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**Refocusing on Physical Health: Community Psychiatric Nurses' Perceptions of Using  
Enhanced Health Checks for People with Severe Mental Illness**

**Running head:** Physical health checks in severe mental illness

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**ABSTRACT**

This qualitative descriptive study explores Hong Kong Community Psychiatric Nurses' (CPNs) perceptions of using comprehensive physical health checks for service users diagnosed with severe mental illness. Research interviews were conducted with a purposive sample of eleven CPNs in order to explore their perceptions about the use of the Health Improvement Profile (HIP) over a one year period. Interview data were analysed using inductive thematic analysis. The analysis revealed that the majority of CPNs appreciated the comprehensive focus on the physical health of their clients and reported positive changes in their clinical practice. Many of them observed an increase in the motivation of their clients to improve their physical health and also noted observable benefits in service users' well-being. The use of the HIP also helped the CPNs identify implementation barriers and highlighted areas of the tool that required modifications to suit the local cultural and clinical context. To our knowledge this is the first study conducted in an Asian mental health service that explores nurses' views about using comprehensive health checks for people with severe mental illness. The findings suggest that such approaches are viewed as being acceptable, feasible and potentially beneficial in the community mental health setting.

**Key words:**

Severe mental illness; Physical health; Co-morbidity; Health screening; Health behaviour change

## INTRODUCTION

People with severe mental illness (SMI) are estimated to die up to 20 years younger than the general population (Colton and Manderscheid, 2006; DeHert et al. 2011; Tiihonen et al., 2009; Laursen, Nordentoft and Mortensen, 2014). Although there are different definitions of SMI, it is generally accepted that people clinically diagnosed with schizophrenia and related psychotic disorders, bipolar disorder, and/or major depression would fall within this category (Daumint et al., 2013). As a population they often receive inadequate physical health care (Lykouras and Douzenis, 2008; Cunningham, Peters, and Mannix, 2013) and typically are more likely to adopt unhealthy lifestyle behaviours (Richardson et al., 2005; Scott, Platania-Phung, and Happell, 2012). Modifiable risks of cardiovascular disorders and respiratory diseases are also highly prevalent in this client group (Davidson et al., 2001; Paton et al., 2004; Robson and Gray, 2007). In response to these issues researchers have tested different approaches to improve the physical health of people diagnosed with a SMI, and it is possible that mental health nurses are well-placed to intervene (Bradshaw and Pedley, 2012; Blythe and White, 2012). A systematic review of interventions (Happell, Davies and Scott, 2012) concluded that nurse-facilitated approaches can result in significant improvements in both health behaviours and physical well-being of service users with SMI. But, the overall methodological quality of studies included in the review was rated as moderate and therefore conclusions should be tempered accordingly.

Many intervention studies have focused on increasing physical activity and changing other health behaviours in order to reduce levels of obesity and improve mental health (Bartels et al., 2013; Buka, 2008; Ellis et al., 2007; Daumit, et al., 2013). Although these studies report beneficial findings, it is possible that some of these programmes may overlook some wider aspects of service users' physical well being (Marcus et al., 1998; Bradshaw and Pedley, 2012; Bartels et al., 2013). For example, Bartels

et al (2013) conducted an RCT to test the effectiveness of a fitness health mentor (versus fitness club membership) with 133 people with a SMI and a body mass index (BMI) >25. The results showed that almost one half of participants experienced a clinically significant improvement in weight loss or overall fitness over the 12 months duration of the study. Although a 5% loss of body weight was observed in almost a third of participants, there were no significant differences between the two interventions. The findings led the authors to conclude that dietary advice should focus on reducing calorific intake, and that individually tailored specific health promotion interventions are likely to achieve better clinical outcomes than more generic approaches.

