychiatric Rehabilitation Association were comparable.

Self-report questionnaires included the Health Risk Factors Questionnaire (Chinese version), Health Promoting Practices Questionnaire, HBM Questionnaire, Health-specific Self-Efficacy Scale, Camberwell Assessment of Need Short Appraisal Schedule, Short Form Health Survey 12 Version 2 (SF-12v2), Life Satisfaction Scale, ENRICHD Social Support Instrument, Rosenberg Self-Esteem Scale, Behavior and Symptom Identification

Scale, and a medication side-effects list. Objective measures included height, weight, waist and hip circumferences, and blood pressure.

Results

Compared with the 2008-09 Hong Kong Chinese population mean,[4] our sample had significantly lower SF-12v2 scores across all physical and mental health domains (Table 1), and had heightened health risks in terms of body mass index, waist-to-hip ratio, and percentage with hypertension (Table 2). In the past year, only 23% reported having their cholesterol level tested, 19.8% reported having vaccinations, and <17% had cancer screening (half reported not knowing where to obtain cancer-related information). About 16.2% and 19.5% reported drinking and smoking habits, respectively. A larger proportion reported having regular exercise and adequate sleep.

The needs reported most by the PSMI were social needs (45%), followed by health needs (35%), daily function needs (35%), service needs (32%), and basic needs (29%) [Table 3]. The highest percentage of unmet needs was reported for intimate relationships, psychological distress, physical health, and psychotic symptoms, which were also among the areas of highest reported needs. Participants with depression (11.8%; SD, 12.71%) reported a significantly higher percentage of unmet needs than those with schizophrenia (7.5%; SD, 9.84%) or with other mood disorders (5.8%; SD, 8.3%), whereas participants with other mood disorders reported a significantly lower percentage of unmet needs than people with other mental illnesses (10.3%; SD, 15.98%).

To explain PSMI's life satisfaction, hierarchical regression analysis was conducted with sex, age, psychiatric diagnoses, medication side effects in block 1, psychiatric symptomatology in block 2, and health-promoting behaviours, social support, and self-esteem in block 3 as predictor variables. The overall model explained 53.4% of the total variance in life satisfaction ($F(15, 569)=45.54$, P<0.001). Being a male and older was positively related to life satisfaction. Among the psychiatric symptomatology, depression, interpersonal problems, and emotional lability were negatively related to life satisfaction. In addition, health-promoting behaviours, perceived social support, and self-esteem showed a significant positive relationship with life satisfaction. The overall model explained 14.4% of the total variance in unmet health needs ($F(14, 570)=8.02$, P<0.001), with lower impact of medication side effects and higher self-esteem being associated with lower percent of unmet health needs.

A path analysis was conducted to examine factors in the modified HBM integrating health-specific self-efficacy that explain healthy lifestyles and health-specific QoL, with covariates including age, psychiatric symptoms, medication side effects, perceived social support, and self-esteem accounted for in the model. Results indicated a satisfactory fit of the proposed model: $\chi^2=222.07$ (df =48, P<0.01); $\chi^2/df=4.63$; GFI=0.95; CFI=0.92; RMSEA=0.08 (90% CI, 0.07, 0.09). The modified HBM explained 29.7% variance of healthy lifestyles that in turn explained 13.3% and 33.5% variance of perceived physical and mental health status, respectively. The constructs of the modified HBM explained an additional 10.2% variance on healthy lifestyles (F Change (6, 573)=14.99, P<0.001). Lower levels of expected barriers, higher willingness to adopt a healthy lifestyle when faced with cues to action, and higher health-specific self-efficacy were associated with higher degrees of healthy lifestyles practice.

TABLE 1. Short Form Health Survey 12 Version 2 (SF-12v2) scores in people with severe mental illness (PSMI) versus the 2008-9 Hong Kong population mean

SF-12v2 subscale	Mean±SD score		T-test	P value
	PSMI	2008-9 population mean		
Physical functioning	68.1±29.0	87.3±22.4	-17.82	<0.001
Role physical	62.9±24.9	79.8±22.8	-15.99	<0.001
Bodily pain	60.9±29.9	77.6±25.0	-14.41	<0.001
General health	44.1±27.3	47.8±27.8	-3.28	<0.001
Vitality	50.7±27.1	62.4±25.4	-10.01	<0.001
Social functioning	65.4±28.3	81.8±23.8	-14.59	<0.001
Role emotional	65.7±25.9	77.2±21.5	-11.42	<0.001
Mental health	61.5±21.9	68.8±18.7	-8.51	<0.001

Discussion

PSMI demonstrated poor health profiles: 69.1% were overweight or obese and 18.6% were hypertensive. They scored significantly lower in all aspects of health-related QoL, compared with the general population. Although only a small number of PSMI reported smoking and drinking, few reported participation in preventive health behaviours: 23% reported having their cholesterol level tested, 19.8% reported having influenza vaccinations, and <17% ever had cancer screening. These findings are consistent with overseas studies that revealed that PSMI often engage in more health-compromising behaviours and less health-promoting behaviours, and are at heightened risk for coronary heart disease, diabetes, and other chronic physical illnesses.[5] It is important to raise the awareness of PSMI in health-promoting behaviours and preventive health practices.