There is also some encouraging evidence that comprehensively assessing both the physical health state and the health behaviours of patients can help health care professionals direct individualized patient-centred health promotion (Ohlsen, Peacock and Smith, 2005; Eldridge, Dawber and Gray, 2011; Bressington et al., 2014; Shuel et al., 2010). Similarly promising findings have been recently reported by van Meijel et al (2015), who demonstrated that an intervention utilizing a “traffic light method” intervention for people with SMI can result in significant improvements in their body weight and waist circumference. The Health Improvement Profile (HIP) for people with severe mental illness (Hardy, White and Gray, 2015; White et al., 2009) is an example of such an approach. The HIP is designed to be utilized by mental health nurses to comprehensively assess indicators of physical health risks and identify problematic health behaviours. The results from the HIP are discussed with the patient using motivational interviewing techniques and used to formulate an individualized physical health care plan (Hardy, White and Gray, 2015; White et al., 2009).

In the current study, we reported the findings from individual qualitative interviews with Community Psychiatric Nurses (CPNs) that were involved in our earlier case series study involving 148 patients with

SMI using the HIP in Hong Kong (Bressington et al., 2014). The study demonstrated some significant results at one year follow-up, including improvements in patients' self-reported levels of exercise and a reduction in the need for diabetes medication. Despite our research findings suggesting potential clinical benefits, there is a lack of evidence reporting mental health nurses' perceptions of using the HIP, or any other enhanced physical health screening tool in Asian mental health settings. There is, therefore, a shortage of information about the acceptability of refocusing CPNs' attention on the physical health of their clients with SMI. This knowledge gap makes it difficult to ascertain the feasibility of implementing such enhanced health screening in Hong Kong and across other Asian countries.

This study aimed to explore CPNs' perceptions of using the Health Improvement Profile (HIP; White et al., (2009) as a physical health check tool for people with severe mental illness in Hong Kong. We also observed that there is no published screening tool specifically developed for Chinese or Asian populations, therefore a further aim of this study was to explore the potential need to modify the HIP tool to suit the cultural context of Chinese mental health services. We report the study findings in accordance with the COREQ reporting guidelines (Tong, Sainsbury and Craig, 2007).

The study questions were formulated as follows:

- What are CPNs' perceptions about the use of the HIP programme within a community psychiatric nursing service in Hong Kong?
- What modifications do the CPNs think are necessary to make the HIP programme better suited to the local clinical context?

## **MATERIALS AND METHODS**

### **Research setting and context**

The Community Psychiatric service (CPS) of the New Territories West Cluster is governed by the Hong Kong Hospital Authority; it provides both crisis intervention and longer-term recovery-focused community mental health care for a total population of 1.1 million of people residing in the largest geographical area in Hong Kong. The service had around 5,000 people as its caseloads, of which 70% were diagnosed with a SMI. The multidisciplinary team consisted of CPNs, psychiatrists, medical social workers, and other allied health professionals. The model of care delivery was similar to many UK community mental health services. The individual qualitative interviews were conducted in a quiet meeting room in the CPS team base.

The eligible participants in this study were CPNs who had used the Health Improvement Profile (HIP) for 12 months in the community psychiatric nursing service within an earlier case series research study (Bressington et al., 2013; 2014). As part of this study, 30 nurses were provided with training on how to use the screening tool and formulate an individualized health promotion care plan. The 3-hour training session was conducted by one of the original authors of the HIP according to the standard format described by White et al. (2009). The content included information about physical health needs of people with SMI, ways to interpret each of the health check items, and methods to promote physical health in accordance with the health check results. Appropriate communication/questioning skills were discussed and each recommended intervention was described in detail. The training was not formally evaluated, but a question-and-answer session and verbal feedback at the end suggested that the participants understood the content and felt adequately prepared to use the intervention.

Each CPN aimed to work with 5 patients who met the inclusion criteria over the 12 months duration of the study. The CPNs' fidelity to the HIP intervention programme was established through a review of the completed HIP screening tools and encouraged through regular supervised clinical practice.

### **Participants**

A purposive sampling method was employed where all eligible CPNs involved in delivering the HIP intervention within the earlier case series study were invited to take part in the interviews. Of the potential 30 eligible CPNs, eleven agreed to take part and were available to discuss their experiences and perceptions of using the HIP during the two days the interviews were conducted. The remaining CPNs that did not participate were not available because they were either on leave, had left employment with the service or were carrying out their clinical duties. The same group of CPNs was invited to attend a later group meeting to obtain respondent validation and get a consensus view of the required modifications of the HIP screening tool into a translated "Chinese Health Improvement Profile" (CHIP).

### **Ethical approval**

This qualitative study was approved by the Northern Territories West Cluster Clinical Research Ethics Committee of Hong Kong Hospital Authority (Ref: NTWC/CREC/1203/13) and The Hong Kong Polytechnic University's Human Subjects Research Ethics Committee. Potential participants were provided with written information about the study prior to being invited to take part and were given two days to consider their decision. Written informed consent was obtained by an independent researcher (HW) from individual participants who were aware that their participation was entirely voluntary and could

withdraw from the study at any point. This researcher conducted the consent process in order to minimize the risk of any perceived coercion to participate.

### **Data collection**

The independent researcher (HW) who had no managerial or clinical connections with the CPNs conducted the interviews. He seemed an appropriate choice because despite his professional distance from the team, he was already known to the CPNs from a previous qualitative interview study (Bressington, Mui and Wells, 2013), and as such he had already established a degree of trust and engagement with the participants. The interviewer used a series of open questions to explore and elicit the CPNs' perceptions of using the HIP during the qualitative interviews.

All participants were asked the following questions: "Overall, what do you think of the Health Improvement Profile?", "How did the HIP work in your practice?", "How did your clients respond to the HIP?", "What improvements could be made to the HIP?", and "In your view, what are the strengths and weaknesses of the HIP?". In addition to these prompts the interviewer also used appropriate supplementary questions to prompt further discussion, and to probe/clarify the participants' responses. The series of questions used in the interviews were not modified during the data collection process and were based on the process observation method used in a UK-based cluster-randomised controlled trial of the HIP (White et al., 2009). The questions were emailed to the CPN nurse consultant prior to the study and these were discussed with members of the CPN team to check whether they were appropriate or modify them as required.

### **Data management and analysis**



Data were transcribed and analysed in accordance with established methods of inductive thematic analysis via a process of reduction in order to manage and classify data (Richards, 2002; Hsieh and Shanon, 2005; Milne and Oberle, 2005). All audio-recorded data were transcribed verbatim (HW and CL) and then independently cross-checked by two researchers for accuracy (HW and DB). The typed notes were then read repeatedly by three members of the research team (DB, CL & HW) before importing the final transcripts into QSR-Nvivo software. Data were analysed after all data collection had taken place rather than concurrently. Concurrent data analysis was not feasible because of the limited time available to conduct the interviews. Because concurrent data analysis was not possible, we coded the transcripts and checked and compared how well the themes/subcategories were represented within individual interviews one by one at the final stage of analysis.

The participants' own words or statements within all the transcripts, which constituted individual units of data, were given initial codes (CL & DB) in order to de-contextualize the data. The initial codes were then repeatedly reviewed and re-contextualized based on shared concepts of meaning (Richards, 2002). These sets of codes were continuously revised through the analysis and conceptualization processes until patterns between them were identified to produce working lists of subcategories and potentially appropriate themes. This process resulted in the identification of 62 separate codes, which ranged from once to 56 times in frequency throughout the entire data set. The open codes were connected via 14 axial codes and these informed our first list of subcategories.

When the research team felt that no new codes or related subcategories were identified from the dataset any overlapping subcategories and themes from the working list were reviewed, and where appropriate combined. This process first resulted in 7 themes and 14 subcategories being reduced to 5

themes and 12 subcategories. Ultimately, the analysis process resulted in the identification of 4 themes and 11 subcategories. The final themes and subcategories were then discussed and reconsidered by the research team until consensus was reached.

In order to try and enhance the trustworthiness of the study and improve credibility of findings, we sought respondent validation from all the participants within a group meeting (Barbour, 2001; Andrews et al., 1996). This meeting provided an opportunity to check our interpretations of the data and also reach an overall agreement about any modifications that were required to improve the HIP to suit the local clinical and cultural context. The process of obtaining respondent validation was supported by a Cantonese speaking researcher (CL). This was important because the original interviews were conducted by a European researcher in English (which was the CPNs second language), and the validation process allowed us to check out any issues that we might have misinterpreted. To maintain transparency and improve issues of dependability and transferability, we have aimed to provide as much detail as possible to contextualize the study setting and to help establish that clear and appropriate research procedures have been followed, as recommended by Shenton (2004).