Many PSMI, especially those with depression, lacked access to appropriate forms or adequate levels of care to deal with their recovery needs. Among the

TABLE 2. Health indices and preventive health practices of people with severe mental illness (PSMI)

Parameter	Mean±SD value or No. (%) of PSMI
Health indices	
Body mass index	25.57±4.77
Underweight (<18.5 kg/m2)	31 (5.3)
Normal (18.5-23 kg/m2)	150 (25.6)
At-risk overweight (23-26 kg/m2)	100 (17)
Obese (>26 kg/m2)	306 (52.1)
Waist-to-hip ratio	
Female (cut-off, 0.85)	0.88±0.07
Male (cut-off, 0.9)	0.92±0.07
Low risk	198 (33.7)
High risk	388 (66.1)
Blood pressure	
Systolic	122.80±17.08
Diastolic	77.19±10.88
Normal (<120 for systolic and <80 for diastolic)	262 (44.6) [24 on anti-hypertensive medication]
Prehypertension (120-140 for systolic and 80-90 for diastolic)	209 (35.6) [38 on anti-hypertensive medication]
Hypertension (>140 for systolic and >90 for diastolic)	109 (18.6) [38 on anti-hypertensive medication]
Preventive health practices	
In the past week	
Rigorous exercise	177 (30.2)
Days per week	3±2.16
<10 minutes each time	10 (5.75)
10-20 minutes each time	28 (15.9)
>20 minutes each time	138 (78.4)
Hours of sleep	7.77±1.95
Trouble sleeping/morning awakening	289 (49.2)
In the past month	
Drinking	95 (16.2)
Consumption	1.57±2.3 times, with 1.34±1.05 glasses each time
Smoking	114 (19.5)
Years of smoking	21.32±12.10
Daily consumption of cigarettes	14.84±9.68
In the past year	
Influenza vaccination	116 (19.8)
Cholesterol monitoring	135 (23)
Pap smear (females only)	50 (15.5)
Clinical breast exam (females only)	50 (15.5)
Mammogram (females only)	21 (6.5)
Ever in the lifetime	
Pneumonia vaccination	24 (4.1)
Hepatitis B vaccination	65 (11.1)
Prostate-specific antigen test and digital rectal examination (males only)	3 (1.1)
Faecal occult blood test (age >50 years only)	26 (11.3)
Flexible sigmoidoscopy (age >50 years only)	15 (6.5)
Colonoscopy (age >50 years only)	30 (13)

TABLE 3. Percentage of participants in 22 needs

Needs	% of participants (n=587)			
	No need	Need	Unclear	Unmet need
Basic needs	71	29	0	4
Accommodation	77	22	0	3
Food	69	31	0	4
Daytime activities	66	33	1	4
Health needs	64	35	1	8
Physical health	37	62	1	15
Psychotic symptoms	37	62	1	11
Psychological distress	47	53	1	17
Safety to self	67	32	1	6
Safety to others	74	25	1	3
Alcohol	94	6	0	0
Drugs	93	7	0	1
Social needs	54	45	1	14
Company	49	51	1	12
Intimate relationships	47	52	2	20
Sexual expression	66	31	2	11
Daily function needs	48	35	17	8
Looking after home	53	46	0	11
Self-care	63	37	0	5
Child care	20	14	66	4
Basic education	57	43	0	12
Service needs	67	32	1	7
Information about treatment and condition	51	46	3	12
Telephone	80	19	1	2
Transport	75	25	1	4
Money	53	47	0	14

various needs, social needs were the most likely to be unmet; service providers should pay attention to PSMI's interpersonal, intimacy, and sexual concerns. Evidence-based communication skills training should be offered to promote PSMI's social health, recovery, and reintegration into the community. Reducing medication side effects and boosting one's self-worth may also reduce the percentage of unmet needs.

Life satisfaction was negatively associated with having more symptoms in the depression and interpersonal problems, and positively associated with having social support and high levels of self-esteem, participating in health-promoting behaviours (such as adequate sleep, regular exercise, positive mindset, and relaxing activities). The modified HBM components were able to account for additional variance of healthy lifestyle even after controlling for covariates. Given healthy lifestyle was positively associated with physical and mental health-specific QoL, future research can target effective ways to facilitate positive health beliefs among PSMI, such as reducing expected barriers, increasing cues to action and health-specific self-efficacy.

This study had limitations. The target sample size of 700 could not be reached. A portion of potential participants might have dropped out because of their mental state or the length of the assessment. In addition, the study was cross-sectional in nature and causality could not be drawn. The use of self-reported questionnaires might have lowered the validity of the findings, as participants might have provided socially desirable responses.

Conclusion

By fostering their health beliefs and health-specific self-efficacy, service providers can potentially increase PSMI's health-promoting behaviours,

which are positively associated with their physical and mental health-related quality of life. To promote overall recovery and maximise the QoL of PSMI, service providers should increase PSMI's awareness of their health needs and encourage more health-promoting behaviours and preventive health care. Timely screening of health risks and associated interventions should be provided to PSMI. A full array of services should be provided to PSMI on the basis of needs. Service providers should regularly evaluate the effectiveness of community-based psychiatric rehabilitation services and delivery systems and provide stronger links between psychiatric services, psychosocial support, and physical health care. Service provision can then be streamlined to offer holistic health care and maximise potential for recovery in PSMI.

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