### **Reflexivity considerations**

Four members of the research team (DB, JM, JW and RG) were mental health nurses that have previously been involved in developing the original HIP approach, or conducting related clinical research in a variety of international settings. Our professional backgrounds, clinical experiences and beliefs about the necessity of improving the physical health care of people with SMI were important issues to consider. We tried to acknowledge and be consciously aware of our own personal biases in both the design, conduct and reporting of the study in order to enhance the quality of findings (Schwandt, 2007).

We explored these issues through reflective discussion and relied heavily on the two members of the research team (HW and CL) from health psychology backgrounds and with no prior involvement in HIP research to check the accuracy of data transcription, conduct data analysis and provide more objective feedback on the interpretations of findings. It is also possible that the intervention training programme and enthusiasm of the trainer for the intervention may have had some influence on the CPNs' responses to questions.

## **RESULTS**

The eleven CPNs participated well, with the interviews lasting about 25 to 50 minutes. The majority were aged 31-40 years and they had (on average) over a decade of clinical experience since they qualified as psychiatric nurses. Six interviewees were women and all obtained at least a bachelor's degree. All participants were registered mental health nurses, whilst four also held an adult nursing registration. Demographic characteristics of the CPNs can be seen in table 1.

*Please insert Table 1 around here.*

### **Interview findings**

The interviews prompted a great deal of discussion about using the HIP health check tool. The main themes and sub-themes that emerged from the data analysis process can be seen in table 2. These include influences on nursing practice, service-related implementation problems, influences on client health outcomes and adaptations required for the Hong Kong patient population. The four main themes are described below along with transcription excerpts to illustrate and support each subcategory.

*Please insert Table 2 around here.*

### **Theme A: Influences on nursing practice**

All interviewed CPNs reported notable influences on their daily practice as a result of incorporating the Health Improvement Profile into their care services. Particularly, the nurses noticed the benefits and challenges of working systematically and holistically. They also talked about refocusing attention on physical issues by recognizing both the mental and physical health aspects of their clients.

#### **A1) Increased focus on physical health**

Many CPNs stated that through the process, they reaffirmed the importance of managing physical and mental health issues to provide holistic nursing care.

*“I think there are two main aspects. With the client, I think it’s a systematic physical assessment, and to us, it increases our physical concern of mentally ill clients. Even if you are a mental health nurse, it doesn’t mean that you can just focus on mental health aspects when you are encountering your clients. Very honestly, everyone has physical problems, so as a nurse, you cannot say you don’t know and just fold your arms.”* (Female, 1006)

*“(The Health Improvement Profile) raises our attention on the physical health... This holistic direction, more whole.”* (Male, 1004)

However, a number of participants reported that the use of the HIP and its increased focus on physical health highlighted additional training needs.

*“I am trained as a general nurse, so I will at least understand the readings, but I think a psychiatric nurse might not know the detail about the high density cholesterol, I think...we need some training about how we can explain to the clients. How we can note what the reading is about? What is the condition? What does the problem indicate? Having the training might include that.” (Male, 1002)*

*“Certainly, with more relevant training, (we) may become more familiar with asking. At least you get the skill and the techniques on how to ask. At this moment, I cannot say 100% that I am very confident to do so! [laughs]” (Female, 1006)*

#### A2) Working systematically and comprehensively

A majority of the CPNs reported that a structured approach to health screening using the HIP directly informed their clinical practice and maintained objectivity in the assessment process. In addition, some respondents asserted that the tool provided a more comprehensive way of working with clients.

*“It helped me form the care plan in a systematic way for... clients, no matter what the side effects of psychotics or physical deterioration are. Some of the physical health issues, they will not tell us unless we have a very structural assessment, for example if one of the issues is very embarrassing.”(Male, 1003)*

*“When I used this form, (I found that) some aspects were missing in our (usual) assessment. So after I this, I use it on all of my clients now, not just for the research study.”(Female, 1008)*

Some of the CPNs felt more ambivalent about the HIP, in that they noticed the potential benefits of the

comprehensive approach to health screening, but they also felt that it may be too lengthy to use routinely. These CPNs recommended reducing some of the question items or conducting the screening over more than one session.

*“Yes, it’s so long and it takes much time to finish this ...I think it should have some adjustments. It will be better if it can be shorter and can be integrated into our daily practice...”* (Female, 1005)

### A3) Opportunity for health education

Although the HIP was implemented as a health check, most of the CPNs found using the tool provided a good opportunity for information exchange about physical health issues. The structure of the HIP was felt to have provided a platform for enabling discussion of topics not usually mentioned in their current psychiatric nursing practice and also triggered clients to seek more knowledge in specific areas of health, encouraging greater self awareness of their own physical conditions.

*“Yes, yes. One interesting comment I have to share is that when I use this form with cases (related to) substance (abuse), they don’t think it does any harm to them, they’re just seeking happiness...but when I used this form, we actually found physical problems...For example, they feel that their teeth are very healthy, and they may have never looked at their teeth, then they have a little bit of recognition.”* - (Male, 1003)

*“It’s very simple. For example, diet, just like the five a day, with this kind of data, and the education input, they have a better understanding of what is a healthy diet.”* (Female, 1006)

### **Theme B: Service-related implementation challenges**

We observed from the qualitative interview data that there were some service-related challenges, in which the respondents reported made it difficult to implement the interventions and make appropriate referrals.

### B1) Referral frustrations

A few CPNs expressed difficulties in overcoming referral challenges due to the lack of external services available and reported their clients' subsequent frustration.

*"Some of them felt frustrated, they feel that "Yes, according to your assessment we have to regularly keep our teeth healthy. But in Hong Kong there's a lack of this service. I am a poor person, no way for me to check this." Some of them may be frustrated, not happy." (Female, 1008)*

*"I tell my clients to go to the general doctor and ask for this, but when they really see the doctor and make this request, there's nothing <laughs>." (Male, 1004)*

### B2) Awareness of need for more integrated multidisciplinary team services

A vast majority of the nurses explained that as a result of using the tool and the increased need to liaise with other professionals, they became more aware of the necessity for effective multidisciplinary team work in order to provide safe and holistic care. Particularly, there was a perceived lack of communication between professionals working in physical healthcare and mental healthcare settings.

*"It's not only the role of the nurse...but also the organization and culture. I think we need other resources;*

*some more medical resources. In Hong Kong, (most of the responsibility) is on our doctors and medical staff... for referrals or any other investigation...so if they don't cooperate then we can't do anything about it. We should do something in the public about it, in Hong Kong the health concern has gradually increased but it's not very fast <laughs>.*

(Female, 1005)

*"In Hong Kong... some general nurse and some psychiatric nurse have no connection sometimes. So you see that in the general hospital, (when they believe that) you have mental problem, they will refer to the mental health (department)." (Male, 1007)*

### B3) Introducing lifestyle intervention groups

The health screening tool raised awareness of the lack of structured exercise groups available locally and highlighted a need for CPNs to form intervention groups that promoted lifestyle changes beyond home visit settings and that were offered by their own team.

*"Actually I think it's good for the clients who continue to join the HIP exercise program. I really find that as they are becoming thinner, they continue to stay so motivated. Every week, I find I'm quite delighted and happy to see them again... I think actually there's something in her that knows that there's an improvement, otherwise she will not continue to join in." (Female, 1009)*

### **Theme C: Raising clients' awareness of their physical health state**



In addition to the CPNs' increased attention to their client's physical health, most of the nurses also reported noticeable changes in clients as they became more knowledgeable about their own physical wellbeing and more committed to make positive changes. The nurses also reported that by seeing changes in their physical health state over time, their clients felt rewarded and encouraged to persist with their health behaviour changes.

#### C1) Increased motivation for lifestyle changes

Some of the CPNs reported that clients became more motivated to make changes to their lifestyle as a result of becoming aware of potential health problems that were highlighted by using the HIP.

*"Some of my clients have a little bit of lifestyle change when I tell them they have a very high BMI and it's alarming, and also your food diet is not good. They will have some behavioral change." (Male, 1004)*

*"Clients may ask many details about every reading...and when they actually find out...(for example as) Asians, a 23 (BMI score) is overweight, they may know that "I'm overweight ... I'm not healthy, I need to do something about exercise." (Male, 1002)*

#### C2) Observerable behavioral changes in clients

Part of the clients' motivation to persist with health behaviour and lifestyle changes appeared to result from them feeling rewarded by being able to visualize the improvements in their physical health condition over time.

*“They found that it’s helpful for them to control the weight...” See? You are weighing maybe 2-3 kg (more) half a year ago.” They will say “Yes! I see! Good!” Maybe some (females) think they are lighter than before, (now that) they are not buying the L size. They will think that it is useful for them, and there’s a number telling them that their BMI (has gone) from this red zone to the green zone. (Female, 1008)*

*“It can impact them and empower them because it says, “You can make an improvement, you can make a change.” Later I will (be able to) review that oh...you have some improvements! This is a very impressive scenario for them.” (Male, 1007)*

#### **Theme D: Adaptations required for using the HIP**

Within the interviews all of the CPNs identified some aspects of the screening tool that they felt needed adapting in order to make it more relevant and understandable to the local population. The tool was initially developed for use in the UK and specific areas were felt not to be directly transferrable to the Hong Kong psychiatric setting. This lack of transferability resulted in the nurses needing to give additional culturally specific explanations.

##### **D1) Understandable units of measurement**

Most of the CPNs found that the units of measurement included on the original form should be revised to better reflect local understanding.

*“Five portions. What are five portions for Chinese people? So we need a definition about that.”* -- (Male, 1002)

*“They may not exactly understand. For example we can tell them, one bowl of vegetables can be counted as one portion. In our experience, we need to generate the information.”* – (Female, 1006)

*“Maybe change the form into not “ml” but “bottle”, maybe not in portions but some recognized bowl.”* – (Male, 1010)

#### D2) Adjusting parameters for the local population

Many of them also reported that some of the items and ranges for “healthy - green” and “unhealthy-red” parameters should be reviewed in line with culturally accepted local norms and common lifestyle behaviours.

*“Most is the part about the sexual satisfaction. Because we are Chinese, sometimes it’s so embarrassing. She may be puzzled about what it means to be satisfied or dissatisfied? There is some embarrassment when I interpret the meaning of satisfaction.”* – (Female, 1008)

#### D3) Chinese language and Traditional Chinese Medicine

Most of the nurses felt that although English is used widely in medical practice within Hong Kong, it would be beneficial for many clients to have a Chinese language version of the HIP. The CPNs suggested that this would enhance transparency and help them reinforce the discussion about health information

during their clinical meetings. They also highlighted the potential benefits of leaving a copy of the completed tool with the clients and their families.

*“Yes, it’s quite good for them if this is Chinese. Because it’s not just talking, they will have a sheet and (exclaim) oh! Red zone! Oh, this green zone! Oh, this is the recommendation!”.* (Female, 1006).

*“I think it (providing a copy in Chinese) is not only for my client, because during my daily job we will also deal with the relatives, such as the house wife, she needs to cook for her husband. I teach my client to use less oil, use steam to cook. But if her husband lacks the concept of what is healthy, then he will always ask my client “I want deep fried! I want more sausage and more salt”! But if I have the Chinese translation I will also give it to the client, and then her husband, to alarm that there is a problem, not only for you, but also for the whole family”. – (Female, 1008)*

Many CPNs also talked at length about the popularity of Traditional Chinese Medicines and other alternative treatment approaches in Hong Kong that were not included in the HIP. They felt that it would be essential to know if their clients had already sought Chinese medicinal treatments for their health because this would suggest the clients’ recognition of their health problem and help nurses understand treatment-related beliefs/behaviours.

*“In Hong Kong it is quite different and some people try to cure our physical health condition by herbal or Chinese medicine, so we should add, say for example, if you have sleep problems did you consider medication maybe or, did you have some other cultural intervention like herbal medicine.” -- (Male, 1003)*

*“Yeah and also for the dentist and the eyes, most of the Hong Kong people, they will wait until they have herbal medicine and won’t go straight to see the doctor.” – (Male, 1004)*

### **Development of the CHIP**

Based on the interview content analysis and the following group meeting with the CPNs, we modified the original HIP to better suit the Hong Kong context. We felt that this was an important task to undertake because the interview data highlighted that making some improvements would enhance the potential benefits of using the screening tool across different cultural settings. The main amendments involved creating a Chinese language version, making some changes to the terminology relating to measurement (i.e. using “rice bowls” rather than portions) and including an item directly asking about the use of traditional Chinese medication. The full Chinese HIP (CHIP) screening tool is available from the first author upon request.

In addition to modifying the CHIP tool, we have also made revisions to the training and supporting materials based on the comments made by some of the CPNs in this study. For our ongoing cluster RCT study we have extended the training and placed more focus on the communication skills which are useful to employ when discussing potentially embarrassing issues (i.e. sexual functioning). We also provided an intervention manual, which included detailed information about healthy parameters of each CHIP item, so that the CPNs could refer back to this when explaining the relevance of the health check findings to their clients. The lifestyle recommendations included in the intervention manual were in accordance with the Hong Kong Government’s health promotion materials.

### **DISCUSSION**

This study highlights a number of important issues relating to the implementation of HIP as an enhanced physical health check for clients with SMI in a Chinese population. Our discussion focuses on exploring the issues that were most frequently discussed within the research interviews.

In consideration of the first study aim, the HIP approach was perceived to be feasible to implement and viewed by CPNs as being beneficial for service users to promote their physical health. The results showed that refocusing attention on physical health issues seemed to have improved the health literacy of nurses (by drawing their attention to additional training needs) and patients (by raising awareness of their need to address their physical health). The CPNs reported that the increased clinical focus on physical health reminded them of the importance of providing holistic care and thus provided an opportunity for them to perform comprehensive health education and interventions that had not previously existed. This finding has been similarly reported in studies conducted in the UK and Australia, where mental health nurses were clearly aware of the increased risk for physical health problems in the service users whom they worked with; however, the nurses had a degree of ambivalence about whose role it should be, and had a tendency to mainly focus on mental health issues (Dean et al., 2001; Happell et al., 2012; Robson et al. 2013).

As a result of using the HIP, a few of the CPNs encountered situations that revealed gaps in their physical health literacy and highlighted the need for additional knowledge/skills beyond the content provided in the intervention training. These needs were related in particular to talking about potentially sensitive or embarrassing issues, and how to explain the relevance of the health check results to clients. Although the CPNs provided positive verbal feedback about the HIP training, the content was not tailored to the Hong Kong cultural and clinical context; it is possible that this might have had an effect on their perceptions about the intervention. It is perhaps not surprising that that these CPNs reported the need

for additional training because mental health nurses' perceived lack of confidence in their knowledge about physical health and ability to discuss sexual health issues have been reported across other countries (Howard and Gamble, 2010; Smith and Gillam, 2003).

Using the HIP resulted in the CPNs working in a systematic and comprehensive way, but their reports of previously using a more ad-hoc approach closely reflect the results of studies conducted in many English speaking countries (Hyland et al., 2003; Howard and Gamble, 2010; Happell et al., 2012; Happell et al., 2013). It has also been previously shown that the use of methodical health screening can be helpful in identifying previously unrecognized physical health issues among people with SMI (Shuel et al., 2010). This may therefore suggest that mental health nurses in a variety of international settings could benefit from adopting a systematic approach to managing the physical health of their clients in the community.

The adoption of a systematic approach in this study was also felt to present an opportunity to discuss sexual functioning and other issues that might not be routinely mentioned in usual day-to-day practice due to their potentially embarrassing nature. This issue has also been widely reported in previous studies (Blythe and White, 2012; Robson et al., 2013) and again supports the idea that the wide-spread introduction of comprehensive health checks may reduce the likelihood that important areas of physical health and required interventions remain routinely overlooked.

In addition to noting changes in their own practice, many of the CPNs in this study noticed positive patient-related outcomes as a result of using the HIP. In particular, some of the service users that they worked with were more motivated and made observable lifestyle changes after becoming aware of their potential physical health problems. The CPNs also mentioned that by seeing changes in their physical health conditions over time, their clients felt rewarded and were self-motivated to persist with health

behaviour changes. This finding is supported by a recent study that provided health screening to 457 service users with SMI in the USA (Cook et al., 2015), which reported significant increases in the participants' perceived self-efficacy and ability to self-manage their physical health.

Despite the potential clinical benefits, CPNs highlighted that they encountered a number of service-related barriers that challenged the effective implementation of the HIP programme. Some of the CPNs expressed frustration with the referral problems and lack of services that they encountered, but interestingly, they did not suggest that they let these experiences dampen their enthusiasm to use the HIP. In fact, this resulted in motivating a few CPNs to form exercise groups for service users in order to address the identified service shortfalls. However, it is possible that dealing with service-related barriers over extended periods of time may erode CPNs' motivation to implement the comprehensive health check programme. The CPNs in this study also frequently discussed the need for better integrated multidisciplinary teams and easier access to physical health services in order to improve care provision. The fragmentation of physical and mental health care is often identified as a factor that perpetuates stigma and ultimately contributes to the poor physical health state of client groups with SMI (Faulkner and Biddle, 2002; Gray et al. 2009). This problematic issue seems to prevail across international borders as it has been widely reported in previous studies conducted elsewhere (Lambert and Newcomer, 2009; Happell et al., 2011).

The second aim of this study was to identify any potential modifications that may be required in order to better suit the HIP programme to the local clinical context, and indeed a number of required alterations were recommended by the CPNs. These included using culturally understandable units of measurement for the local population, modifying some terminology, including a question about service users' use of Traditional Chinese Medicine, and translation of the HIP into Chinese. It is encouraging that these



modifications were relatively minimal, and since the recommendations made were based on the CPNs' clinical experience of the HIP (rather than just face-value), we are hopeful that the nurses could have a sense of ownership of the tool. It is extremely important for community mental health nurses to buy-into the use of screening tools because previous studies have reported that they might see such approaches as an unnecessary burden (Happell et al., 2013). Without mental health nurses' perceived ownership of the responsibility for managing the physical health of people with SMI, successful implementation of such holistic care would not be possible (Bradshaw & Pedley, 2012; Ehrlich et al., 2014).

### **Study limitations**

Due to qualitative nature of the study, the findings might not be generalized beyond the specific community psychiatric nursing service in which it was conducted. Nevertheless, the results seem to suggest that adopting a comprehensive approach to health screening may be culturally and practically acceptable in the study setting. We have aimed to inform readers' decisions about the potential transferability of our findings by providing sufficient details about the study setting, and we hope that the CHIP tool may be useful for mental health nurses working in other Hong Kong mental health services or other Chinese speaking cultures. However, due to the large variations of culture and language seen across these nations, further modifications to improve the validity and acceptability of the CHIP (or HIP) are likely to be required.

### **CONCLUSION**

This is the first study conducted in a Southeast Asian mental health service that explores mental health nurses' views about the use of comprehensive physical health checks for people with severe mental illness. The results from our study remarkably resemble those previously reported in non-Asian settings, and possibly highlight the potential benefits and challenges of promoting the physical health of people with SMI globally. The findings suggest that such approaches are viewed as being feasible, acceptable and potentially useful in Hong Kong. Most of the CPNs appreciated the comprehensive focus on the physical health of their clients which resulted in the provision of more holistic care. Some of the CPNs also mentioned that they saw an increase in the motivation of their clients to improve their own physical health and noted observable benefits in clients' well being. The use of the HIP also helped the CPNs identify areas of health service provision for people with severe mental illness that could be improved, including better communication between physical and mental health services, and additional staff training needs. The suggested modifications to the HIP screening tool have been used to develop the CHIP, which will require testing in future clinical studies that adopt a robust research design.

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